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Environment, Generic Strategies, and Resource-Based Perspective On Performance In Online Firms : An Empirical Analysis

Chulmo Koo, Kichan Nam, and Jae Beom Lee
Sogang University
Shinsu-Dong 1, Mapo-Ku, Seoul, Korea
Tel: 82-2-705-8710, Tel: 82-2-705-8710, Tel: 82-2-705-8538
Fax: 82-2-703-8224, Fax: 82-2-703-8224, Fax: 82-2-717-9773
helmet@sogang.ac.kr, knam@ccs.sogang.ac.kr, jblee@sogang.ac.kr

Chang E. Koh
University of North Texas
College of Business Administration
P.O. Box 305249, Denton, TX 76203-5249
Phone & Fax: (940) 565-3625
E-mail: kohce@unt.edu

ABSTRACT
In these days, fims have recognized the potential and the importance of electronic commerce to survive in this increasingly complex and competitive market. Electronic commerce can be used to create and enhance competitive strategies by all types and sizes of firms. Today all types of firms are squaring off for a dominant position in a virtual market. However, firms should carefully consider various factors such as the size of a firm, its access to resources, and the industry in which it competes.

The resource-based theory is one of attempts to explain how firms acquire a strategic advantage emphasizes the availability of various internal resources for sustainable competitive advantage. The resource of the dot.com was usually augmented by on or more of a network of joint ventures, strategic alliances and venture capital consortia, but the surviving dot.coms are usually led by new and more realistic wealth creators. This paper integrates environment, generic strategies, and the resource-based perspective on performance in online firms. More theoretically the results will imply the environment factors and the resource factors which can influence the strategic choices and the selected strategies make a direct impact on the performance. And also the resources of firm are another in determining performance. And the practically, managers in online firms must consider firms assets and environment simultaneously to firm success.

I. INTRODUCTION
For the past few decades we have been witnessing unprecedented technological changes and increasingly turbulent market conditions. Information technologies(IT) and management techniques are readily available to all businesses that transcend geographic boundaries, that served customer within 24 hours business time . Porter (2001) suggests that the Internet can help organization achieve competitive advantages by either improving operational effectiveness or enhancing its strategic position in the market. In this time, new players more easily to enter the traditional market — either physically or virtually — and consequently increases the level of complexity of market dynamics and intensifies competition. Therefore, many traditional firms couldn't ignore the potential and the importance of electronic commerce to survive in this increasingly complex and competitive market. By effectively adopting electronic commerce, a traditional firm may improve its profitability by increasing its market share while reducing costs (Amit and Zott, 2001). For example, companies like Kmart entered into a partnership with bluelight.com and Banz and Noble Inc. launched another online firm(www.banzandnoble.com) in an attempt to add an electronic channel to their existing "bricks-and-mortar" channel to counter emerging online firms like eBay, Yahoo!, Amazon and LookSmart. Even though the electronic commerce still makes up a small part of all commerce, it is growing rapidly. Forrester Research estimates that electronic commerce will reach $ 3.2 trillion in 2003 (www.forester.com).

Today all types of firms are squaring off for a dominant position in a virtual market. Technically savvy online startups like amazon.com took advantage of Internet technologies to break into the market that would have been considered impenetrable. Many of these online firms quickly became a significant force to reckon with. Their flexible organizational culture and entrepreneurial sprit often make these upstarts more apt to rapidly evolving technologies and changing market environments (Yoffie and Cusumano, 1999). In response, traditional firms like Barnes & Noble counter not only with added online channels but also by linking new online business to their existing brands and physical presence and services(Strategic Change, 1999). While technology plays an important role in almost every aspect of business, increasingly competitive market is forcing firms to look for ways to utilize technology to gain strategic advantages.

Previous studies have looked into technology can provide competitive advantages such as requiring superior cost structure (Porter, 1980), offering different products and services (Caves and Williamson, 1985), offering superior products through innovation (Miller and Friesen, 1984) and establishing strategic alliance with business partners (Kogut, 1988). It means that firms should carefully consider IT based on various factors such as the size of a firm(Wright, 1987), its access to resources(Porter, 2001), and the industry(Porter, 1980) and environment(Miller, 1988) in which it competes.

The resource-based theory is one of attempts to explain how firms acquire a strategic advantage emphasizes the availability of various internal resources for sustainable competitive advantage. It argues that a firm's performance is a function of how well it establishes itself in the market around resources that are valuable, rare, inimitable, and substitutes (Barney, 1991). These resources may include not only tangible but also intangible assets such as management skills, organizational processes and routines, and information and knowledge it controls (Barney et al, 2001).

Recently many firms have formed strategic alliance to strengthen their strategic position in the market and to compete with new online players that pose a serious threat. The resource of the dot.com was usually augmented by on or more of a network of joint ventures, strategic alliances and venture capital consortia, but the surviving dot.coms are usually led by new and more realistic wealth creators (Business Horizons, 2002)* working to more robust business plans and info-technology platforms for product and service distribution (Strategic, 2001) and brand strength (Coltman et al, 2002).

This paper integrates environment(Miller, 1988), generic strategies(Porter, 1980) and the resource-based perspective on performance in online firms. Previous research identified empirically that environment can influence choices of strategy within an industry or across industries(Miller, 1988). And Spanos and Lioukas (2001) studied both perspectives' strategy, firm-assets effects and industry forces on firm performance. This paper introduces a composite model by integrating different theories as discussed above. The research framework will be tested on online firms. Subsequent sections present the model development and hypotheses, and then the expected results.

II. THEORY

The Competitive Strategy and Performance

The theory advanced by Porter (1980, 1985, 1990, 1991) departs markedly from the traditional IO theory. Porter focuses on the performance of individual firms rather than the performance of the industry. Furthermore, he considers the industry structure to be neither wholly exogenous nor stable, as commonly viewed in the traditional IO theory (Bain, 1968; Caves, 1972). Porter's two perspectives are the role of firm's conduct in influencing performance and industry structure still central role in explaining firm performance. Competitive strategies generically embody and implement the firm's desire to achieve cost leadership, product differentiation, and focus (Porter, 1980; 1985). Within this overall strategic orientation, the firm has the choice to develop products to satisfy a wide range of commercial and industrial demands, or products which focus on specific market segments.

Environment and Strategy

Traditional contingency theorists have argued that the uncertain environment that seem to necessitate the innovation (Miller, 1988), require organic (Burns and Stalker, 1961), decentralized, differentiated (Lawrence and Lorsch, 1967), and intensively integrated (Galbraith, 1973; Thompson, 1967) structures. According to the literature, strategies as necessary responses to environments more than as influencers of environments. Business strategy has strong relationship with environment (Miller, 1988; Burns and Stalker, 1961; Dess and Beard, 1984; Hambrick, 1983b, 1985; Miller and Friesen, 1983; Zaltman et al, 1973). Innovation and marketing differentiation are typically more necessary in dynamic and uncertain environments (Burns and Stalker, 1961; Porter, 1980; Miller, 1988). Miller (1988) argued that the matching of strategy and environment can influence performance whereas the poor match can hurt performance. The environmental unpredictability (Khandwalla, 1977)- the difficulty of forecasting the behavior of competitors and customers, and the environmental dynamism- product and practices change quickly (Duncan, 1972) have associated with the strategy.

The Resource-Based View Perspective

Edith Penrose (1959) has been credited by several authors espousing a resource-based perspective of the firm as having been instrumental to the development of this perspective. Wernerfelt (1984) and Teece (1982) cited Penrose's (1959) work: 'the idea of looking at firms as a broader set of resources', 'the optimal growth of the firm involves a balance between exploitation of existing resources and development of new one.' The RBV distinguishes between resources that can be acquired in factor markets and those developed inside the firm. To confer competitive advantage, resources must not be possessed by all competing firms, they must be difficult to imitate or duplicate through other means, and contribute positively to performance (Barney, 1991). The Resource Based View of the firm focusing on the relationships between firm internal characteristics and performance. Firm may be heterogeneous in relation to the resources and capabilities on which they base their strategies, and these resources and capabilities may not be perfectly mobile across firms, resulting in heterogeneity among industry participants (Barney, 1991)

The Complementary Relation with RBV and Strategies

Besides the apparent conflicting views between the two perspectives outlined above, it has been recently recognized that the "competitive strategy" and resource-base perspectives complement each other in explaining a firm's performance. The two perspectives have made significant and complementary contributions in the field of strategic management (Foss, 1996, 1997a; Amit and Schoemaker, 1993; Peteraf, 1993; Mahoney and Pandian, 1992; Conner, 1991). As Barney and Zajac (1994) have argued, the examination of strategy implementation skills (i.e., resources and capabilities) cannot be understood independently of strategy content and the competitive environment within which the firm operates. Spanos and Lioukas (2001) studied the Porter framework of competitive strategy and the resource-based view of the firm.

The Resource Based View and the Other Areas' Studies

(1) Information Technology

Mata, Fuerst and Barney (1995) showed the resource-based theory as a means of analyzing sustainability. They justified IT RBV such as capital requirements, proprietary technology, technical IT skills, and managerial IT skills. And the managerial IT skills is the only one of these attributes that can provide sustainability. Powell and Dent-Micallef (1997) investigated between IT and firm performance. The findings show that IT alone have not produced sustainable performance advantages but have gained with intangible, complementary human and business resources such as flexible culture, strategic planning, IT planning, and supplier relationships.

(2) Human Resources Management

Wright et al (2001) investigated that a firm's success has contributed to the interaction and convergence of strategy and HRM (Human Resource Management) issues. They provide a preliminary framework that suggests core competence, dynamic capabilities, and knowledge serve as a bridge between the strategy and the HRM such as the process of attraction, development, motivation, and retention of people.

(3) Marketing Research

RBV in marketing research needs to identify precisely how customer value in the form of specific attributes, benefits, attitudes and network effects is intended, generated, and sustained. RBV research has been important in suggesting that local firms are interested in using foreign alliances to acquire advantages over their domestic rivals, in emphasizing the importance of network ties as an intangible resource for entrepreneurial start-ups. Schroeder,

(4) Manufacturing Strategy

Bates and Junttila (2002) examines manufacturing strategy from the perspective of the RBV of the firm. The resources and capabilities are formed by employees' internal learning based on cross-training and suggestion systems, external learning from customers and suppliers, and proprietary processes and equipment developed by the firm.

III. HYPOTHESES

Our research extends previous research into the cyber market of online firms. The composite model include P environment, Porter's generic strategies, and resources within firm associated with competitive sustainable performance.

Environment, Strategy and Performance

Porter (1980) distinguished three generic strategies: differentiation, cost leadership, and focus. Miller (1986) noted that there are at least two different types of differentiation strategies: those based on product innovation and those based on intensive marketing and image management. Miller (1988) suggested environments that are unpredictable or subject to much change will create severe diseconomies for firms trying to pursue cost leadership. Product innovation is generally more prevalent and useful in dynamic environments. Without innovation, firms in such settings fall behind, losing market share and sales. When innovations induce competitors to retaliate, the result is a still more dynamic and unpredictable environment and the need for further change to maintain effective differentiation (Scherer, 1980). Marketing differentiation is likely to invite competitive responses, thereby increasing not only unpredictability but market dynamism as well. Focus can reduce the information-processing burden of managers, allowing a depth of knowledge that enhances predictability. Therefore, there are many narrowly focused firms operating in highly unpredictable settings.

Yoffie and Cusumano (1999) told that conventional and e-commerce environment may be fundamentally different. The competitive e-commerce environment is considerably shaped by developments in hardware, software, and networking technologies and therefore inextricably liked to the rapid cycles of change in these enabling technologies. The phrase Internet time has been used to describe the heightened pace of operations and rapid cycles of decision making required to exploit extremely short windows of opportunity to gain competitive advantage (Yoffie and Cusumano, 1999). The current environments are characterized by considerable volatility and are described as a parallel universe(Fox 1999) requiring radically different organizational strategies and managerial mindsets. So here we infer the hypothesis based on the literatures.

Hypothesis 1-1: The cyber environment of unpredictability and dynamism will make an impact on the firms' strategic choices.
Hypotheses 1-2 : The selected strategies influence on the firm performance directly.

A Resource-Based View of Online Firm and Performance.

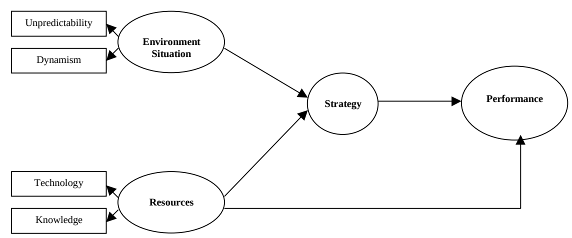
General definition of resource are broadly categorized such as assets, knowledge, capabilities, and organizational processes. Grant (1991) distinguishes between resources and capabilities and provides a classification of resources into tangible, intangible, and personnel-based resources. Tangible resources include the financial capital and the physical assets of the firm such as plant, equipment, and stocks of raw materials. Intangible resources encompass assets such as reputation, band image, and product quality, while personnel-based resources include technical know-how and other knowledge assets including dimensions such as organizational culture, employee training, loyalty etc. Firms create competitive advantage by assembling resources that work together to create organizational capabilities. Capabilities is an organization's ability to assemble, integrate, and deploy valued resources (Amit and Schoemaker, 1993; Russo and Fouts, 1997). Castanias and Helfat (2001) present two resource characteristics for firm performance. One is managerial abilities such as leadership quality or functional area experience, the other is fundamental resource-based characteristics such as scarcity, immobility, and inimitability. The authors argue that managerial resources, which cannot be imitated quickly or which may have imperfect substitutes. Online firms tend to be technology-driven and have significant capabilities related to Internet technologies(Yoffie and Cusumano, 1999).

(1) Technological Resource

EC technologies have received very much attention from both academia and practice in the last few years (Chircu and Kauffman, 2000). EC technology investments might be understood and evaluated form a similar perspective, and shows how one might link impacts in a business process to firm outcomes at the market level. Kauffman et al (2000) argued that the value of an electronic banking network as a combination of firm-specific value and networking-generated value, and showed that banks participating in shared networks can reap more benefits from electronic banking systems than banks with proprietary systems. Clemons (1991) and Clemons and Row (1991) pointed out a firm can obtain a sustainable competitive advantage if it uses IT to exploit specific organizational characteristics. When other firm resources are both specialized and indispensable to a specific IT, they become co-specialized assets (Teece, 1987). Amazon has developed sophisticated internal search engines to make product search very easy and precise. The online bookseller also offers additional search features, such as pointing the customer to related books of interest. At Books.com can compare prices with other vendors. Books.com's own search engine will ping Amazon.com and Barnesandnoble.com Inc (Sloan Management Review, 2000)[*]. Since these resources may be unique or hard and costly to imitate, other firms may not be able to acquire or build them fast enough. E-business success depends on continually monitoring state-of-the art Internet features to make sure a website incorporates them ahead of competitors. Also important is having up-to-date development expertise –either in-house or through an outside partnership. Developers need to be able to design and upgrade the back and front ends of their e-business using languages and tools that are universally accessible to a complete range of customers with varying operating systems, software, and Internet browsers (USA Today, Mar 2002)[*]. So here we infer the hypothesis based on the literatures.

Hypothesis 2-1: The firm performance will depend on the technology resources and capabilities directly.
Hypothesis 2-2: The technology resources and capability will make an impact on firm's strategic choices and then the selected strategies influence the firm performance indirectly.

Figure 1. <Conceptual Framework>



Knowledgeable Resources

Today, most assume that e-business stands for browser-accessible applications of many flavors and their necessary infrastructure. What has been added to this description are the business-process changes and organizational commitments necessary for success. If a company wants to deploy an agent portal with handy access to renewal information, it will need to realize that business processes will need to change-sometimes radically. If departments within a company-marketing, sales, customer service-fail to realize the scope of these nontechnology e-business requirements, they may find themselves alone at the launch party (Best's Review, Jan 2002).

Charles Schwab and Fidelity Investments have found significant success with their online trading services. Schwab was a very early mover to the online trading area. Therefore, it has long-held competencies in serving a customer base from a distance. Its telephone trading system was in place long before the Internet existed, and its information and data systems made it relatively easy to make the transition to the Web. Schwab's corporate culture has supported its "serving a customer at a distance" strategy. These in-place competencies and assets transferred efficiently and effectively to the Web, and gave Schwab an advantage over its counterparts. (Sloan Management Review, 2000). Banding resource will be important, too. The actual EC vendor band is important to the extent that it signals reliability and customer service. The opportunity for new EC bands has arisen, however, in the commodity and quasi-commodity segments. Hence, we see the rise of Amazon, Buy.com Inc. and Travelocity.com Inc. (Sloan Management Review, 2000). In an Ernst & Young survey on e-commerce, 69% of respondents stated that brand names played a significant role in their online buying decisions. Online users continue to gravitate toward brands for two basic reasons: first, band names act as substitutes for information gathering by helping online buyers locate specific products and thus reduce search costs; and second, consumer attitudes regarding brand trust, security, and expectations regarding product quality (Coltman et al., 2002). So here we infer the hypothesis based on the literatures.

Hypothesis 3-2: The knowledgeable resources and capability will make an impact on firm's strategic choices and then the selected strategies influence the firm performance indirectly.
Hypothesis 3-1: The firm performance will depend on the knowledgeable resources and capabilities directly.

EXPECTED RESULTS

Overall our results will testify a composite framework for online firm performance. More theoretically the results will imply the environment factors and the resource factors which can influence the strategic choices and the selected strategies make an direct impact on the performance. And also the resources of firm are another in determining performance. And the practically, managers in online firms must consider firms assets and environment simultaneously to firm success.

FOOTNOTES

[*] Business Horizons; Greenwich; Jan/Feb 2002
[*] John M. de Figueiredo, "Finding Sustainable Profitability in Electronic Commerce," Sloan Management Review, summer 2000. http://www.findarticles.com
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