AFTER MARKET ENTRY BARRIERS IN E-COMMERCE MARKETS

Fahri Karakaya
University of Massachusetts Dartmouth
Charlton College of Business
Department of Management and Marketing
North Dartmouth, MA 02747-2300
F1karakaya@Umassd.edu

Michael J. Stahl
University of Tennessee
College of Business
Department of Management
Knoxville, TN 37996-0570
mstahl@utk.edu

ABSTRACT

The goal of this research is to examine the relationships among the barriers after market entry and firm performance, and build a model of barriers in e-commerce markets using structural equation modeling. Despite the fact that many e-commerce businesses failed shortly after market entry, there is very little research about the causes of failures. This study utilizes 27 barriers faced by companies after they enter the e-commerce markets. The analyses indicate that there are significant relationships among the barriers and firm performance. The e-commerce resources construct impacts firm profitability while the sustainability construct influences e-commerce resources and the capital requirements barriers construct impacts sustainability. In addition, the sustainability barrier construct affects the competitive advantages of the rival firms construct positively.

Keywords: barriers in E-Commerce, E-Commerce adoption, E-Commerce sustainability, competitive advantages, competition, market entry

1. Introduction

The number of Internet users and the amount of purchases on the Internet have increased drastically during the last decade. A survey conducted in April 2006 by Pew Internet and American life Project shows that Internet penetration among adults in the U.S. has hit an all-time high. Seventy-three percent of respondents were Internet users, up from 66 percent in the January 2005 survey. The Internetwordstatistics.com (2007) indicates that the increase is not just in the U.S, but is around the world. The *eMarketer* [2005] forecasted the U.S. retail e-commerce revenues would increase from $94 billion in 2003 to $232.1 billion in 2008. According to the same source, the U.S. e-commerce revenues jumped more than 25% in 2005. The gains were broad-based across virtually every category of retail and leisure travel spending. The sales figures for the business-to-business e-commerce (B2B) are much higher and were estimated to be more than $6 trillion in the U.S. [E-Commerce Times, 2008].

Despite the slowdown of the Internet economy between 2001and 2004, successful Internet businesses have recently emerged. YouTube, MySpace, and Facebook are such examples. Opportunities for the growth of e-commerce are likely to continue. Zwass [2003] identified five domains of opportunities for e-commerce including commerce, collaboration, communication, and connection, and computation. He suggested that these five aspects would present opportunities for businesses. However, many business operations not suitable for electronic commerce have also declared bankruptcies. An article appeared on the C|Net.com by German [2008] lists the top ten dotCom flops and the years of operations as follows: 1) Webvan.com (1999-2001); 2) Pets.com (2000); 3) Kozmo.com (1998-2001); 4) Flooz.com (1998-2001); 5) eToys.com (1997-2001); 6) Boo.com (1998-2000); 7) MVP.com (1999-2000); 8) Go.com (1998-2001); 9)Kibu.com (1999-2000) and 10) GovWorks.com (1999-2000).

This research attempts to examine the barriers faced by e-commerce businesses including brick- and-click, and pure-click firms after entry into e-commerce markets. The rationale for the study is the large number of dotCom failures even in a short period of time. Understanding the barriers or obstacles faced by companies after they enter the e-commerce markets will contribute to the literature and assist companies to develop strategic plans before and

after they enter the e-commerce markets. The literature review showed that research in this area is scant. Indeed, most of the research about barriers in e-commerce markets deals with barriers to technology or e-commerce adoption. Although barriers to technology or e-commerce adoption studies are useful in understanding the barriers and the adoption process, they usually do not include the factors that relate to competition and the business environment. While there are numerous barriers before and after entry into e-commerce markets, the major barriers include lack of venture capital [Langnau 2002], lack of technical know-how, inadequate technology and infrastructure, and customer concerns about Internet security. Poor management practices are also among the most important reasons for dotCom failures [Janenko 2003]. Razi, Tarn and Siddiqui [2004] categorize failure of dotComs as controllable (operational and technical) and strategic causes (technical and behavioral) but provide only anecdotal evidence for the failures and successes.

In this research, we attempt to examine the relationship among barriers after market entry and firm performance in e-commerce markets. In doing so, we attempt to develop a model using performance as an endogenous construct and the barriers as exogenous constructs by applying structural equation modeling. With this in mind, this paper is organized as follows: 1) briefly review the barriers to entry literature since many of the barriers faced by firms before market entry have spillover effects to after market entry; 2) discuss the specific after market entry barriers or obstacles that firms face and develop hypotheses; 3) describe the methodology employed; 4) develop a model using structural equation modeling and present the findings; 5) present the discussion and conclusions; 6) present the study limitations and suggestions for future research, and 7) conclude the paper by offering managerial implications.

2. Literature Review

Barriers before and after market entry impact the competitive behavior of market entrants and incumbent firms. The ability to create or strengthen barriers determines incumbent firms' strategy and choice of action. Incumbent firms intentionally build barriers to deter market entry [Gruca and Sudharshan, 1995]. Strong barriers do not just protect the incumbents before market entry, but shield them even after market entry by slowing down the speed of entry, and enabling incumbents to catch up with the new market entrants [Han, Kim, and Kim, 2001]. Therefore, entry barriers have some spillover affects after firms enter the markets and these effects (e.g., brand loyalty, low price, etc.,) can remain important for as long as the firms can sustain them.

Although entry barriers can keep competitors out of markets [Porter, 1980, 1985; Karakaya and Stahl, 1989, 1991; 1992; Simon, 1996, 2005], the Internet has lowered market entry barriers and has made the marketplace easier to reach for businesses [Bandyopadhyay 2001; Porter 2001]. For example, the new Internet banks enjoy a low cost base because they do not need a physical infrastructure and they are seen as threats to the brick and mortar banks [Pyun, Scruggs, and Nam 2002]. However, this does not mean that the Internet banks do not face problems after their market entry. Competitors' actions, technology infrastructure, technical know-how, and Internet security issues still remain as important barriers in the Internet banking industry.

There are only a handful of studies concerning the obstacles faced by firms in e-commerce markets. Huang [2007] focused on the Taiwan e-commerce market and found that the legal system is the most important barrier followed by payment systems, and infrastructure. Another study was conducted in Australia about the barriers for SMEs (Small and Medium Enterprises) and identified eight major barriers [Stockdale and Standing 2004]. The Stockdale and Standing study categorized barriers as external and internal. The external barriers included the lack of a common technological standard, the level of e-competencies within industry sectors and lack of understanding of SMEs' needs. The internal barriers were understanding of e-environment, identification of benefits, global trading, financial constraints and supply chain integration. The two studies conducted are descriptive in nature and are in Taiwan and Australia. Furthermore, they are limited in sample size, empirical data, and in the number of barriers examined. In addition, most of the barriers examined were before market entry barriers.

Despite the lack of research on barriers faced by firms after market entry into e-commerce markets, there is abundance of research on the adoption of technology and innovation and more recently on the adoption of e-commerce. The underlying reason for adoption of new technology, innovation or e-commerce is to improve firm profitability. Such evidence is provided by Keskin [2006] who found that when firms try new way of doing things or try to become innovative, they become more successful. Other studies also suggest a positive relationship between technology adoption and firm performance [Ian, Johansson, and Wagner 2004; Karakaya and Shea 2008]. The study conducted about motivations to establish e-commerce by Karakaya and Shea [2008] showed that there were two major underlying dimensions: 1) long-term competitiveness, and 2) short-term productivity where the short-term productivity was related to firm performance. A major study encompassing e-business capabilities and e-commerce adoption was conducted in the U.K. by Hafeez, Keoy, and Hanneman [2006]. This study examined the relationships between firm performance as a dependent variable and technology, organization, people dimensions along with business strategy, e-business adoption, and supply chain management as independent variables. The results of the

study showed that all of the factors with the exception of supply chain management were related to firm performance for e-business adopters. Other previous studies about major barriers to e-commerce adoption include lack of resources and knowledge [Mehrtens, Cragg and Mills 2001], company financial condition and company size [Karakaya and Khalil 2004], the skill levels of business managers [Darch and Lucas, 2002; Duan et al. 2002], lack of confidence on the IT industry [Bode and Burn 2002], and the lack of e-commerce readiness or e-commerce infrastructure [Karakaya and Khalil 2004; Lewis and Cockrill 2002].

In general, the studies conducted about barriers and e-commerce adoption show that the barriers to adoption are related to firm performance. Given the relationship between e-commerce adoption and barriers faced by firms after market entry, we now turn our attention to the category of barriers that impact firms after they enter e-commerce markets. In general, these barriers include competitive advantages of the rival firms [Aghion et al 2007; Porter 1985; 2001; Karakaya and Kerin 2007], capital requirements [Iacovou, Benbastat, and Dexter 1995; Porter 1985], sustainability [Geroski 1995; Razi, Tarn and Siddiqui 2004; Thompson 2007], and e-commerce resources [Hafeez, Keoy, and Hanneman 2006]. The next section discusses these barriers in detail.

2.1. Competitive Advantages of the Rival Firms

There are indeed a variety of competitive advantages that force other firms to change their strategies or simply fail in the marketplace. Brand identification and brand loyalty are advantages that companies use to defend their markets against market entry of new competition [Porter 1985; Karakaya and Stahl 1991; 1992], but these advantages continue to exist even after market entry of new competition. This is especially true when there is inevitable consumer uncertainty attached to a new product [Thompson 2007] or to new market entrant. Companies often increase their promotional expenditures to create brand preferences and use their cost advantages to reduce prices so that they are competitive and capture higher market shares. Cost advantages result from economies of scale or may be just absolute cost advantages [Porter 1985]. Government subsidies can also influence companies to have cost advantages over their rivals [Karakaya and Kerin 2007]. For example, at the beginning of the dotCom boom, there were numerous government grants given to businesses.

Proprietary technology is another example of a competitive advantage [Karakaya and Stahl 1991; Porter 1980; 1985] that is likely to be even more important in e-commerce markets. Firms spending more money in R&D are likely to develop proprietary technologies. Research conducted by Nerkar and Roberts [2004] report that prior R&D spending in the product area is a significant predictor of market performance. For example, Amazon.com invested large sums of money into developing its web site and proprietary software; especially at the beginning years of its e-commerce operations. Overall, when the competitive advantages of rival firms are strong, dealing with them can be difficult and some firms choose to exit markets [Aghion et al 2007]. Indeed, intensive competition might be the reason why the 500 publicly traded DotCom companies with an initial investment of $1 million or more ceased their operations between the years 2000 and 2003 [Razi, Tarn and Siddiqui 2004]. Based on the literature, we suggest that there is a relationship between competitive advantages of rival firms and firm performance. In addition, we suggest that when a firm has competitors with strong advantages, this perception negatively impacts their perception of their own e-commerce resources and strengths. This may appear as if it is in contrast to the resource-based view (RBV) because the firm's resources are primary predictors of superior performance [Wernerfelt 1984]. However, the competitive advantages discussed here only apply to the rival firms. Strong competitive advantages held by rival firms (high barriers) are likely to create perceived lack of e-commerce resources (high barriers) and lower firm performance. In essence, this suggestion is consistent with the RBV when one considers the lack of resources of firms compared with other companies in the same market. Strong competitive advantages resulting from strong resources are likely to impact those firms with weak resources to feel inferior compared to their rivals. With this rationale in mind, we offer the following hypotheses:

Hypothesis 1: Competitive advantages held by rival firms in the market negatively impact the perception of e-commerce resources.

Hypothesis 2: Competitive advantages held by rival firms in the market negatively impacts firm performance.

2.2. Sustainability

While entry into some e-commerce markets may be easy, it may be difficult to grow and maintain profitability because of the sustainability barriers. When surveying the empirical evidence on market entry, Geroski [1995] concluded that sustaining presence in a market is more difficult than entering a new market. Thompson [2007] also supports this view and states that there is a strong causal relationship between resources available to managers and outcomes after market entry.

One of the important sustainability barriers is the continued access to distribution channels. This barrier has been shown to deter market entry of new competition into markets [Porter 1985; Karakaya and Stahl 1989; 1992]. However, it continues to be an important barrier even after market entry especially for firms attempting to expand their distribution systems through e-commerce portals to access new markets. In traditional markets where consumer

products are sold through regular retail outlets and not specialty stores, manufacturers with a recognized brand name and/or a full line of related products are likely to be more successful in securing shelf space and hence early sales [Thompson 2007]. This same condition also applies to e-commerce markets in the sense that well-known brands have no difficulty in being listed in web portals and in established e-retail outlets. Other sustainability barriers include security of financial transactions, fear of computer hackers, inability to meet increased demand in sales, inability to meet customer service requirements [Razi, Tarn and Siddiqui 2004], customer switching costs [Johnson, Bellman, and Lohse 2003; Murray and Haubl 2007; Swaid and Wigand 2009], and government regulations [Porter 1985; Karakaya and Stahl 1989, 1992; Huang 2007]. Some of these studies, especially the study by Razi, Tarn and Siddiqui [2004], related the sustainability barriers to failures of many dotCom companies. Overall, as the literature shows, the sustainability barriers are important in maintaining and building competitive advantages and firm competence which result from having resources.

As indicated earlier, the RBV defines important factors that relate to developing sustainable competitive advantages and superior firm performance [Dierrickx & Cool 1989; Barney 1986; Wernerfelt 1984]. We suggest that having high sustainability barriers result in competitive advantages for rival firms. Similarly, low sustainability barriers create strong e-commerce resources for firms. Therefore, we hypothesize the following:

Hypothesis 3: The sustainability barrier in e-commerce markets positively impacts the competitive advantages held by rival firms in e-commerce markets

Hypothesis 4: The sustainability barrier in e-commerce markets positively impacts the perceived lack of e-commerce resources.

Hypothesis5: The sustainability barrier in e-commerce markets negatively impacts firm performance.

2.3. Capital Requirements

Many e-commerce firms failed because they were unable to secure sufficient funds from either venture capitalist or generate the funds themselves [Razi, Tarn and Siddiqui 2004; Thornton and Marche 2003]. While capital requirements may not seem to be high for dotCom businesses compared to brick and mortar companies, the dotCom businesses still need funding to maintain their operations and growth since it can take a number of years to make a profit. A good example of this is Amazon.com who did not report any profit until 2003 despite the fact that it started its operations in 1995. In addition to the funding for operational and marketing expenditures, the dotCom companies also need adequate funding for e-commerce infrastructure, competitive web-site development, and improvement of technology and software. Indeed, previous research indicated that financial requirement was part of organizational readiness in adoption of Electronic Data Interchange (EDI) [Iacovou, Benbastat, and Dexter 1995]. Although the Internet has lowered barriers to entry for many firms [Bandyopadhyay 2001; Porter 2001], lack of funds to maintain and improve business operations still remains as a barrier in e-commerce markets. In addition, lack of capital or funds for business operations impacts the perception of competitive advantages of the rival firms, sustainability, e-commerce resources, and overall firm performance. These are all consistent with the RBV that higher resources result in superior performance [Dierrickx and Cool 1989; Barney 1986; Wernerfelt 1984]. Therefore, we hypothesize the following:

Hypothesis 6: The capital requirements barrier positively impacts the perception of competitive advantages held by the rival firms in e-commerce markets.

Hypothesis 7: The capital requirements barrier positively impacts the sustainability barrier in e-commerce markets.

Hypothesis 8: The capital requirements barrier positively impacts the perception of e-commerce resources.

Hypothesis 9: The capital requirements barrier negatively impacts firm performance in e-commerce markets.

2.4. E-commerce Resources

There are some e-commerce specific barriers that are difficult to overcome in the short run. These barriers include e-commerce infrastructure (e.g., availability of broadband access by both customers and providers), technical know-how, and high learning curve in conducting e-commerce. Although the barrier of Internet access through broadband has been lowered in recent years, learning how to conduct e-commerce and lack of technical know-how are still strong barriers for many businesses. Both technical know-how and insufficient infrastructure were also determined as impediments to e-commerce adoption and successful e-commerce implementation [Dubelaar, Sohal, and Savic 2005; Wu, Hsia, Heng 2006]. These barriers may be due to the fact that e-commerce is still new to many e-commerce executives or the executives still lack understanding of e-commerce. While this situation might be real or just a perception of business executives, it affects how businesses conduct their e-commerce. The three e-commerce resources barriers just mentioned are associated with organizational readiness. Previous research also shows that technology readiness is associated with Internet adoption in SMEs [Iacovou, Benbastat, and Dexter 1995; Karakaya and Khalil 2004]. Oxley and Yeung [2001] examined e-commerce readiness in a global setting and suggested that e-commerce readiness was important in e-commerce. As previous research shows, both e-commerce readiness and organizational readiness are important because they relate to e-commerce

adoption. Consequently, e-commerce adoption is positively related to firm performance [Hafeez, Keoy, and Hanneman 2006]. The e-business adoption construct in the Hafeez, Keoy, and Hanneman study consisted of technology adoption, organizational readiness, and attitudinal capability, which are similar to the variables composing the e-commerce resources construct. We examine the impact of e-commerce resources on firm performance consistent with the RBV [Dierrickx and Cool 1989; Barney 1986; Wernerfelt 1984] that higher e-commerce resources would lead to higher firm performance. Thus, we hypothesize the following:

Hypothesis 10: The e-commerce resources barrier negatively impacts firm performance in e-commerce markets.

We present the hypothesized relationships including the direction of the relationships among the barriers and firm performance in Figure 1.

3.   Methodology
3.1.   Data

Approximately 1,000 businesses already online with a web site were selected from a directory of *e-corporations* (see Http://www.idpub.com). As described in the directory, the executives listed as the contact person are "top tier professionals who are responsible for strategic business decisions relating to the Internet." They are considered to be upper and middle level management executives (55 % ad 45% respectively. The businesses in the directory come from financial, real estate, manufacturing, wholesale, retail, and other service sectors. A cover letter and a questionnaire were <u>mailed</u> to the potential respondents who were randomly selected from the directory. The summary results of the study were promised as an incentive to the respondents for completing the survey. Thirty-two surveys were returned as non-deliverable or incomplete. Two hundred three surveys were completed, and 190 were fully usable for the purpose of this study.

Non-response bias was assessed following the procedures developed by Armstrong and Overton [1977]. Early respondents were defined as the first one third of all respondents in the data set, whereas late respondents were the last one third of all respondents in the data set. Since there was an attempt to increase the response rate through follow up post cards and e-mails, there was a good chunk of responses that arrived late. Late respondents are found to be similar to non- respondents [Armstrong and Overton 1977]. The early and late respondents were compared on their responses. None of the 27 barriers differed in magnitude between early and late respondents at p=0.05 significance level per t-tests. Therefore, there is no evidence that the late respondents are significantly different from those of the early respondents in the study.
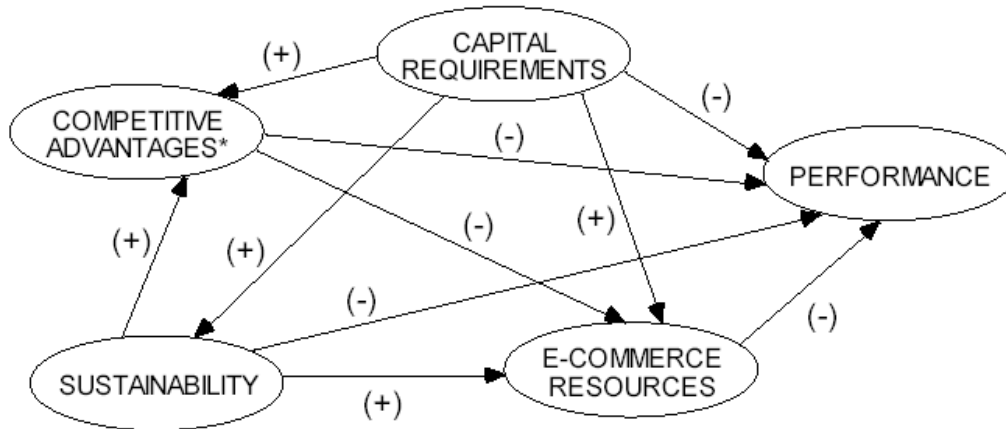
Competitive advantages of Rival Firms

Figure 1: Hypothesized Model; Relationships among Barriers after Market Entry and Firm Performance
in E-Commerce Markets

Fifty three percent of the responding companies were in manufacturing, 25 percent in service, 7 percent in distribution, 4 percent in retail, and 2 percent in software industries. Approximately 10 percent of the companies

classified themselves as other. Twenty-two companies rated themselves as pure-click businesses while the remaining rated themselves as brick-and-click businesses. Seventy-four percent of the respondents had revenues under a million dollars coming directly from e-commerce operations. Similarly, nineteen percent had revenues between one and five million dollars, and three percent had revenues over 15 million dollars directly attributable to e-commerce operations. The average age of the responding companies was 29 years with a minimum of zero and a maximum 150 years. The size of the responding companies ranged from one to 40,000 employees with a mean of 1,017.

3.2. Instrument

Using the literature and interviews with five local e-commerce executives, we identified 27 barriers after market entry in e-commerce markets. The barriers were measured on a six point Likert scale ranging from an "extremely high barrier" to "not a barrier." The two firm performance variables in the study included firm satisfaction with the e-commerce initiative (ranging from very satisfied to very dissatisfied), and return on investment (achieved expected ROI, and did not achieve expected ROI). In order to assure validity of the questionnaire, the survey was pre-tested with ten local e-commerce executives and some questions were slightly modified.

ROI was chosen as a firm performance variable because further understanding of ROI in e-commerce could help to channel future investment in this sector more efficiently. Since one of the advantages cited for e-commerce versus bricks and mortars commerce is low investment, further understanding of ROI is warranted. Additionally, ROI is used frequently as a performance measure in for profit organizational studies. Firm satisfaction was chosen because it may be related to perseverance and longevity in the sector, just as job satisfaction is strongly related to turnover intentions in organizational behavior studies.

4. Results

In an attempt to identify the barriers that cluster together, a factor analysis of the 27 barriers was conducted, using principal component extraction and varimax rotation procedures. The results showed that there were four major underlying dimensions of barriers (factors) explaining 61.13% of the variance in the data. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy with a test of Bartlett's Test of Sphericity showed that the data come from a multivariate normal population (KMO=. 93; $\chi^2_{(351)}$ = 3,284; p=0.001). Table 1 contains the individual indicators and their related constructs. Consistent with the literature review, the first factor contains barriers related to *competitive advantages of rival firms* in the market. Similarly, the second factor contains eight barriers for market entrants that relate to *sustainability* issues in the market. The third factor composes of three barriers that relate to *capital requirements,* and the fourth factor, has three barriers relating to availability of *e-commerce resources*.

4.1. Model Assessment: reliability and validity

The reliability of the indicators (R^2) ranged from a high of 0.76 to a low of 0.28. Four of the 29 indicators had reliability coefficients lower than the recommended level of 0.40 [Bagozzi and Baumgartner 1994]. These four variables were kept in the analysis because they were statistically significant at p = 0.001 and they were theoretically logical to include them in the constructs [Byrne 2001]. In addition, all measures demonstrated convergent validity with all regression coefficients between indicators and latent factors being significant at p = 0.001 [Anderson and Gerbing 1988].

As hypothesized earlier, in an attempt to examine the possible causal relationships of the four constructs and their relationships to firm performance, we employed structural equation modeling (SEM) using the maximum likelihood approach in SPSS AMOS. The composite reliability coefficients (CR) and the average variances extracted (AVE) for the latent constructs were also calculated (see Table 1). The CR's range from 0.96 to 0.65. All CR values are well above the recommended minimum level of 0.60 [Bagozzi and Yi 1988]. In addition, all estimated standardized loadings were significant (*p<0.01*) providing evidence of convergent validity. The AVE's range from 0.73 to 0.49. All, but one of the AVE's is just below the recommended threshold of 0.50 as suggested by [Fornell and Larcker 1981]. The endogenous construct of *firm performance* only consisted of two indicator variables and had AVE of 0.49. Although it is desirable to have constructs with AVE's greater than or equal to 0.50, it is common for the AVE's to be below 0.50 even when the reliabilities are acceptable [Hatcher, 1994]. In addition, both indicator variables, return on investment and satisfaction with the e-commerce initiative, have acceptable standardized factor loadings (0.59 and 0.63 respectively). The discriminant validity test using the procedure recommended by Fornell and Larcker [1981] suggests that the sustainability construct had slightly weak discriminant validity (Table 2). Thus, we performed additional analysis based on the work of Bagozzi, Yi and Phillips [1991] examining whether a one-factor model fits the data better than a two factor model for each pair of constructs involving sustainability. In each case, the two-factor model (χ^2 = 607.7; d.f. = 336) fit the data better than the constrained one-factor model (χ^2 ranging from 620.7 to 804.5; d.f. =337). The $\Delta\chi^2$ ranged from 13 to 197 with Δ d.f=l; p<0.01). In all cases, the chi-square of the one-factor model was significantly greater than the chi-square for the constrained model suggesting discriminant validity.

Table 1: Measures, Construct Reliability, Average Variance Extracted, and Multiple Correlations

CONSTRUCTS	Indicators and Descriptions	β	t-value	Sig.	λ
COMPETITVE	Rival firms with government subsidies	Fixed	-	-	.62
ADVANTAGES	Number of firms in the market	0.88	6.81	.001	.56
OF RIVAL	Competitive Reaction of firms after market entry	0.98	8.25	.001	.71
FIRMS	Heavy promotional expenditures of rival firms	1.07	7.87	.001	.67
(CA)	Trade secrets held by incumbent firms	1.27	9.10	.001	.82
	Proprietary technology used by incumbent firms				
CR = 0.96	incumbent firms	1.21	8.95	.001	.80
AVE = 0.70	Low prices charged by firms in the market	1.25	8.70	.001	.76
$R^2 =$ 0.69	Brand loyalty advantages of firms in the market	1.21	8.74	.001	.77
	Cost Advantages of rival firms due to economies of scale	1.38	9.25	.001	.84
	Brand identification advantages of firms in the market	1.15	8.76	.001	.77
	Magnitude of Market shares held by firms in the market	1.31	9.36	.001	.85
	Competing firms with absolute cost advantages	1.48	9.47	.001	.87
	Technically superior websites of firms in the market	deleted			
SUSTAINABILITY	Inaccessibility of distribution channels	Fixed	-	-	.57
(SUST)	Doubts about the security of online financial transactions	1.22	7.15	.001	.69
CR = 0.89	Fear of the unknown	1.10	6.99	.001	.66
AVE = 0.50	Government regulations and requirements on				
$R^2 =$ 0.48	business	1.10	6.25	.001	.57
	Customer switching costs from one supplier to another or brand	1.16	6.86	.001	.65
	Inability to meet expected customer service	1.20	7.02	.001	.67
	Meeting increased demand requirements	0.77	5.93	.001	.53
	Fear of computer hackers	1.21	6.69	.001	.62
CAPITAL	Insufficient capital for infrastructure	Fixed	-	-	.85
REQUIREMENTS	Capital intensity of the market	0.98	11.74	.001	.82
(CAPR)	Unwillingness of venture capitalist to provide				
CR = 0.89	funds	0.92	9.07	.001	.65
AVE = 0.73					
E-COMMERCE	High learning curve involved in conducting e-	1.07	7.79	.001	.77
RESOURCES (ECR)	commerce				
CR = 0.85	Insufficient technical know-how	1.25	7.76	.001	.76
AVE = 0.66	Insufficient e-commerce Infrastructure	Fixed	-	-	.64
$R^2 =$ 0.43					
FIRM					
PERFORMANCE	Return on Investment	Fixed	-	-	.59
(PER)					
CR = 0.65	Satisfaction with e-commerce initative	2.02	2.91	.004	.63
AVE = 0.49					
$R^2 =$ 0.18					

CR= Composite Reliability; AVE = Average Variance Extracted

Table 2: Descriptive Statistics and Discriminant Validity

Construct	Mean	Std. Dev.	AVE	CA	CAPR	SUST	ECR	PERF
CA	2.82	1.08	0.70	**0.84***				
CAPR	2.79	1.14	0.73	0.63	**0.85**			
SUST	2.56	0.86	0.50	0.73	0.61	**0.71**		
ECR	2.83	1.02	0.66	0.46	0.35	0.52	**0.81**	
PERF	2.03	0.60	0.49	-0.21	-0.15	-0.23	-0.27	**0.70**

AVE: Average variance extracted; CA: Competitive Advantages of Rival Firms; CAPR: Capital requirements; SUST: Sustainability barrier; ECR: E-commerce resources barrier; PERF: Firm performance
*Square roots of AVE's are shown on the diagonals of the correlation matrix.

The fit of the initial model was poor ($\chi^2_{(367)}$ = 803.19, p<. 01; χ^2/d.f = 2.19; CFI = .86; IFI = .86; TLI = .85 and RMSEA = .079 Lo = .072 and Hi = .087). The analysis showed that the barrier "competitors with technically superior web-sites" cross-loaded to two constructs, "competitive advantages" and "e-commerce resources." In addition, this barrier had a high-standardized residual covariance path with another indicator variable (3.088). Thus, the barrier was deleted from the model in subsequent analysis. Modification indices suggested that the model could be improved by freeing correlations between error variances. Therefore, we freed four of the correlations between indicator error variances. The presence of shared variances was expected because the indicator variables were measured on the same scale. Furthermore, some were similarly worded and could produce redundant results. Byrne [2001] suggests respecification of a model when correlations between indicator error variances exist provided that there is theoretical evidence for specifying these correlations. Therefore, in the subsequent analyses, using the modification indices, the parameters for indicator error variances were specified as correlated one at a time. These parameters were as follows: heavy promotional expenditures of firms in the market and brand loyalty advantages; high market shares of the rival firms and heavy promotional expenditures of firms in the market; absolute cost advantages and cost advantages due to economies of scale of the rival firms; low prices charged by firms in the market and the competing firms with absolute cost advantages. As one notes, the preceding pairs of the indicator variables are very similar to one another. The revised model had an acceptable model fit ($\chi^2_{(336)}$ = 607.74, p<0.01; χ^2/d.f. = 1.81; CFI = .91; IFI = .91; TLI = .90 and RMSEA = .065 LO = .057 and HI = .074). Although the χ^2 for the model was significant indicating that the model does not represent the sample covariance matrix, the χ^2 statistic is sensitive to sample size. Therefore, the other widely used model fit statistics were utilized and χ^2/d.f.; CFI; IFI; TLI, and the RMSEA all met the accepted criteria [Hair et al. 2006]. The model with the standardized loadings is shown in Figure 2. As an additional validity check, the final model was cross-validated using the procedures suggested by Byrne [2001]. The sample was divided into two sub-samples by systematically selecting every other case. Therefore, each sub-sample consisted of 95 cases. The constrained model consisted of five regression parameters, which were set as equal across the two samples. The comparison of the constrained model and the base model (unconstrained model) shows that the $\Delta\chi^2$ calculated is not statistically significant at p<0.05 ($\Delta\chi^2_{(5)}$ = 3.24). Therefore, the two sub-samples generate similar results and indicate *validity*.

4.2. Hypotheses Test Results

Hypotheses 1-2: The construct of "competitive advantages" of the rival firms in e-commerce markets consisted of 12 indicator variables or individual barriers related to the power of competitiveness. The results showed that the "competitive advantages" held by the rival firms in the market did not impact the perception of "e-commerce resources" nor firm performance (β = .009; p=. 890 and β = .014; p= .923 respectively). The relationships and the standardized regression coefficients are also shown in Figure 2.

Hypotheses 3-5: The construct of "sustainability" barrier has eight indicators related to maintaining a smooth e-commerce operation. This construct has positive impact on the perception of "competitive advantages" held by the rival firms and on the perception of "e-commerce resources" (β = .840, p= .000 and β = .720 and p = .001 respectively). The perception of strong "sustainability" barriers leads to the perception of strong "competitive advantages" of the rival firms and the perception of e-commerce resources. However, there is no statistically significant relationship between the sustainability construct and the firm performance (β = -.030, p= .782). Despite the lack of direct effect of sustainability on firm performance, there is a large indirect effect as shown in Table 3. The total indirect effect, standardized regression weight, is -0.194. Bartol [1983] and Pedhazur [1982] indicate that an indirect effect higher than 0.05 can be considered meaningful. Therefore, a strong sustainability barrier indirectly impacts the firm performance.

Hypotheses 6-9: The "capital requirements" construct consisted of the lack of capital for infrastructure, unwillingness of the venture capitalist to provide funding, and the capital intensity of the market. It was

hypothesized that the strength of this construct could impact the "competitive advantages" held by the rival firms, "sustainability" barriers, perception of "e-commerce resources," and the perception of firm performance. The results show that the "capital requirements" construct impacts the "competitive advantages" of the rival firms, and the "sustainability" barriers positively (β = .167, p = .023 and β = .464, p = .000 respectively). In other words, the greater is the lack of funding for business operations, the greater is the competitive advantages of the rival firms and the "sustainability" barriers. There is no direct relationship between the "capital requirements" construct and the "e-commerce resources" and firm performance. However, the capital requirements barrier indirectly impacts firm performance. The total indirect effect, standardized regression weight of -0.187 is indeed meaningful. Table 3 shows that most of this indirect effect is through sustainability and e-commerce resources in a sequential manner.

Hypothesis 10: The "e-commerce resources" construct consisted of insufficient technical know-how, high learning curve involved in conducting e-commerce, and insufficient e-commerce infrastructure barriers. These three indicator variables are unique to e-commerce businesses. There is a marginal negative relationship between this construct and the firm performance (β = -.117, p = .061). Therefore, a stronger "e-commerce resources" (higher barrier) leads to a weaker firm performance. In performing further analysis of the data, firm ROI and the satisfaction with e-commerce initiative was multiplied together to create a new combined performance variable. Based on the new variable, the firms were then categorized as successful, moderately successful, and poor. The firms with poor performance rated the "e-commerce resources" construct as the strongest barrier (mean = 3.07). In contrast, the successful firms rated this barrier as the second lowest barrier for themselves (mean = 2.49) following the sustainability barrier (mean = 2.33). This additional analysis provides further support for the hypotheses that e-commerce resources impacts firm profitability.

5. Discussion and Conclusion

The goal of this research was to explore the relationships of barriers that firms face after they enter e-commerce markets and the impact of these barriers on firm performance by building a model. The strength of the barrier constructs range from a high of 2.83 to a low of 2.56. The lack of the e-commerce resources construct has the highest mean score followed by the competitive advantages of rival firms, capital requirements, and the sustainability barrier.
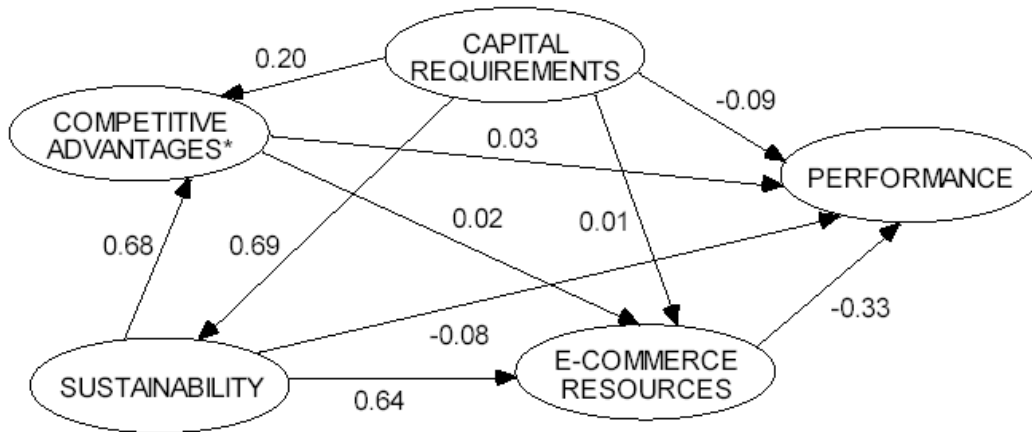
*Note: Path coefficients are in standardized form. *Competitive Advantages of Rival Firms*

Figure 2: Structural Equation Model Showing Relationships between Barriers After Market Entry and Firm Performance

While the differences among barriers observed are small, there are statistically significant differences among them. The e-commerce resources, the capital requirements and the competitive advantages of rival firms as barriers are stronger than the sustainability barriers. The e-commerce resources and the competitive advantages of the rival firms constructs are equally important for e-commerce business executives.

Table 4 shows the summary results for the hypotheses tested. As indicated in the results section, the construct of competitive advantages of rival firms has no impact on firm performance. Similarly, the sustainability barrier has no

direct impact on firm performance, but has an indirect negative impact. In addition, the sustainability barrier impacts the perception of the competitive advantages of rival firms. When firms perceive their own sustainability barriers as high, they also perceive the competitive advantages of the rival firms as high. Similarly, the sustainability barrier strongly impacts the perception of e-commerce resources, meaning that the higher the sustainability barrier, then the higher is the perception of the e-commerce resources barrier. As mentioned earlier, the sustainability barrier construct has a noticeable indirect impact on firm performance, which is consistent with the study conducted by Razi, Tarn and Siddiqui [2004]. This impact is mainly through the e-commerce resources barrier, which acts as a mediating factor here.

The capital requirements construct has no direct impact on firm performance, but it impacts the competitive advantages of the rival firms and the sustainability constructs. Interestingly, the capital requirements construct also has a noticeable indirect impact on firm performance. This indirect impact is mainly through sustainability and e-commerce resources sequentially (see Table 3). The data on successful firms in the study showed that the more successful firms rated the capital requirements as the highest barrier, followed by the competitive advantages of the rival firms, e-commerce resources, and sustainability barriers.

The relationship between e-commerce resources and firm performance is negative, meaning that as the perception of "e-commerce resources" becomes stronger, the perceived firm performance becomes lower. This finding is consistent with the results of Hafeez, Keoy, and Hanneman [2006].

Hypothesis one, which examined the impact of competitive advantages of the rival firms on firm performance and perceived e-commerce resources, is rejected. While this is surprising, one explanation may be the fact that the respondent firms think they can match or overcome the advantages of the rival firms despite the fact that they rated the competitive advantages as high barriers. The other three barriers constructs have a significant impact on firm performance. While the lack of e-commerce resources has a direct negative effect on firm performance, the capital requirements, and the sustainability barrier constructs have indirect negative effects on firm performance.

Given the identified direct and indirect effects of the barriers and the relationships among them, this study contributes to our understanding of the barriers by considering a large number of barriers after entering into e-commerce markets in a single study. A consistent and unifying theme from this research is the importance of sustainability. The importance of sustainability was highlighted in a number of the findings. Given the presumed ease of entrance into e-commerce, the importance of sustainability needs to be emphasized for those interested in long-term performance.

Table 3: Standardized Direct and Indirect Effects

Constructs	Direct & Indirect Effects	Standardized Loadings
CA →PER	Direct CA→PER	0.029
	Indirect CA→ECR→PER	-0.005
	Total indirect effect	-0.005
	Total effect	0.024
SUS →PER	Direct SUS→PER	-0.076
	Indirect SUS→CA→PER	0.020
	Indirect SUS→ECR→PER	-0.210
	Indirect SUS→CA→ECR→PER	-0.003
	Total indirect effect	-0.194
	Total effect	-0.270
CAP → PER	Direct CAPR→PER	-0.092
	Indirect CAPR→CA→PER	0.006
	Indirect CAPR→CA→ECR→PE	-0.001
	Indirect CAPR→SUS→ECR→PE	-0.145
	Indirect CAPR→SUS→PE	-0.053
	Indirect CAPR→ECR→PE	-0.005
	Indirect CAPR→SUS→CA→PE	0.014
	Indirect CAPR→SUS→CA→ECR→PE	-0.002
	Total indirect effect	-0.187
	Total effect	-0.279

Note: The constructs are described in Tables 1 & 2

6. Managerial Implications

The findings of this research could be utilized by e-commerce businesses in becoming more successful or avoiding failures. The "e-commerce resources" construct consisting of high learning curve, lack of technical know-how, and insufficient e-commerce infrastructure, is negatively related to firm performance. The lack of e-commerce resources leads to lower firm performance just as insufficient financing is a frequent reason for failures of small start-up firms. Therefore, firms need to have a good knowledge of e-commerce and sufficient e-commerce infrastructure to become successful. The findings in this study also indicate that capital requirements or finances required could lead to sustainability, which in turn affects e-commerce resources and competitive advantages. Thus, firms need to have sufficient finances available in order to sustain their e-commerce operations, which also lead to having advantages over competition. It is important to note that while the sustainability barrier has no direct impact on firm performance, it has an indirect effect on firm performance via e-commerce resources. Therefore, e-commerce resources act as a mediator. This implies that a low sustainability barrier combined with high levels of e-commerce resources lead to higher firm profitability. Similarly, the capital requirements barrier has no direct impact on firm performance, but it has an indirect effect through sustainability and e-commerce resources. Both sustainability and e-commerce resources act as mediators in impacting firm performance. Therefore, it is important to consider that capital requirements, sustainability, competitive advantages, and e-commerce resources are real hurdles companies face in e-commerce markets. Overcoming these barriers with a well-developed plan for finances, infrastructure, human and technical resources is likely to lead firms to expand their markets and become more successful.

Table 4: Summary Results of Hypotheses Tests

Hypotheses	After Market Entry Barrier Constructs		Results
H_1: Competitive advantages held by rival firms in the market negatively impact the perception of e-commerce resources.	Competitive Advantages of Rival Firms	E-commerce Resources	n.s.
H_2: Competitive advantages held by rival firms in the market negatively impacts firm performance.	Competitive Advantages of Rival Firms	Firm Performance	n.s.
H_3: The sustainability barrier in e-commerce markets positively impacts the competitive advantages held by rival firms	Sustainability	Competitive Advantages of Rival Firms	Yes
H_4: The sustainability barrier in e-commerce markets positively impacts the perceived lack of e-commerce resources.	Sustainability	E-commerce Resources	Yes
H_5: The sustainability barrier in e-commerce markets negatively impacts firm performance.	Sustainability	Firm Performance	SID*
H_6: The capital requirements barrier positively impacts the perception of competitive advantages held by the rival firms in e-commerce markets.	Capital Requirements	Competitive Advantages of Rival Firms	Yes
H_7: The capital requirements barrier positively impacts the sustainability barrier in e-commerce markets	Capital Requirements	Sustainability	Yes
H_8: The capital requirements barrier positively impacts the perception of e-commerce resources.	Capital Requirements	E-Commerce Resources	n.s.
H_9: The capital requirements barrier negatively impacts firm performance in e-commerce markets.	Capital Requirements	Firm Performance	SID
H_{10}: The e-commerce resources barrier negatively impacts firm performance in e-commerce markets.	E-Commerce Resources	Firm Performance	Yes

n.s.: no statistically significant relationship. *SID: Significant Indirect Effect

7. Limitations and Future Research

This study was aimed at understanding the barriers faced by businesses after market entry in e-commerce markets. The analysis provides statistically significant relationships and acceptable goodness of fit scores for the model. Only one of the constructs, e commerce resources, directly impacts firm performance. Although two of the constructs, sustainability and capital requirements have indirect effects on firm performance, they do not have direct effects. Similarly, the construct of competitive advantages of the rival firms has no impact on firm performance. The

reasons for this insignificant relationship need further investigation. Since the target respondents of the study were firms in e-commerce markets, the sample only included the firms listed in the "Directory of e-corporations." Thus, traditional brick and mortar companies were excluded from the study. It would be beneficial to replicate the study by including brick and mortar companies and make comparisons between the barriers that brick and mortar companies face with the companies in e-commerce markets. In addition, there are many other variables that could be studied including consumer requirements. However, in the interest of parsimony, primarily the earlier works of Porter, and Karakaya and Stahl influenced this study. Those studies focused on competitive issues and internal issues. Indeed, future research needs to consider consumer requirements.

Acknowledgement

REFEREENCES

Aghion, P., T. Fally, and S. Scarpetta, "Credit Constraints as a Barrier to the Entry and Post-entry Growth of Firms," *Economic Policy*, Vol. 22, No. 52:731-779, 2007.

Anderson, J. C. and D. W. Gerbing, "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, Vol. 103, No. 3:411-423, 1988.

Armstrong, J. and T. Overton, "Estimating Nonresponse Bias in Mail Surveys," *Journal of Marketing Research,* Vol. 14, No. 3:396-402, 1977.

Bagozzi, R. P. and H. Baumgartner, "The Evaluation of Structural Equation Models and Hypothesis Testing," *Principles of Marketing Research*, R. P. Bagozzi (ed.), Cambridge, 386-422, 1994.

Bagozzi, R. P., Y. Yi and L. W. Phillips, "Assessing Construct Validity in Organizational Research," *Administrative Science Quarterly*, Vol. 36, No. 3:421-458, 1991.

Bagozzi, R. P. and Y. Yi, "On the Evaluation of Structural Equation Models," *Journal of the Academy of Marketing Science*, Vol. 16, No. 3:74-94, 1988.

Bandyopadhyay, S. "Competitive Strategies for Internet Marketers in Emerging Markets," *Competitiveness Review*, Vol. 11, No. 2:16-25, 2001.

Barney, J. B. "Strategic Factor Markets, Expectations, Luck, and Business Strategy," *Management Science*, Vol. 32, No. 10:1231-1241, 1986.

Bartol, K. "Turnover Among DP Personnel: A causal analysis," *Communications of the ACM.* Vol. 26, 807-811, 1983.

Bode, S. and J. M. Burn, "Strategies for Consultancy Engagement for E-Business Development - a Case Analysis of Australian SMEs," in Burgess, S. (Ed.), *Managing Information Technology in Small Business: Challenges and Solutions*, Ideas Group, Melbourne, 2002.

Byrne, B. *Structural Equation Modeling with AMOS*, New Jersey: Lawrence Erlbaum Associate, 2001.

Darch, H. and T. Lucas, "Training as an E-Commerce Enabler," *Journal of Workplace Learning*, Vol. 14, No. 4:148-156, 2002.

Dierickx, I., K. Cool and J. B. Barney, "Asset Stock Accumulation and Sustainability of Competitive Advantage," *Management Science,* Vol. 35, No. 12:1504-1511, 1989.

Duan, Y., R. Mullins, D. Hamblin and S. Stanek, "Addressing ICTs Skill Challenges in SMEs: Insights from Three Country Investigations," *Journal of European Industrial Training*, Vol. 26, No. 8/9:430-445, 2002.

Dubelaar C., A. Sohal and S. Vedrana, "Benefits, Impediments and Critical Success Factors in B2C E-Business Adoption," *Technovation*, Vol. 25, No. 11:1251-1262, 2005.

E-Commerce Times, "U.S. B2B To Reach $6 Trillion by 2005," accessed at *http://www.ecommercetimes.com/story/3653.html?wlc=1221244212* on September 12, 2008.

eMarketer, "E-Commerce in the U.S.," Accessed *at http://www.eMarketer.com*, on December 16, 2007, dated 2005.

Fornell, C. and D. F. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, Vol. 18, No. 1:39-50, 1981.

German, K. "Top ten dotCom flops," Accessed at: *http://www.cnet.com/4520-11136_1-6278387-1.html* on March 21, 2008.

Geroski, P. A. "What Do We Know About Entry?" *International Journal of Industrial Organization*, Vol. 13, 421-440, 1995.

Gruca, T. S. and D. Sudharshan, "A Framework for Entry Deterrence Strategy: The Competitive Environment, Choices, and Consequences," *Journal of Marketing,* Vol. 59, No.3:44-55, 1995.

Hafeez, K., H. K. Kay and R. Hanneman, "E-business Capabilities Model: Validation and Comparison between Adopter and Non-Aadopter of E-Business Companies in UK," *Journal of Manufacturing Technology Management*, Vol. 17, No. 6:806-828, 2006.

Hair, J., W. Black, B. Babin, R. Anderson and R. Tatham, *Multivariate Data Analysis*, Englewood Cliffs: Prentice-Hall International, 2006.

Han, J. K., K. Namwoon and H. Kim, "Entry Barriers: A Dull-, One-, or Two-edged Sword for Incumbents? Unraveling the Paradox from a Contingency Perspective," *Journal of Marketing*, Vol. 65, No. 1:1-14, 2001.

Hatcher, L. *A Step-by-step Approach to Using the SAS System for Factor Analysis and Structural Equation Modeling*, Carey, NC: SAS Institute, 1994.

Huang, E. "Entry to the E-Commerce Markets of China and Taiwan: An Application of Content Analysis," *International Journal of Management*, Vol. 24, No. 1:82-92, 2007.

Iacovou, C., I, Benbasat, and A. S. Dexter, "Electronic Data Interchange and Small Organizations: Adoption and Impact of Technology," *MIS Quarterly*, Vol. 19, No. 4:465-484, 1995.

Ian F., U. Johansson, and B. Wagner, "A Qualitative Investigation of Smaller Firm E-Business Development," *Journal of Small Business and Enterprise Development*, Vol. 11, No. 3:349-361, 2004.

Internetworldstats.com, "Internet Users by World Region," Accessed at *www.internetworldstats.com*, on October 12, 2008, dated 2007.

Janenko, P. M. "E-business: The illusion of Automated Success," *The TQM Magazine*, Vol. 15, No. 3:180-186, 2003.

Johnson, E. J., S. Bellman, and G. L. Lohse, "Cognitive Lock-In and the Power Law of Practice," *Journal of Marketing*, Vol. 67, No. 2:62-75, 2003.

Karakaya, F. and R. Kerin, "Impact of Product Life Cycle Stages on Barriers to Entry," *Journal of Strategic Marketing*, Vol. 15, No. 4:287-298, 2007.

Karakaya, F. and O. Khalil, "Determinants of Internet Adoption in Small and Medium Sized Enterprises," *International Journal of Internet and Enterprise Management*, Vol. 2, No. 4:341-365, 2004.

Karakaya, F. and T. Shea, "Underlying Dimensions for Establishing E-Commerce Business and Their Relationship to E-Commerce Success," *Journal of Internet Commerce*, Vol. 7, No. 2:153-179, 2008.

Karakaya, F. and M. J. Stahl, "Barriers to Entry and Market Entry Decisions in Consumer and Industrial Goods Markets," *Journal of Marketing*, Vol. 53 No. 2:80-91, 1989.

Karakaya, F. and M. J. Stahl, *Entry Barriers and Market Entry Decisions: A Guide for Marketing Executives*, Westport, CT: Greenwood Press, 1991.

Karakaya, F. and M. J. Stahl, "Underlying Dimensions of Barriers to Entry in Consumer Goods Markets," *Journal of the Academy of Marketing Science*, Vol. 20, No. 3:275-278, 1992.

Keskin, H. "Market Orientation, Learning Orientation, and Innovation Capabilities in SMEs," *European Journal of Innovation Management*, Vol. 9, No. 4:396-417, 2006.

Lewis, R. and A. Cockrill, "Going Global - Remaining Local: The Impact of E-Commerce on Small Retail Firms in Wales," *International Journal of Information Management*, Vol. 22, 195-209, 2002.

Langnau, L. "Overcoming the Barriers to E-Commerce," *Material Handling Management*, Vol. 57, No. 2:41-42, 2002.

Mehrtens, J., P.B Cragg, and A. Mills, "A Model of Internet Adoption by SMEs," *Information and Management*, Vol. 39, 165-176, 2001.

Murray, K. B. and G. Haubl, "Explaining Cognitive Lock-In: The Role of Skill-Based Habits of Use in Consumer Choice," *Journal of Consumer Research*, Vol. 34, No. 1:77-88, 2007.

Nerkar, A. and P.W. Roberts, "Technological and New Product-Market Experience and the Success of New Product Introductions in the Pharmaceutical Industry," *Strategic Management Journal*, Vol. 25, No. 8/9:779-799, 2004.

Oxley, J. E and B. Yeung, "E-Commerce Readiness: Institutional Environment and International Competitiveness," *Journal of International Business Studies*, Vol. 32, No. 4:705-723, 2001.

Pedhazur, E. *Multiple Regression in Behavioral Research*. New York, NY: Holt, Rinehart & Winston, 1982.

Porter, M. E., *Competitive Strategy*, New York: The Free Press, 1980.

Porter, M. E., *Competitive Advantage: Creating and Sustaining Superior Performance*, New York: The Free Press, 1985.

Porter, M. E. "Strategy and the Internet," *Harvard Business Review*, Vol. 79, No. 3:62-78, 2001.

Pyun, C. S., L. Scruggs and K. Nam, "Internet Banking in the U.S., Japan and Europe," *Multinational Business Review*, Vol. 10, No. 2:73-82, 2002.

Razi, M. A., T. Michael and F. S. Siddiqui, "Exploring the Failure and Success of DotComs," *Information Management & Computer Security*, Vol. 12, No. 2/3:228-244, 2004.

Rosemary S. and C. Standing, "Benefits and Barriers of Electronic Marketplace Participation: An SME Perspective," *Journal of Enterprise Information Management*, Vol. 17, No. 4:301-311, 2004.

Simon, H., *Hidden Champions*, Boston, Massachusetts: Harvard Business School Press, 1996.

Simon. D. "Incumbent Pricing Responses to Entry," *Strategic Management Journal*, Vol. 26, No. 13:1229-1244, 2005.

Swaid, S. and R. Wigand, "Measuring the Quality of E-Service: Scale Development and Initial Validation," *Journal of Electronic Commerce Research*, Vol. 10, No. 1:13-28, 2009.

Thompson, S. "The Role of Industry Specific Capabilities During the Diffusion of General Purpose Technology: The case of digital cameras," *Schmalenbach Business Review*, Vol. 59, July:243-260, 2007.

Thornton, J. and S. Marche, "Sorting through the Dot Bomb Rubble: How did the high-profile e-tailers fail?" *International Journal of Information Management*, Vol. 23, No. 2:121-138, 2003.

Wernerfelt, B. "A Resource Based View of the Firm," *Strategic Management Journal*, Vol. 5, No. 3:171-180, 1984.

Wu, J. H., T. L. Hsia and M. S. H. Heng, "Core Capabilities for Exploiting Electronic Banking, Journal *of Electronic Commerce Research,* Vol. 7, No. 2:111-122, 2006.

Zwass, V. "Electronic Commerce and Organizational Innovation: Aspects and Opportunities," *International Journal of Electronic Commerce*, Vol. 7, 3:7–37, 2003.