

ASSESSING ORGANIZATIONAL INNOVATION CAPABILITY AND ITS EFFECT ON E-COMMERCE INITIATIVES

ANN L. FRUHLING
University of Nebraska - Omaha
Omaha, NE 68182-0500

KENG SIAU
University of Nebraska - Lincoln
Lincoln, NE 68588-0491

ABSTRACT

This research uses the qualitative approach to study the innovative capability of two organizations and the effect of innovation on their E-Commerce initiatives, strategies, and outcomes. The Innovation Strategy Model is used in this research to analyze the innovative capability of two organizations. The case study research methodology was selected and two case studies are presented. The research results show that one organization is more innovative than the other in terms of its innovative capability. A post-study follow-up shows that the organization that was high on innovative capability was very successful in their E-Commerce initiative whereas the other organization was not.

Keywords: Case Studies, Qualitative Research, Strategic IT, Electronic Commerce, Innovation Strategy Model

1.0 INTRODUCTION

The proliferation of E-Commerce in business organizations has had and is still having profound effects on business strategies. New business strategies have emerged that are elevating technological innovations, and as a result, business strategies have become a driving force of the information revolution. In order for organizations to survive and compete in the digital economy, they must be willing to adopt new business models [5, 9, 14, 27, 28, 29]. Technology has created new opportunities for businesses to redeploy their assets and to rethink their strategies. These new opportunities are not restricted to large organizations; they affect even the smallest businesses. The variety of potential competitive and strategic uses of information technology is as broad and complex as the industries within which these uses have evolved [3].

Specifically, E-Commerce is revitalizing the need and the value to innovate the business process. It will create new forms of business relationships and opportunities for new markets, new businesses, and new marketing paradigms. Research has shown that an organization's ability to effectively innovate can result in improved firm performance. Because of this renewed innovation thrust, these firms' management now has to decide how to best manage the innovation capability of the organization and develop an innovative E-Commerce strategy.

The successful E-Commerce organization will empower people to innovate [13] and will give leverage to their entrepreneurial competencies and assets. Innovation, or the development and implementation of new ideas by people who, over time, engage in transactions with others within an institutional order, affects all levels of the organization [39]. At the top of the organization, innovation drives the investments in products and technology. In the middle, innovation propels a portfolio of promising but not-yet-proven experiments, new ventures, prototypes, or other stand-alone projects. At the organization's foundation level, innovations

are embedded in continuous improvements and new ideas. Organizations of the future will empower people at all levels to search for new ideas that range from constant operational improvements to dramatic technological breakthroughs [13]. Therefore, the idea is to capitalize on the importance of entrepreneurial traits of the organization because they are essential for the future survival and growth of the organization. Kanter [13] stated that the three most important assets of a world-class organization are its *concepts* (i.e., ideas and technologies, driven by innovation), *competence* (i.e., skills and the ability to use them, improved by teaching and learning) and *connections* (i.e., strategic relationships, nurtured by collaboration). Further, it is suggested that these "soft assets" will increasingly overtake "hard assets" as the most important sources of a firm's value [13].

As further support for an organization to embark upon an innovative E-Commerce strategy, Siau [30] asserted that one of the most important assets of an organization is its ability to be creative and innovative. For an organization to be successful in the long-run it must innovate [31], which will require different enterprise architectures and different IT infrastructures [15]. Furthermore, organizational capabilities that matter are the ones that make a difference in the long run and are those that enhance the organization's ability to innovate.

Organizations face four basic problems when trying to manage an environment of innovation: 1) the human problem of managing attention, that is the need to pay attention to new ideas; 2) a process problem for managing new ideas into actual products and services; 3) a structural problem of managing part-whole relationships (e.g., people lose sight of the "whole" innovation and get caught up in the "parts"); and, 4) a strategic problem of institutional organizational leadership and a need for an infrastructure that supports innovation and organizational learning where uncertainty is embraced [39]. This study focuses on addressing problems two (process for managing new ideas) and four (organization leadership and infrastructure) when managing an environment for E-Commerce innovation.

Implementing an E-Commerce strategy, which often affects every area of the organization, requires a strategy that addresses the ability to integrate all levels of the organization. In addition, even if the fundamentals of what it takes to succeed in business have not changed, E-Commerce *does* have unique characteristics [18]. In fact, the unique characteristics of E-Commerce in some cases require new metrics or at least the careful evaluation of existing ones, to facilitate the development of innovative strategies to emerging problems [37]. Creation of an innovation strategy, in particular, may be the bonding initiative that creates a common language, capitalizes on distinctive competencies, and fuses collective knowledge into a shared purpose for the organization [1].

This paper examines the innovation capability of two organizations and the effect of that capability on the outcome of each

organization's E-Commerce initiatives. Two case studies are presented — one organization successfully implemented their E-Commerce initiative whereas the other failed. The Innovation Strategy Model is applied to the two organizations at the beginning of their E-Commerce initiative. The outcomes of the E-Commerce initiatives were not known until several months after the coding. Therefore, after a period of time when the success or failure of the E-Commerce project was known this research then examined if the differences in each organization's innovation potential could help explain the different outcomes.

It should be noted that we are not comparing the two organizations as in an empirical study or hypotheses testing scenario. That is not the strength of case study approach and it is not the intention of this study. The strength of case study approach is to provide insightful and rich information about the cases that can not be easily captured using other research methodologies such as experimentation or survey.

The remainder of the paper is organized as follows: Section 2 provides background on E-Commerce and reviews the literature in E-Business strategies, organizational strategies, E-Commerce strategy and innovation. Section 3 introduces the innovation strategy model. Section 4 discusses the research method and the two case studies. Section 5 presents the results of the evaluation and discusses the results. Section 6 concludes the paper and provides directions for future research.

2.0 LITERATURE REVIEW

Few technologies have spread as quickly, or become so widely employed, as computers and the Internet [2, 11, 20, 30]. Because of this proliferation of computerized Internetworking technology, a paradigm shift has occurred in the way business has been conducted in the past decade. The utilization of computers and networks in day-to-day operations by businesses is sometimes referred to as E-Commerce. E-Commerce broadly defined "is a modern business methodology that addresses the needs of organizations, merchants, and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery." [12].

2.1 E-Commerce Background

In the 1990s, use of the Internet by businesses and individuals grew phenomenally and continues to grow still today. There are two million new Internet users per month in the United States [30]. New forms of E-Commerce, such as Mobile Commerce [19] and Ubiquitous Commerce, are emerging and new ways of using the Internet, such as E-Government [28, 29], E-health [33], E-banking [36], are being initiated and embraced.

The incredible growth of Internet usage by both individual and business consumers attracted the entrance of many businesses into the online or .com world. In 1995, there were over 27,000 top-level commercial .com domain names assigned. Two and a half years later, the assigned .com names reached 764,000 [17]. However, the bubble burst in April 2000 when the extraordinary high stock valuations and massive inflows of venture capital dissipated to an all time low. Nevertheless, the skepticism about the e-economy has been greatly exaggerated. Despite the fallout of the .com and the current economic conditions, migration of businesses to the Internet continues.

For the last decade, E-Commerce has become an area of increasing importance among Management Information Systems

(MIS) researchers. The majority of the past E-Commerce research has focused on conceptual and normative perspectives that analyzed market structure and transaction mechanisms [4]. However, empirical work examining E-Commerce applications has recently increased in the MIS field.

MIS research in the 1970s focused on E-Commerce applications that centered around electronic funds transfers (EFT) which is the automation of the exchange of money between parties in a commercial transaction or between banks that represent businesses responsible for conducting the settlement portion of a business transaction [24]. The research primarily focused on large corporations, financial institutions, and a few entrepreneurial small businesses. As EFT matured, MIS researchers next investigated the effects of electronic data interchange (EDI) technology, which expanded the type of transactions from financial transactions to other transactions and included more types of businesses such as manufacturers, retailers, and services.

The proliferation of personal computers in the early 1980s and the technological advancement of local area networks and client/server computing in the late 1980s created new research opportunities for MIS researchers to investigate the development and implementation of E-Commerce systems. Numerous studies analyzed the impact of E-Commerce and how it transformed the way businesses operate and the way they disseminate information to customers and to each other.

Three research streams surfaced that paralleled the main areas of e-business applications: inter-organizational (business-to-business), intra-organizational, and business-to-consumer. In the area of inter-organizational e-business, business-to-business (B2B) transactions through an Extranet, research focuses on value networking, alliances, supplier management, inventory management, distribution management, channel management, and payment management. Research streams in intra-organizational e-business include workgroup communications, electronic publishing, and sales force productivity.

The business-to-consumer category encompasses transactions between the consumer and the organization (e.g. vendors, manufacturers and service providers) [38]. Research streams in the business-to-consumer area include social interaction, personal finance management, purchasing products [4], Customer Relationship Management (CRM) [25], [10], and information exchange.

2.2 E-Business Strategies

Another prominent, theoretical framework in the strategy field that is often used as the foundation of examining the implications of new e-business strategies (e.g., alliances, collaborations, CRM, b-webs etc.) is Porter's (1986) [22] Competitive Advantage Strategies framework (Table 1). The framework is based on two core principles. The first core principle is competitive advantage which is believed to be the goal of any strategy. The second core principle is the *type* of competitive advantage defined by the organization to seek and attain and the scope within which it will attain it [22].

Porter [22] described three generic strategies for achieving competitive advantage within an industry: cost leadership, differentiation, and focus [22]. Cost leadership and differentiation strategies are targeted toward a broad market, while focused strategies seek to lower costs (cost focus) or differentiate products and services (differentiation focus) in a narrow industry segment. The specific actions required to implement each generic strategy vary

Competitive Advantage		
Competitive Scope	Lower Cost	Differentiation
Broad	1. Cost Leadership	2. Differentiation
Narrow	3a. Cost Focus	3b. Differentiation Focus

Table 1 Three Generic Strategies Related to Competitive Advantage and Scope [22]

widely from industry to industry and now in the information age the implementation process varies even more.

Porter [22] argued that organizations that try to be "all things to all customers" will result in strategic mediocrity and end up with a below-average performance. The Internet provides the customer with more information which means the customer can potentially know more about the similarities among various sellers and the emphasis on product or service price increase. Alternatively, this can also mean that customers know more about the differences among various sellers and products causing a decrease in the emphasis on price [5]. Therefore, organizations must choose from among a low cost strategy, a product/service differentiation strategy (which allows asking a premium price), and a focus strategy. The information revolution provided businesses with new ways to implement these strategies.

For example, implementing a differentiation strategy may include transforming the marketplace to a marketspace [29], specifically, transforming the "marketplace transaction" to a "marketspace transaction." A marketspace eliminates the interaction between the physical seller and physical buyer. The content of the transaction is different: information about the products replaces the products themselves. The content of the transaction is an online web site that replaces the face-to-face interaction of the past marketplace. And, the infrastructure that enables the transaction uses computers and telecommunications rather than physical displays of the product. This requires a new strategy for organizations that plan to operate in a marketspace because managing a marketspace requires a paradigm shift from thinking of a physical place to information space [27, 29].

E-business strategies as discussed above assist management in tackling and addressing strategic issues and innovation capabilities, both in the organization and in the external environment. One of their principle concerns is to match changes in the external environment with existing organizational capabilities [32]. At the business-level, the value chain model is one of the most common analytic tools used.

2.3 Organizational Strategies

The value chain presents the specific activities within a business where competitive strategies can be best applied [22]. Value chains are also useful to determine which information systems and new innovations are most likely to have a strategic impact. The value chain model views the organization as a series or "chain" of activities (primary and support) that add value to the product or service as it moves through the organization. Organizations can use E-Commerce services to create unique new products or value-added services that hopefully will give them a distinguished

competitive advantage. To take advantage of E-Commerce innovations, the organization needs to carefully analyze its value chain and supply chain. For example, Siau [34] argued that an effective and efficient supply chain is vital to the competitiveness and the survival of an organization

In summary, there have been many articles written on E-Commerce and the necessary steps for successful E-Commerce implementation. There are also many opinions on what contributes to successful E-Commerce ventures.

2.4 E-Commerce Strategy

The importance of having an E-Commerce strategy is clearly argued by many researchers [40]. For example, Senn [24] stated that "Unless a company's journey onto the Internet is designed to be nothing more than an exploratory adventure or distraction, any rationale for moving onto the network should be formulated as a business case. This means establishing and then measuring against clear objectives, preferably with a timetable describing expected milestones."

Shaw [26], President of E-Commerce Strategies, asserted that the first steps to becoming an e-Business begins with the development of a corporate strategy for digitally transforming an organization into an e-business. Shaw [26] suggested that an organization first develops a vision; second, it insures that the business' existing processes and systems are working effectively; third, the organization develops some comfort with the new technologies; and lastly, the organization implements the vision.

Another driving force requiring the need for E-Commerce strategies is that Internet-based technologies are creating new capabilities that are altering the rules of competition [21, 27, 41]. The seven laws of E-Commerce strategy identified by Oliver [21] are good examples of how and why the rules are changing. The seven laws are: 1) the *speed* of doing business on the Internet, referred to as *Internet Speed*, is much, much faster than non-Internet business; 2) New applications and technologies for the Internet never end and if an organization does not keep up, it is next to impossible to get back in the game; 3) There is no such thing as sustainable advantage anymore; strategists always need to be on top of the next strategic move; 4) Information on the internet is readily and quickly available; no longer do customers have to rely on specialists (i.e., travel agents, insurance agents, stockbrokers, etc.) to disseminate information available at their fingertips on demand which is very different than in the past; 5) E-Commerce strategy requires thinking in terms of a global perspective, not just domestically; 6) How businesses deal with customers is very different - e.g., in a brick and mortar environment, success was characterized by making it easy for customers to come to the

business. In other words, location was everything. In an E-Commerce environment, the business comes to the customer; and, 7) Customers have more say in the buyer/seller relationship in terms of product or service offered, delivery criteria, and sometimes even price.

Others suggest different models for the development of E-Commerce strategies. Kalakota and Whinston [12] argued that management issues centered on the purchasing process need to be carefully evaluated. They stressed the importance of the Internet buying process, speed of transaction completion, and vendor payment schemes. And, still another E-Commerce strategy model emphasizes that the degree the organization integrates its physical and virtual operations is key to E-Commerce strategy implementation. This requires an assessment of the organization's brand, management, operations, and equity, which in turn determine which areas should be integrated and which should remain separate [9].

In sum, many practitioners and researchers agree that an E-Commerce strategy is essential and should be in alignment with the overall organizational strategy, however, the process of achieving the alignment varies. In some cases, a sequential approach linking strategies to processes to actions (e.g. value chain) is used. Another approach suggests concurrently aligning strategies, processes, technologies, and actions [7]. However, in an environment of rapid and unpredictable changes, traditional approaches to strategy tend to collapse and would benefit from more contemporary thinking.

Recent research examining successful high-growth companies in the digital economy found that these organizations followed a different, non-traditional strategic approach (e.g., value innovation logic) [6, 15]. The value innovation logic approach is different than conventional logic. Kim and Mauborgne [15] defined it according to the following five dimensions of strategy: industry assumptions, strategic focus, customers, assets and capabilities, and product and service offerings. The value innovation approach is dynamic and non-linear. Whereas, the traditional models, with its sequential assembly-line processes and linear point-to-point information flows, is no longer an adequate representation. Increasingly, interorganizational processes aimed at creating value for customers are being characterized by non-linear flows of information and knowledge [29]. In order to effectively execute value creation strategies in the digital economy, organizations will need to transform their organizational architectures appropriately [6] and utilize a dynamic, non-linear strategy approach.

2.5 Innovation

One of the key components in the development of an E-Commerce strategy is the organization's innovation capabilities. The importance of innovation to the survival of an organization cannot be overemphasized [13, 31, 32, 39]. To be competitive, an organization needs to have an innovative E-Commerce strategy. Simply replicating what others are doing is neither a recipe for success nor market leadership. Despite the importance of innovation in these endeavors, very little research has been done in this area. As far as we know there are few, if any, empirical studies that focus on the relationship and importance of organization innovation capability and the successful implementation of an E-Commerce strategy. This research fills this gap by researching the innovative capability of organizations and its effect on E-Commerce initiatives.

Innovation is "an idea, practice, or object that is perceived as new to an individual or another unit of adoption." The innovation-development process includes all the decisions and activities, and their impacts that occur from recognition of a need or a problem, through research, development, and commercialization of an innovation, through diffusion and adoption of the innovation by users, to its consequences. The innovation-development process consists of six phases, 1.) Problem/Need Recognition 2.) Basic and Applied Research 3.) Development 4.) Commercialization 5.) Diffusion and Adoption 6.) Consequences [23]. This research focuses on the organization's capabilities to manage these phases.

3.0 CONCEPTUAL FOUNDATION — INNOVATION STRATEGY MODEL

One popular model to measure the innovativeness of an organization and its ability to manage the innovation process is the Innovation Strategy Model. Past research has found that the Innovation Strategy Model was a useful tool for organizations to evaluate their innovation structure and capabilities in a cost management system [8]. However, another study found that not all the dimensions in the Innovation Strategy Model may be applicable to analyze the innovation potential of a non-profit organization [35]. In this study, we used the Innovation Strategy Model to analyze the innovation potential of two for profit organizations embarking on their E-Commerce initiatives.

The Innovation Strategy Model is a systematic framework and a useful tool for analyzing an organization's competencies and abilities to create and move ideas into practice. It is an integrated system that enables the user to analyze the whole of the system as well as the interrelationship of the parts. The Innovation Strategy model provides a transition from the value chain to an integrated system. The value chain is linear in design, whereas the Innovation Strategy has a dynamic (i.e., non-linear) design. This dynamic design accommodates the robust E-Commerce environment. In addition to being an evaluation model, the Innovation Strategy Model can be used in a prescriptive manner to identify weaknesses in an organization's innovative capability so that remedy actions can be taken.

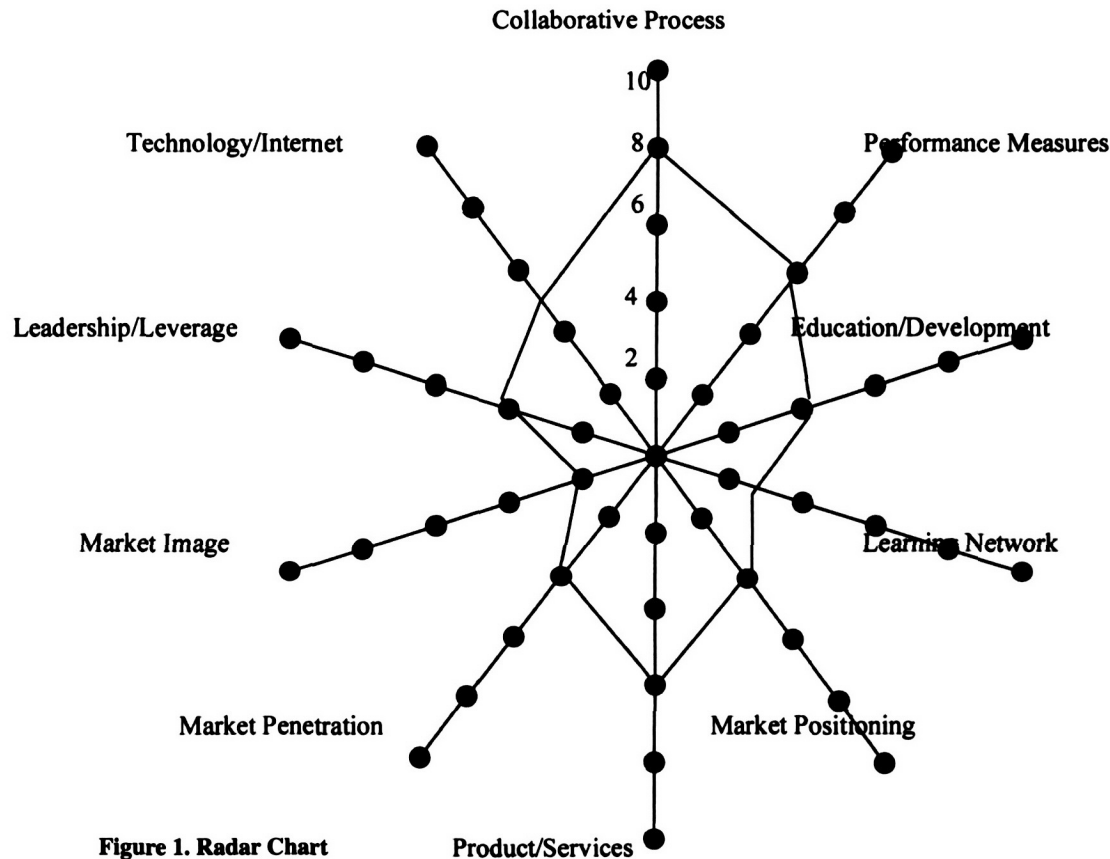
The Innovation Strategy Model is designed to calibrate the innovative capabilities of an organization [36]. It enables an organization to take an innovation snapshot of the entire organization. There are ten dimensions that calibrate the innovation strategy of an organization. The model classifies these ten dimensions into two categories: internal management responsibilities and external organizational interfaces. The dimensions look at the core competencies of an organization.

When these competencies are aligned with the critical success factors of an E-Commerce project, they provide the necessary insight for management to gauge their current competencies against the desired goals for optimal E-Commerce implementation success and further plan for adjustments where weaknesses are identified. In addition, the Innovation Strategy Model can be used to compare the innovative capabilities between organizations. After the Innovation Strategy Model is calibrated for each organization, the results can be compared between the organizations and based on the analysis, the organization with the most innovative capability is projected to be more successful than the other. The ten dimensions are depicted in Table 1.

All of these dimensions need to inter-relate and the effectiveness of their interrelationships will influence the success of the

Table 1. Ten Dimensions of Innovation Strategy Model

<p>(i) The Collaborative Process evaluates the appointment of the primary point of contact person who has cross-organizational leadership. Also, the amount of collaboration among the stakeholders is analyzed.</p> <p>(ii) Performance Measures calibrate <i>what</i> measures are in place and <i>how</i> they are measured. These performance measures gauge an organization's capacity to develop and move ideas quickly to market. Further evaluation of this dimension includes determining who is responsible for the measurement assessments and do these assessments include quantitative and qualitative indices.</p> <p>(iii) Education and Development looks at how extensive the education and training facilities that are available to the organization and if they take advantage of these. Often this is where knowledge and new innovations are created and exchanged in the organization.</p> <p>(iv) The Organization's Distributed Learning Network is where all stakeholders can participate in the innovation process with local collaboration on issues, business opportunities, and products/services of mutual benefit. The quality and quantity of communication is key in the organization's distributed learning network.</p> <p>(v) Intelligence Market Positioning analyzes the business' ability to systematically glean information and forward the results to those who need to know.</p> <p>(vi) The organization is measured on the level of its Knowledge of Products and Services. This knowledge contributes to the organization's ability to produce products,</p>	<p>software tools, and consulting services that support the value-adding process of applying new ideas efficiently and effectively.</p> <p>(vii) Collaborative Market Penetration refers to managing external organization partner interactions for both learning and economic value. Interactions with other external organizations may include collaboration and cooperation as well as competition. The organization's ability to map out an existing network of strategic alliances and plan for future alliances are key considerations.</p> <p>(viii) The Market Image Campaign dimension determines how the organization is perceived in the marketplace. This is evident by how effectively the organization's marketing message supports its culture, vision and intellectual competencies.</p> <p>(ix) Leadership Competencies and capabilities such as vision of the future, aligning, motivating and inspiring people, and creating change are measured. Leadership is critical to demonstrating value-added innovation and collaboration. The organization should have formal mechanisms to legitimize, encourage, and reward people to impart knowledge and expertise to others.</p> <p>(x) Few organizations would be successful without Communications Technology. They need to have a strategy that will leverage their technology investments. Furthermore, the organization should be aware of the advancements in technology (e.g., collaboration engineering, knowledge management, data-mining, etc.) and then capitalize on these advancements.</p>
---	--



organization. It is important to recognize the interdependence (interrelationship) of these components. For example, a decision in one area has an automatic effect on the others. Resources shift causes adjustments by the other areas. In fact, it may be more important to understand the interrelationships among these components than the components themselves.

After all of these dimensions are assessed they can be plotted on a radar chart which provides a visualization of the current state of the innovation strategy [1] as depicted in Figure 1. The radar chart can be compared with an "ideal" radar chart that the organization seeks to achieve and thus provide a gap analysis. Another benefit of the radar chart is that it visually shows how all of the dimensions are connected and make up a "whole".

4.0 RESEARCH METHODOLOGY AND CASES

The Case Study research method was selected because of its ability to generate rich and in-depth data [16, 42]. Since E-Commerce is a new and emerging concept, rich and in-depth analysis provided by case study is more valuable and insightful than a broad-based survey. It is also well-suited for capturing the knowledge of practitioners and developing theories from it.

Other benefits of case study research are that the researcher can study the organizations' innovative capability in a natural setting and allow the researcher to answer the "how" and "why" questions. Also, case study method is an appropriate way to research an area in which few previous studies have been conducted.

Two organizations were approached for the research. Both of them were in the beginning stage of initiating a new E-Commerce application and both of them initiated the E-commerce projects within the same month. Both of these organizations operated in the same Internet environment, i.e. the same time period with the same Internet technology and capabilities available in the same community. They had access to relatively the same Information Technology (IT) resources and their IT departments were both small in size. Both of these organizations were in the financial service industry and were expanding their E-Commerce capabilities at a time when consumers were just beginning to embrace the Internet using financial transactions.

Face-to-face interviews were conducted with Organization A's President, who developed their E-Commerce business plan and Organization B's IT Director, who presented the E-Commerce strategy to the Board of Directors. Each interview lasted an hour. These two organizations had several similar characteristics. Both organizations dealt with financial transactions, viewed E-Commerce services as a means of growth for the business, had only one IT expert overseeing the E-Commerce project, and had limited financial resources. The difference between the two organizations was in the way in which they were executing their E-Commerce development efforts.

In addition to the interviews, the researcher examined the organization's current E-Commerce web sites. Also, Organization A allowed the researcher to review the strategic plan document. Lastly, the researcher followed-up with a couple of phone calls to verify some of the responses.

4.1 Case Analysis One — A Small Entrepreneurial Company

The first case analysis involves a small upstart entrepreneurial company, known here as Organization A, that is looking to ex-

pand its business using the Internet. Organization A believed its brokerage service would be an excellent candidate to be offered via the Internet. The owners had prepared a financial business plan that stated the project's results using E-Commerce as the engine to expand their market reach.

One of the partners interviewed had seen a similar implementation on the Internet, but felt strongly that the firm could enhance the service and that this would give them a unique market niche. He had a general idea of what the system should do, but had an unrealistic understanding of the resources and technology needed to implement the E-Commerce system. At this time, they had a "moonlighting" IT professional assigned to create an Internet presence. Realizing that they needed to move the initiative forward on a larger scale and in a timely manner, the partners were considering three courses of action to expand their idea. The three options were: raise capital by doing a public offering, partner with a local University to develop the application as a class project, or use IT student interns.

The partners understood the need for an E-Commerce project plan and well-developed requirements and analysis; however, there was an urgency to get the project done and an attitude that it should have been done "yesterday" with as little of resource outlay as possible. In a follow-up interview, it was revealed that Organization A had hired a college intern. They chose not to partner with a University because they wanted the project done ASAP and they were not willing to work around the timeframe of the beginning and ending of a college semester. In addition, they had limited financial resources to invest so hiring a full-time professional was not feasible.

4.2 Case Analysis Two — A Large Midwest Bank

The fourth largest bank in a Midwest metropolitan area, known here as Organization B, realized they had an opportunity to be the first financial institution in the region to introduce Internet banking. This project was initiated by the IT Director, who is entrepreneurial in nature and keeps abreast of the current technological trends. He presented his idea to the Board of the Directors and was given the approval to go ahead, albeit, with a "shoe string" budget. In other words, no additional permanent full-time technical support staff was hired. To get this project underway, Organization B teamed up with an Internet Service Provider (ISP) with which they had an existing relationship.

Several factors played into the decision to implement their E-Commerce services. First, their core processing software vendor had attractive software that supported the back-end E-Commerce processing. Also, they believed that if they didn't pursue E-Commerce services they would be left behind. During the interview, the IT Director reflected, "In some ways the Internet banking project was a defensive strategy." He continued, "We knew it would not generate revenue in the beginning, but we knew we needed to enter the market." He explained, "we see it as another delivery mode, one that our customers expect us to service. If we don't provide this service, the customer will go somewhere else to bank."

The E-Commerce project, marketed as "Bank By Mouse," includes loan payment scheduling, electronic bill payments, credit card applications, CD applications, and interactive loan applications. Both the IT Director and the Board of Directors believed this project was low risk and that the benefits strongly outweighed the costs. They recognized the security risks, but felt they were

Table 2. Summary of Case Analyses

Innovation Assessment Strategy Dimensions	Organization A	Organization B
Internal Management Responsibilities:		
Collaborative Process	2	5
Performance Measures	2	5
Education & Development	1	4
Distributed Learning Network	3	5
Intelligence Market Positioning	4	5
External Organizational Interfaces:		
Knowledge Products and Services	7	8
Collaborative Market Penetration	4	8
Market Image Campaign	4	9
Leadership Competencies	4	8
Communication Technology	4	8

Ratings: 1 – Substandard 10 – Outstanding

minimal and were being handled well. The E-Commerce applications follow the same operational policies as the other IT applications.

In 1995, they entered the world of the Internet with a web site. The site gave browsers access to a “financial calculator” which calculated loan payments, interest, etc. In April of 1998, “Bank by Mouse” was introduced. They also planned to provide full-range retail deposit services and the entire consumer loan process in the immediate future. One additional avenue they may pursue in the future is to participate with a portal to increase their market reach.

5.0 CASE STUDY RESULTS AND DISCUSSION

Interviews were conducted to collect data to investigate if the Innovation Strategy Model could account for the different outcomes in the two organizations. For the interviews, questions related to the Innovation Strategy Model were asked and coded. For every dimension, Amidon [1] provided several questions for consideration as listed in Appendix A. These questions were used as a baseline for further discussion at each of the interviews. Notes were taken during the interviews. The interviewer later analyzed the responses to the questions and assigned quantitative measures. Both interviews were conducted in the same month.

The interviewer also compared the responses with business plans and other documentation that were made available to the researcher. At the time of the coding the success or failure of the E-Commerce initiative of each organization was unknown.

Table 2 summarizes the results of the analyses. A ten-point rating system is utilized to score the performance of the two organizations in terms of the ten dimensions in Innovation Strategy Model.

The results show that Organization B scored higher on all ten dimensions of the Innovation Strategy Model. This is not surprising. In the first case, Organization A lacked a solid understanding of electronic commerce technological requirements, thus, their plan was not well thought out and the strategy was incomplete. They were not willing or able to allocate the financial and human resources to have consultants develop an E-Commerce strategy. They decided to follow the course of action that was the most economical and timely means of development. This is an organization operating in a chaotic environment and without a solid E-Commerce strategy. In the second case, Organization B’s E-Commerce strategy fit nicely with their market niche. They had a solid understanding of their market share and they realized the opportunity of increasing their market share by being a “global” financial institution. Furthermore, they had internal technical knowledge. They saw this new delivery mode as an opportunity

to enhance their image and turbo-charge their marketing strategies.

The results are further discussed in each of the ten dimensions of the Innovation Strategy Model. An in-depth explanation of each of these dimensions is presented in section 3.0 Conceptual Foundation — Innovation Strategy Model.

- (i) **Collaborative Process** — Both organizations had a point of contact person who was at an executive level in the organization. The point of contact for Organization A was one of the partners (e.g., President) and the point of contact for Organization B was the IT Director who informally had Chief Information Officer responsibilities. Organization A was rated low because they lacked the strong collaboration across the organization. The owners were not located in the same building and had other outside business responsibilities that demanded their time. The Partner seeking E-Commerce support was solely responsible for this portion of the business. Whereas, Organization B had stronger organizational collaboration because the Board of Directors were actively engaged in the strategic discussions. They met on a routine basis to discuss this initiative. However, Organization B lacked an explicit innovation process and the collaboration did not include all the stakeholders (i.e., other Vice Presidents, Customers, etc.).
- (ii) **Performance Measures** — Organization A only had financial goal measurements that were outlined in their business plan document. They knew of another competitor in the market that was successful and from their analysis of industry trends they knew there were still many customers to service. Organization B had a variety of measures, ROI, marketshare, volume of Internet activity, online consumer feedback, etc. Organization B mentioned during the interview that these measures were adequate, but it was also recognized that additional measures would be needed to continue to justify the investment in the current E-Commerce project and for securing resources for future E-Commerce initiatives. For these reasons, both organizations need to improve their performance measures to gauge both qualitative and quantitative indices of the business. However, Organization B had substantially more performance measures in place.
- (iii) **Education & Development** — Organization A had little support for education and training services. The point of contact person had a strong understanding of the business, but minimal technical expertise. Because of the limited education and development available within the organization, it was outsourced when possible. Organization B received a higher evaluation because of the technical expertise of its point of contact. As the IT Director, he often enlisted the technical expertise of an ISP and indicated an interest in continuing to increase his technical knowledge. He stated he would continue to work closely with the ISP and increase his technical knowledge accordingly.
- (iv) **Distributed Learning Network** — In Organization A, there was a discrepancy between the partners regarding the needs and directions of the E-Commerce project. Each partner had a vision on what the requirements and features for the E-Commerce project might include. A document of a *shared* vision was not available. The business case was written by only one of the partners. In Organization B, the IT Director indicated there was a shared vision among all the board members and it was discussed on a regular basis. However, because of the lean resources within both organizations there is still room for improvement to receive a better ranking for this dimension. In addition, neither organization had a way to document the economic wealth of the network.
- (v) **Intelligence Market Positioning** — Both organizations had a good understanding of their market position. Organization A received a lower score because they had less knowledge in terms of their competition using E-Commerce and had no way of linking the E-Commerce initiative to their current corporate information system. On the other hand, Organization B already had a relationship with an Internet Service Provider and a software vendor that could assist them with the development of their E-Commerce project which could link their E-Commerce initiative to their corporate information system and be intertwined within their day-to-day operations. Therefore, they received a higher rating. However, both organizations received relatively average scores because there was still considerable opportunity to further leverage internal and external market information.
- (vi) **Knowledge Products and Services** — Both organizations received relatively high scores in this area because of their innovativeness to create new products (e.g., Organization B's "Bank by Mouse") and services (Organization A's proposed online brokerage system). Nevertheless, both lacked the capital investment to fully excel and it was unclear what percentage of capital was set aside to nurture new ideas, but what was clear is that both organizations had very limited discretionary resources.
- (vii) **Collaborative Market Penetration** — Organization A received a below average score because they had little external collaboration. The President of Organization A stated that at the time of the interview that they did not want to share their ideas with others for fear that some other organization would implement their ideas before them. Therefore, their proposed E-Commerce project did not include collaborating with other firms. On the other hand, Organization B received a relatively high score because of their collaboration with other businesses that had Internet transaction processing (i.e., participating in a portal) and their partnership with an ISP. Organization B did not receive an outstanding score because they did not have methods to monitor the strategic alliances.
- (viii) **Market Image Campaign** — Organization A received a below average score because its web site was not fully developed and did not portray its market image. In fact, as the Partner was presenting the web site to the interviewer there were several "dead links" and not all of the functionality was in place. Organization B received a high score because its E-Commerce initiatives were congruent with its marketing thrusts. For example, Organizations B's website was informative to the consumer and emphasized

the uniqueness of the services it provided in the marketplace. However, Organization B could improve its rating by fully penetrating potential new markets and expanding its services.

- (ix) **Leadership Competencies** — Organization A is a start-up company and is still developing its sphere of influence. Organization B has an established sphere of influence and an effective strategy in the marketplace. In fact, the strategy in the marketplace was the reason for the continued expansion into the E-Commerce area. Nevertheless, Organization B still needs to work on incentives and rewards for knowledge and expertise of its employees.
- (x) **Communication Technology** — Organization A had an unstable Internet presence and limited interorganizational networking capability. They had limited hardware and only a temporary, part-time web developer for technical support. Organization B had a better technology infrastructure, however, it did not have “in house” expertise to manage all its technology needs and therefore, relied on external support which could only support certain technologies. Organization B had a better understanding of technology being perceived as an enabler, rather than an end in itself.

Figures 2 and 3 depict the radar charts for the two organizations. (The radar charts were created and compared after the ratings of both organizations were independently completed.)

Both organizations were rated substantially higher in the Ex-

ternal Organizational Interface area than the Internal Management Responsibilities. The low ratings in the Internal Management Responsibilities may be partially due to the small size of the organizations. Smaller organizations simply do not have the amount of resources as larger organizations.

Figures 2 and 3 show a non-linear graphical view of the innovative capability of Organization A and Organization B, respectively. Comparing Figure 2 with Figure 3 one can see that the span of the radar chart is much larger for Organization B. These visual representations are helpful in understanding the magnitude and difference of the innovative capabilities between Organization A and Organization B. The research analysis shows that Organization B has more innovative capability than Organization A. Does the innovative capability have an impact on their E-Commerce initiatives?

5.1 Outcome of the E-Commerce Initiatives

Although both of these organizations have exceptional opportunities, the outcomes are different. Follow up with each of the organizations several months later revealed that Organization A, indeed, was not able to successfully launch their E-Commerce project. In fact, they dissolved that segment of the organization. On the other hand, Organization B successfully rolled out their new E-Commerce application to their customers. Organization B seized the opportunities to innovate new products and services and did expand to using a portal and introduced other innovative financial products and services. They have a strong E-Commerce strategy and will have an excellent chance to be very successful. Organization A, on the other

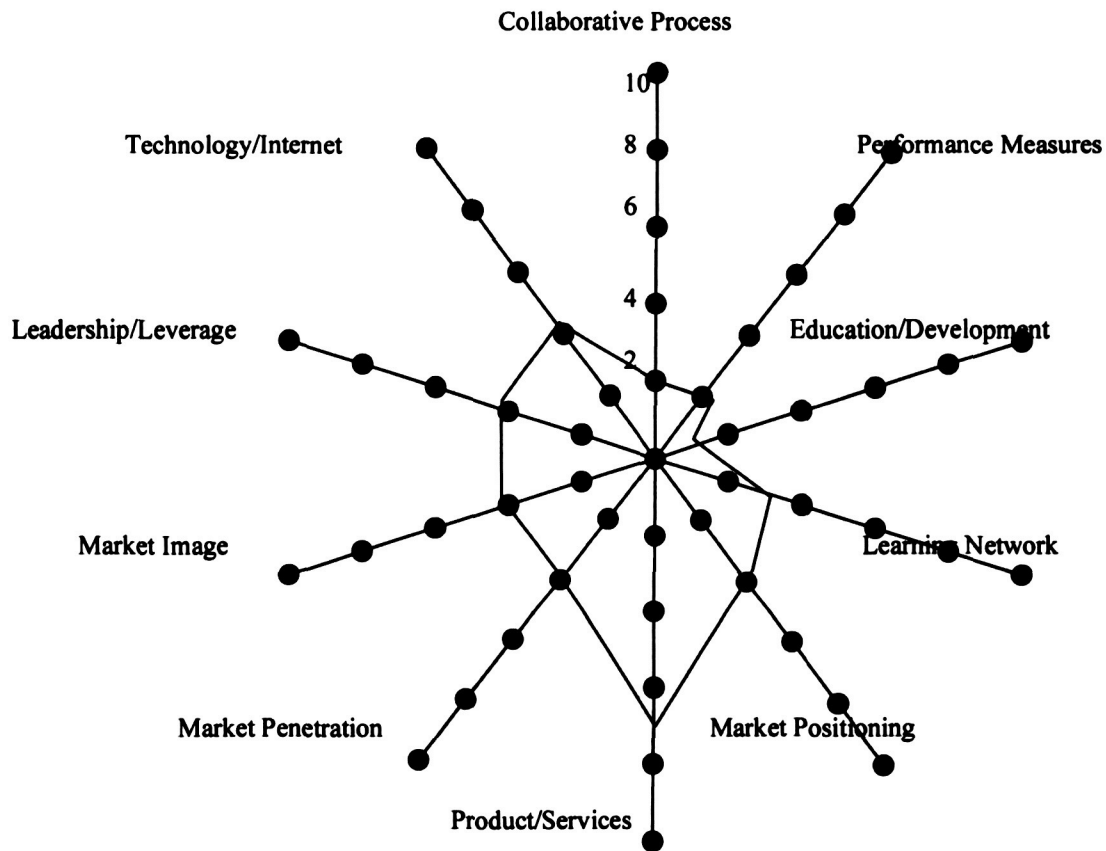


Figure 2. Radar Chart for Organization A

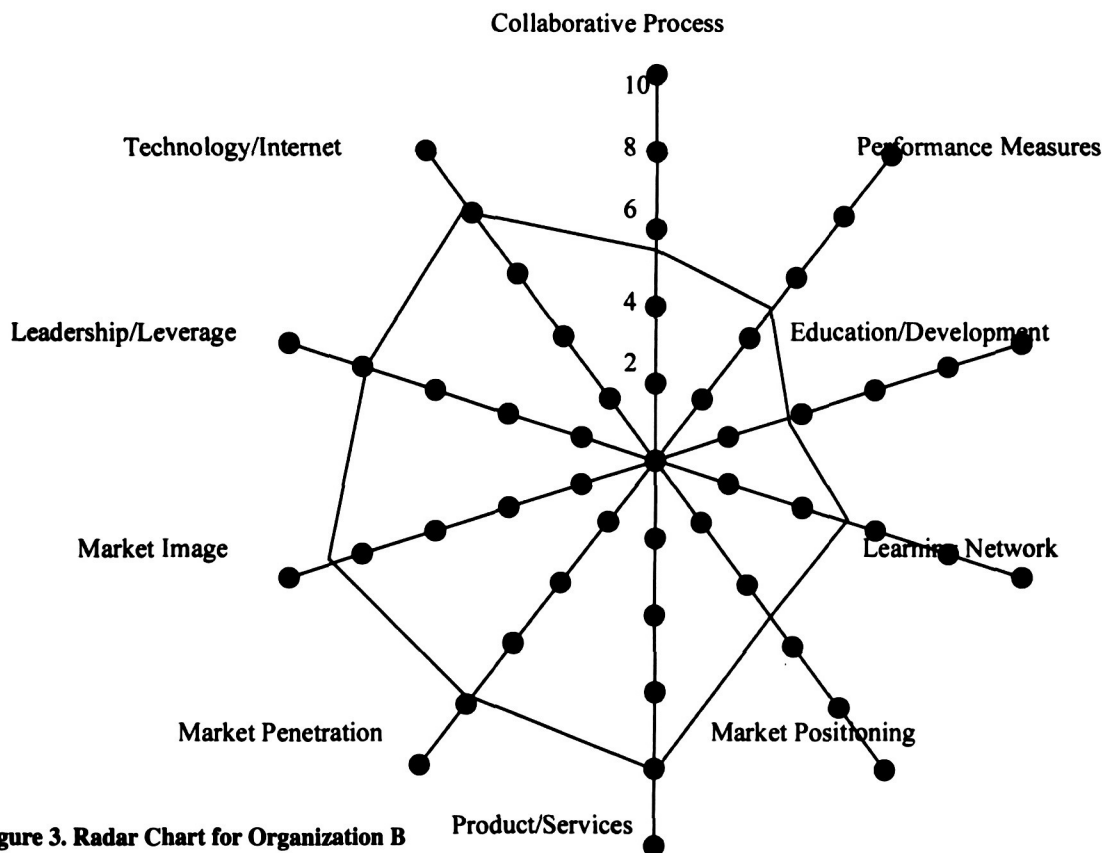


Figure 3. Radar Chart for Organization B

hand, lacked the vision and ability to execute the plan and ultimately closed their business. In short, Organization A was unable to effectively bring its E-Commerce project to fruition; whereas, Organization B was successfully deploying its E-Commerce system.

5.2 Innovation and Success in E-Commerce Initiatives

The Innovation Strategy Model provides a framework for us to explain, at least partially, the differences in outcomes between the two organizations since other environmental factors were relatively constant for both organizations. The organization that had a larger locus of innovation attributes appeared to thrive in the deployment of its E-Commerce initiatives. This is in line with a number of studies [13, 15, 30, 31] which argue and show that innovation is critical to an organization's success. Kanter [13] argued that "soft assets" are important resources of an organization. For an organization to be successful in the long-run, it must innovate [30, 31].

5.3 Managerial Implications for E-Commerce

The results of this study suggest the following implications for managerial practitioners that are embarking on a new innovative E-Commerce project. First, the organization must have a solid understanding of the electronic commerce technology requirements to implement the innovation. Next it is key that there is institutional leadership and the infrastructure to support innovation. In addition, the organization must be prepared to allocate the financial and human resources needed. Furthermore, both internal management responsibilities and external organizational

interfaces components are important to support innovation of the Innovation Strategy Model. In this study it was found that organization collaboration is especially important. And, finally, the organization must have a vision and the ability to execute the E-Commerce strategy.

6.0 CONCLUSIONS AND FUTURE RESEARCH

The information revolution and the emergence of the Internet have brought about organization transformation--substantially changing an organization's structure and practice. The proliferation of E-Commerce throughout business organizations has had and is still having profound effects on business strategies. New business strategies have emerged that are leveraging the technology innovations and as a result, business strategies are also a driving force of the information revolution.

In this research, we used the qualitative case study approach to study the E-Commerce initiatives of two organizations. The research objective is to capture rich and insightful information about the innovative potential of an organization and the impact of innovation on the success of E-Commerce initiative. Our goal is not to empirically compare the two organizations as in an experimental study. Some comparisons, however, were done in this research to compare and contrast the two organizations during the qualitative discussion in order to highlight the differences between the two organizations.

In this research, we measured the innovative potential of an organization for its E-Commerce initiatives, examined the "components" that make an organization innovative, and evaluated what differentiates an innovative E-Commerce organization from one that is not. The research also enables us to evaluate the appro-

priateness of the Innovation Strategy Model in the E-Commerce Context. The Innovation Strategy Model appears to be a useful framework to measure the innovative potential of an organization in terms its E-Commerce initiatives. The model also provided a systematic and visual means to examine the "components" that make an organization innovative. Lastly, the research results show that the Innovation Strategy Model was useful in explaining, at least partially, the different outcomes in Organizations A and B.

As stated earlier, the coding of the Innovation Strategy Model was completed before knowledge of the outcome of each of the organization's E-Commerce initiatives which eliminates the possibility of bias of the coder. Each of the components of the Innovation Strategy Model have multiple questions that were used to determine the rating for each component which improved the content validity of the rating of the component since multiple measurements were used. In addition, the questions for each of the components and the components themselves adequately cover the various areas of organizational innovation attributes.

The ten dimensions of the Innovation Strategy Model complement other studies which identified certain key elements that must be in place to ensure successful implementation of information technology (IT) or E-Commerce initiative. For example, the ten innovation assessment strategy dimensions are a good start on analyzing how well the organization is prepared to compete using the new "rules" of the digital economy.

The reliability of the research is primarily addressed by having the same investigator rate each of the organizations which reduced the error that may be introduced by different investigators. Notes were taken during the interview and systematically coded. Also, reliability is improved if external sources of variations are minimized and the conditions under which the measurement occurs are standardized as was in the case of this research by using the same questions and observations techniques for both organizations, and carrying out the study during the same time period.

The Innovation Strategy Model provides a mechanism to calibrate the current infrastructure and can identify where the organization needs to expand to successfully deploy the E-Commerce innovation and progress to the next stage. In other words, the organization can begin to move to the next stage which is where the infrastructure begins to emerge using feedback from the Innovation Strategy Model.

The technological revolution that is occurring is having a significant impact on the business environment. Many corporate strategists know that they need to have E-Commerce systems and services in place to compete, but have seriously underestimated the size and resource needs of their E-Commerce projects. Unprepared business managers are scrambling to initiate E-Commerce operations without fully understanding their resource development needs, the impact on their organization internally and externally, or having a well thought out plan — as is the case for Organization A. Organization A is *reacting* to the environment, rather than *strategizing*. This approach, however, produces at best mediocre results. A more promising E-Commerce strategy is to be innovative, as demonstrated by Organization B.

Organizations that understand and successfully implement an E-Commerce strategy that includes capitalizing on their innovation capabilities will have a withstanding competitive advantage over their competitors. The Innovation Strategy Model allows an organization to systematically evaluate its innovative competencies. With this valuable information, the organization can better understand its strengths and weaknesses and develop an

E-Commerce strategy that minimizes its weakness and exploits its strengths.

There are some limitations in this research that should be discussed. The Innovation Strategy Model appears to be intended for large multi-faceted corporations. Using this model to measure the innovation capabilities of small start-up innovative organizations may have biased the effectiveness of the model. Although we do not think that this is a concern, future research can consider modifying the Innovation Strategy Model so that it is adaptive to both large and small innovative organizations.

Another possible limitation of this study is that only two organizations were analyzed. Studying more organizations may increase the richness and insights of the findings. Also, both organizations had limited information technology resources. This may have had more of an impact on whether an organization was successful than the innovative capabilities of the organization. Nevertheless, the Innovation Strategy Model is a useful tool to analyze where the gaps are in the organizations innovation capabilities.

Further research should evaluate if each dimension in the Innovation Strategy Model should be equally weighted. Also, it would be interesting to know if certain combinations of the dimensions are more advantageous than others. And, perhaps, an overall score using the weighted dimensions would be a useful first glance barometer and further improve interpretation of the results. In conclusion, the results of this research suggest that the innovative capability of an organization has an effect on the outcome of E-Commerce initiatives.

REFERENCES

- [1] Amidon, D. M. *Innovation Strategy for the Knowledge Economy: the Ken Awakening*, Butterworth-Heinemann, Boston, Massachusetts, 1997.
- [2] Amor, D. *The E-business (R) Evolution*, Hewlett-Packard Professional Books, Prentice Hall, Upper Saddle River, NJ, 2000.
- [3] Applegate, L., Austin, R., and McFarlan, W. *Corporate Information Systems Management: Text and Cases*, Irwin/McGraw-Hill, Chicago, Illinois, 2005.
- [4] Chau, P. Y. K., and Hu, P. J. "Examining a model of information technology acceptance by individual professionals: an exploratory study," *Journal of Management Information Systems*, 18:4, 2002, pp. 191-229.
- [5] Dolan, R. J., and Moon, Y. "Pricing and Market on the Internet," *Journal of Interactive Marketing*, 14:2, 2000, pp. 56-73.
- [6] El Sawy, O. A., Malhotra, A., Sanjay, G., and Young, K. "IT-Intensive value innovation in the electronic economy: insights from Marshall Industries," *MIS Quarterly*, 23:3, 1999, pp. 305-336.
- [7] Faurer, R., and Chaharbaghi, K. "Aligning strategies, processes, and IT: a case study," *Information Systems Management*, 17:1, 2000, pp 23-35.
- [8] Freeman, T., "Assessing the innovation capacity of the consortium: an evaluation of the CAM-I cost management systems program," *Journal of Knowledge Management*, 3:1, 1999, pp. 61-65.
- [9] Gulati, R., and Garino, J. "Get the right mix of bricks and clicks," *Harvard Business Review*, 78:3, 2000, pp. 107-114.
- [10] Hansotia, B., "Gearing up for CRM: antecedents to suc-

- cessful implementation," *Journal of Database Management*, 10:2, 2002, pp. 121-132.
- [11] Kalakota, R., and Robinson, M. *e-Business 2.0: Roadmap for Success*, Addison Wesley Longman, Inc. Boston, MA, 1999, pp.35.
- [12] Kalakota, R. and Whinston, A. *Frontiers of Electronic Commerce*, Addison Wesley, Boston, MA, 1996.
- [13] Kanter, R. "Change is everyone's job: managing the extended enterprise in a globally connected world," *Organization Dynamics*, 28:1, 1999, pp. 7- 23.
- [14] Kaplan, S. and Sawhney, M. "E-hubs: the new B2B marketplaces," *Harvard Business Review*, 78:3, 2000, pp. 97-103.
- [15] Kim, W. C., and Mauborgne, R. "Value innovation: the strategic logic of high growth," *Harvard Business Review*, 75:1, 1997, pp.103-112.
- [16] Lee, A. "A scientific methodology for MIS case studies," *MIS Quarterly*, 13:1, 1989, pp. 33-50.
- [17] Margherio, L. et al., "The Emerging Digital Economy," U.S. Department of Commerce, Washington, D.C., 1998, pp. 8.
- [18] Nah, F., Siau, K., Tian, Y., and Ling, M. "Knowledge Management Mechanisms in E-Commerce: A Study of Online Retailing and Auction Sites," *Journal of Computer Information Systems*, 42:5, 2002, pp.119-128.
- [19] Nah, F., Siau, K., and Sheng, H. "The Value of Mobile Applications: A Utility Company Study," *Communications of the ACM*, 48:2, 2005, pp. 85-90.
- [20] Norris, M. and West, S. *eBusiness essentials*, John Wiley & Sons, New York, NY, 2001.
- [21] Oliver, R. W. "The seven laws of e-commerce strategy," *Journal of Business Strategy*, 21:5, 2000, pp. 8-10.
- [22] Porter, M. *Competitive Advantage*. Free Press, New York, NY 1986.
- [23] Rogers, and Everett, *Diffusion of Innovations*, Free Press, New York, NY, 1995.
- [24] Senn, J. A. "Business-to-Business e-commerce," *Information System Management*, 17:2, 2000, pp. 23-33.
- [25] Shah, J., Murtaza, M., "Effective Customer Relationship Management through Web services," *Journal of Computer Information Systems*, 46:1, 2005, pp. 98-109.
- [26] Shaw, J. *Surviving the Digital Jungle: What Every Executive Needs to Know About eCommerce and eBusiness*, Electronic Commerce Strategies Inc, Santa Monica, CA, 1999, pp 1-109.
- [27] Sheng, H., Nah, F., and Siau, K. "Strategic Implications of Mobile Technology: A Case Study Using Value-Focused Thinking," *Journal of Strategic Information Systems*, 14:3, 2005, pp. 269-290.
- [28] Siau, K., and Long, Y. "Synthesizing E-Government Stage Models — A Meta-Synthesis Based on Meta-Ethnography Approach," *Industrial Management and Data System*, 105:4, 2005, pp. 443-458.
- [29] Siau, K. and Long, Y. "Using Social Development Lenses to Understand E-Government Development," *Journal of Global Information Management*, 14:1, 2006, pp. 47-62.
- [30] Siau, K. "Internet, World Wide Web, and Creativity," *Journal of Creative Behavior*, 33:3, 1999, pp. 191-201.
- [31] Siau, K. "Electronic Creativity Techniques for Organizational Innovation," *Journal of Creative Behavior*, 30:4, 1996, pp. 283-293.
- [32] Siau, K. "Interorganizational Systems and Competitive Advantages — Lessons from History," *Journal of Computer Information Systems*, 44:1, 2003, pp. 33-39.
- [33] Siau, K. and Kam, H.J, "e-Healthcare in ABC County Health Department (ABCCHD) _ Trade-offs Analysis and Evaluation", *Journal of Information Technology*, 21, 2006, pp. 66-71.
- [34] Siau, K., and Tian, Y. "Supply Chains Integration: Architecture and Enabling Technologies," *Journal of Computer Information Systems*, 44:3, 2004, pp. 67-72.
- [35] Siau, K., and Messersmith, J. "Analyzing ERP Implementation at a Public University Using the Innovation Strategy Model," *International Journal of Human-Computer Interaction*, 16:1, 2003, pp. 57-80.
- [36] Southard, P., and Siau, K. "A Survey of Online E-Banking Retail Initiatives," *Communications of the ACM*, 47:10, 2004, pp. 99-102.
- [37] Straub, D., Hoffman, D. Weber, B., and Steinfield, C. "Measuring e-commerce in net-enabled organizations: an introduction to the special issue," *Information Systems Research*, 13:2, 2002, pp. 115-124.
- [38] Turban, E., King, D., Lee, J., and Viehland, D. *Electronic Commerce 2004, A Managerial Perspective*, Prentice Hall, Upper Saddle River, NJ, 2003.
- [39] Van de Ven, A. H. "Central Problems in the Management of Innovation," *Management Science*, 32:5, 1996, pp. 590-607.
- [40] Watson, R, and Zinkhan, G. "Electronic commerce strategy: addressing the key questions," *Journal of Strategic Marketing*, 5:4, 1997, pp. 189-209.
- [41] Xu, H., and Koronios, A. "Understanding information quality in e-Business," *Journal of Computer Information Systems*, 45:2, 2004, pp. 73-82.
- [42] Yin, R. K. *Case Study Research: Design and Methods*, Sage Publications, London, UK, 1994.

APPENDIX A

Collaborative Process (Amidon, pg. 95)

1. Is there one point of contact for the overall innovation process (e-commerce project)? If not, who are the multiple decision-makers?
2. What is the cross-organizational leadership support for that person(s) throughout the entire organization?
3. Is there an explicit innovation process from idea creation through prosperous commercialization?
4. Have you allocated the necessary resources and tools to ensure efficient operation?
5. Is the process a collaborative venture or is it top-down and hierarchically driven?
6. Does it include other stakeholders in the process (e.g. suppliers, customers, alliance partners)?
7. Have you defined what constitutes value-added or success and aligned your business strategy accordingly?

Performance Measures (Amidon, pg. 96)

8. Is the business strategy known and is it clear? Who is responsible for performing the assessment?
9. Are the measurement systems created as an end or a means to promote values in the eyes of the customers and the stakeholders?
10. Is the instrumentation in place (e.g., metrics, reports, technologies) to ensure proper, consistent calibration over time?
11. Is the measurement process perceived as a punitive or learning activity?
12. Are there incentive/reward mechanisms to promote idea creation, responsible risk-taking, and application into products/services?
13. Have you a means to define and measure the intangible assets of the enterprise?

Education & Development (Amidon, pg. 98)

14. Where is the knowledge created in your organization?
15. What vehicles do you have to capture knowledge and nurture it for market viability?
16. Is your training process teacher or learner-centered?
17. Does your education format provide for diverse methodologies?

Distributed Learning Network (Amidon, pg. 99)

18. Is there a common vision and shared purpose among all participants in the "network"?
19. What is the payback for participation in the network? Is there a way to document the economic wealth of the network?

Intelligence Market Positioning (Amidon, pgs. 100-101)

20. Is your range of vision wide enough to capture signals from diverse competitors?
21. Have you developed techniques for prioritizing new opportunities in the context of your business strategy?
22. Are your methods consistent and systematic so that insights can be compared and contrasted with validity in the marketplace?
23. How is the E-Commerce system linked to the corporate information system and/or mainlined to the day-to-day operations of everyone in the firm?

Knowledge Products and Services (Amidon, pg. 106)

24. What percent of your products and services are new in a given year? How does this compare to the norms of your industry?
25. Have you set aside investment capital to fund and nurture a percentage of new ideas?

Collaborative Market Penetration (Amidon, pg. 107)

26. Have you considered alternative channels of distribution for your products and services?
27. Does your alliance process define new rules of participation and measures of performance?
28. Have you defined a map of your existing network of strategic alliances and made plans for future evolution?
29. Do you maintain a balance of cooperative and collaborative relationships?
30. Do you have methods to monitor the strategic alliances of your partners as well as your competitors?

Market Image Campaign (Amidon, pg. 112)

31. Does your culture and competencies support the marketing messages? Are they defensible?
32. Does your advertising position your uniqueness in the marketplace? Does it convey a concurrent balance of who you are and to where you are evolving?

Leadership Competencies (Amidon, pg. 113)

33. Can you define a map of your sphere of influence within the industry, across sectors, and around the world?
34. Do you have an effective strategy for disseminating your knowledge and competencies to the marketplace?
35. Does the organization perceive external leadership activities as integral to the business? How are they leveraged?

Communications Technology (Amidon, pg. 115)

36. Describe your current infrastructure – technical, organizational, and managerial.
37. Is your enterprise aware of the advancements in technology and flexible enough to capitalize on the expansive benefits thereof?
38. Are the roles well defined?
39. Is the technology perceived as an enabler to the process, rather than an end in itself?