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Electronic Commerce Strategy

-- Looking Through the Lenses of an Innovation Strategy Model

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Abstract

The world is in the midst of a revolution in the way businesses perform commerce. Many industries who were in the past relatively low tech are now finding themselves in a situation where they must embrace technology and prepare to compete head-on using E-Commerce. This paradigm shift in thinking and competition is creating opportunities and chaos. This paper examines the innovation capability of organizations in evaluating and deploying their E-Commerce strategies. An Innovation Strategy Model is used in this research as the theoretical foundation. The case study and survey research methodologies were selected. Data gathering and analysis are in progress. Preliminary results are discussed in this paper.

Keywords: Case Studies, Innovation, Electronic Commerce, Strategic Planning

Introduction

The world is in the midst of a revolution in the way businesses perform commerce (Kalakota and Whinston 1996, 1997; Jarvenpaa and Todd, 1997; Barua *et al.*, 1997). The rules of competition are being re-written and redefined as the technological revolution continues, particularly in the area of E-Commerce (Applegate *et al.* 1999). Phenomenal growth and ambitious projects are now the norm in Information Technology and business strategists recognize the opportunity E-Commerce makes available (Choi *et al.*, 1997, Bailey and Bakos 1997).

E-Commerce is revitalizing the need and the value to innovate the business process. It will open up new forms of business relationships and will enable new markets, new business, and new marketing paradigms (E-commerce.com 1999). Because of this renewed innovation thrust, management now has to decide how to best manage the innovation capability of the organization and develop an innovative E-Commerce strategy.

This paper examines the E-Commerce innovation capability of organizations. What are the "attributes" that

make an organization innovative? What differentiates an innovative E-Commerce organization from one that is not? Several case studies research interviews are in progress. Survey questionnaires are in development. The Innovation Strategy Model by Amidon (1997) is employed as the theoretical foundation for this research.

E-Commerce Strategy

There have been many articles written on E-Commerce strategies and necessary steps for successful E-Commerce. There are also many opinions on what contributes to successful E-Commerce ventures. Senn (1996) stated, "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."

Jack Shaw, President of E-Commerce Strategies, presented information on what the first steps are to becoming an eBusiness. He said, "You can and should develop a corporate strategy for digitally transforming your organization into an e-business" (Shaw 1999). He suggests the business i) Develop a vision, ii) Get the businesses existing processes and systems working effectively, and iii) Develop some comfort with the new technologies, then implement the vision.

Kalakota and Whinston (1996), on the other hand, argued that management issues centered around 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.

Pant and Hsu (1996) analyzed E-Commerce development using the value chain and transaction cost economics paradigms. "Value chain analysis helps businesses identify specific areas where the Internet can add value and the transaction cost analysis provides a basis for why value is added as transactions move across

the boundaries in value chains.” Harvey F. Seegers, President and CEO of GE Information Services, introduced the concept of creating the Intelligent Supply Chain. “Indeed, recent developments in Internet technologies make it clear that the 21st century will set a new direction for E-Commerce. A direction much focused on customer service quality. A direction we describe as the ‘Intelligent Supply Chain’” (Seegers 1999).

Although these articles do an adequate job of laying out the preliminary steps needed to implement E-Commerce strategies, they do not provide a way for a company to gauge the total E-Commerce innovative process or the E-Commerce innovation capability of the company.

Innovation Strategy Model

E-Commerce is revitalizing the need and the value to innovate the business process. Because of this renewed innovation thrust, management now has to decide how to best manage the innovation capability of the organization. “Creation of an innovation strategy may be the bonding initiative that creates the common language, capitalizes on distinctive competencies, and fuses collective knowledge into a shared purpose” (Amidon 1997).

The Innovation Strategy Model proposed by Amidon (1997) is a systematic framework and a useful tool for analyzing the competencies of an organization to create and move ideas into practice. It is an integrated system that enables the user to analyze the whole and the interrelationship of the parts. In addition to being an evaluation model, the Innovation Strategy Model can also 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 strategy of an organization (Amidon 1997). It enables the 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. The ten dimensions are depicted in Appendix A, Table 1.

All of these dimensions need to inter-relate and the effectiveness of their interrelationships will influence the success of the organization. The Innovation Strategy Model also provides a radar chart to visually represent the current state of the innovation strategy (Amidon 1997). The radar chart is depicted in Figure 1, Appendix B.

Research Method and Procedure

Case study and survey were selected as the research methods. The reason for using both methods is to enable the cross-validation of results. As many researchers know, well-designed case studies can provide a major challenge to a theory and provide a source of new hypotheses and constructs simultaneously (Benbasat *et al.* 1987; Yin, 1994; Cooper and Schindler, 1998). Individuals that have been involved in the strategic planning for E-Commerce information systems are asked to participate in this study. Organizations in a mid-west metropolitan city were selected.

For the interviews, questions related to the Innovation Strategy Model are asked and coded. For every dimension, Amidon, provides several questions for consideration (see Appendix A). These questions are used as a baseline for further discussion at each of the interviews. The interviewer analyzes the responses to the questions and assigns qualitative measures. A separate coder will be enlisted to go through the same coding process. Inter-rater reliability will be computed at a later stage.

Preliminary Results

Several interviews were conducted with Organization A’s President, who developed the E-Commerce business plan and Organization B’s I.T. Director, who presented the E-Commerce strategy to the Board of Directors. These two organizations had several similar characteristics. They both were dealing with financial transactions, viewed electronic commerce services as a means to grow the business, had only one IT expert overseeing the E-Commerce project, and had limited financial resources. They differed in the way that they were executing their E-Commerce development efforts.

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 was

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.

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

Innovation Assessment Strategy Dimensions	Org A	Org 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
Technology/Internet	4	8
Leadership/Leverage	4	8

Conclusion and Future Research

In this research, we investigate the e-commerce innovative potential of companies and the outcome of their e-commerce initiatives through the use of an Innovation Strategy Model. The long-term objective of this research is to develop a set of instruments and models to assist companies in analyzing their innovative strengths and weaknesses in pursuing e-commerce projects.

This research is ongoing. We are in the process of refining a survey questionnaire and scheduling more interviews. At least two additional companies will be involved in the interviews. The survey forms will be issued to all companies (including the two discussed in this paper) and other companies that are not involved in the interviews. The objective is to enhance the external validity of this research.

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Appendix A

Ten Dimensions of Innovation Strategy Model

- (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.
- (ii) Performance Measures calibrate *what* measures are in place and *how* they are measured.
- (iii) Education and Development looks at how extensive the education and training facilities are.
- (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.
- (v) Intelligence Market Positioning analyzes the business' ability to systematically glean information and forward the results to those who need to know.
- (vi) The organization is measured on the level of its Knowledge of Products and Services. Organizations must be able to produce products, software tools, and consulting services that support the value-adding process of applying new ideas efficiently and effectively.
- (vii) Collaborative Market Penetration refers to managing external organization partner interactions for both learning and economic value.
- (viii) How effectively the organizations' marketing message supports their culture and competencies are evaluated in the Market Image Campaign dimension.
- (ix) Leadership Competencies and capabilities are measured. Leadership is critical to demonstrating value-added innovation and collaboration.
- (x) Few organizations would be successful without Communications Technology. They need to have a strategy that will leverage their technology investments.

Table 1 Innovation Strategy Model

Appendix B

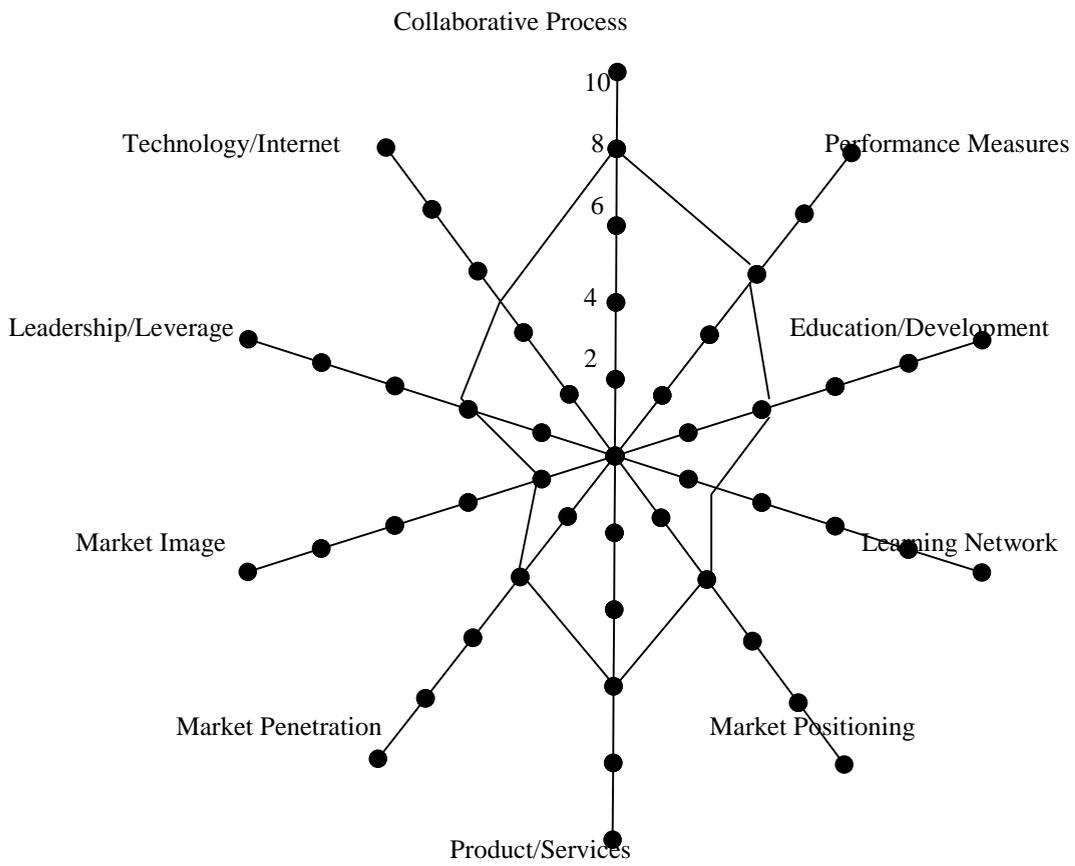


Figure 1 Radar Chart