

# E-COMMERCIALIZING BUSINESS OPERATIONS

Want to incorporate the Internet into your business strategy? Be sure you have a sound business plan, a product that people (with enough money) want to buy, and management, employees, and contractors able to implement and use the technology.

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**E-COMMERCE** has become a dynamic force changing all kinds of business operations worldwide. The related concepts and business practices not only influence communications, the routines of daily life, and personal relationships, they represent opportunities for initiating new international and domestic business ventures. But exploiting these opportunities challenges conventional notions of business management, because e-commerce changes the characteristics and rules of business competition through electronic flows of information and money. Organizations should seek and embrace these opportunities, employing effective strategies and scarce resources, along with technological and managerial expertise, to position themselves in the increasingly Internet-influenced world [9].

Theories of strategic management provide the general underpinnings managers need to compete in the traditional business environment [1, 7]. In general, technology is a competitive weapon for extending organizational capability and for enhancing and strengthening entry barriers against competitors, especially those in service sectors (such as banking and financial services) where such barriers can be lowered significantly [5]. IT is, however, generally a back-end issue, focused on improving operational efficiencies. Although strategic planning has been practiced for years [2, 4], IT applications are regarded by senior management as playing support and cost-center roles. But Internet-based business applications and systems can put IT into front-end business interfaces with customers, suppliers, and other stakeholders and connect internal (intranet) and external (Internet) communication networks. Thus, Internet applications create a communication

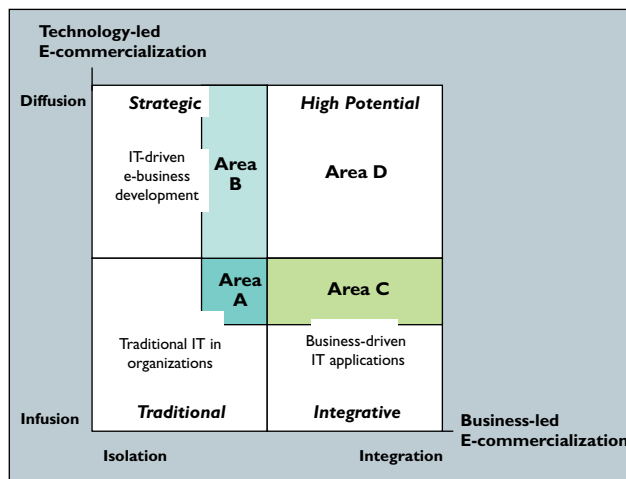
forum in which even small organizations can function as worldwide competitors.

The theory behind the management of e-commercialized organizations has not kept up with business practice. Managers often ignore critical issues; for example: What are the most effective strategies for implementing (e-commercializing) an Internet business, given different levels of organizational IT capacity and business needs? How can e-commercialization strategies be related to traditional or generic business strategies? What are the most effective implementation processes for e-commercializing traditional brick-and-mortar businesses? What factors determine whether an organization should embark on an e-commercialization process? Here, we offer a framework for answering these questions by: providing a strategic grid for e-commercializing business operations; discussing strategies and processes whereby organizations initiate Internet

business operations; and isolating environmental factors that influence e-commercialization strategies and processes.

### Strategic Grid

In light of previous research and case studies [8, 10], we developed a strategic grid for outlining and understanding the issues involved in the e-commercialization of business (see Figure 1). When creating the grid, we made two assumptions. First, all organizations have some level of knowledge and capability in using IT, depending on the sophistication or existence of, say,



**Figure 1. Strategic matrix for e-commercializing business operations.**

and payroll, client/server databases, and other routine business operations. Second, the ability to e-commercialize depends on the extent the Internet has become an extension of the organization's internal systems. These assumptions are essential for examining the prospect of developing an Internet-based business.

The grid consists of two dimensions:

*Vertical.* Covers technology-led e-commercialization; here, we illustrate how IT knowledge and expertise in networking technology, combined with corporate IT resources, represent the driving forces enabling some organizations to create Internet business operations, exploit business opportunities, and even expand into new business domains. It involves two extremes of technology adoption: infusion and diffusion. Infusion indicates the extent to which an organization depends on IT to carry out its core business operations. A greater infusion value suggests it has a higher level of computerized business operations and is therefore more capable of launching an e-business using its internal skills. Diffusion is the degree to which IT applications and e-business have become critical aspects of the organization's business

operations and decision making.

*Horizontal.* Covers business-led e-commercialization, emphasizing that business and organizational developments are the driving forces behind e-commercialization. It suggests that, for example, information-intensive processes and standard business operations are both key business areas for e-commerce development, motivating e-commercialization today while enhancing corporate image, customer relationships, and upstream/downstream business partnerships [1].

As with the vertical dimension, the horizontal dimension involves the extremes of e-business isolation and integration. Isolation is the extent to which e-business ventures are separate from conventional business operations. Due to environmental differences, executives managing e-business ventures initially need to adopt a test-and-learn mindset, perhaps operating offline from the main business while applying operational expertise and knowledge gained from developing and using a prototype. Integration reflects the comprehensive involvement of e-business in an organization's core commercial activities and processes. At the integration level, organizational knowledge and competence using online transactions begin to approach maturity. As the business creates economies of online scale, operational costs decrease, thus sustaining profit growth and organizational development.

The grid's two dimensions contain four aspects of business scope:

*Traditional.* The degree of e-commerce during the initial stages. Traditional IT applications take, for example, a large proportion of resources, while e-commerce applications, operating separately from mainstream organizational IT systems (Area A in Figure 1), comprise a small proportion of the overall business, perhaps operating only tentatively. Meanwhile, major business operations still depend heavily on traditional brick-and-mortar processes.

*Strategic.* An organization making strategic use of technological expertise and Internet media tools to explore business opportunities, market segments, competitive advantage, and business development [6] (Area B in Figure 1). Unlike traditional organizations, their counterparts in strategic mode invest a larger proportion of their resources in e-business operations, assigning them a strategic position in business development.

*Integrative.* Integration of e-commerce with an organization's conventional business operations to explore the possibility of lowering costs while increasing efficiency and product/service diversification (Area C in Figure 1).

*High potential.* E-commerce in organizationwide business operations gaining a high profile, as managers place more and more business activities/processes

online, searching for the greatest potential return (profit) from business e-commercialization (Area D in Figure 1).

### Strategies for E-commercialization

Based on the categories of conventional and e-business operations outlined in Figure 1, managers can adopt one of the following three strategies in their drive toward e-commercialization (see Figure 2):

*Technology-Business Strategy (TBS).* TBS adapts organizational technology leadership and ability to initiate e-commerce projects to transform traditional business functions into electronic operations. Technology-intensive companies (such as those in the computer, media, and telecommunication industries) represent promising organizations in which to initiate e-commercialization in this manner. E-commerce can enhance their technological superiority, leading to competitive advantage over other organizations.

*Business-Technology Strategy (BTS).* For organizations in traditional information-intensive industries (such as banking, financial services, hospitality, and travel) BTS may be more appropriate, as technology and the Internet can be used as communication tools for enhancing routine business connections, transferring information, and reducing operational costs. Their ability to employ e-commerce depends largely on internal business requirements and external competition. When business activities and/or services suitable for e-commercialization (such as standard products and service procedures) are targeted at specific marketing domains or can be operated efficiently in electronic format through the Internet, e-commercialization is a proper choice for organizational transformation. Cost leadership and business diversification are driving forces behind the implementation of such a strategy [6].

*Total E-commercializing Strategy (TeS).* TeS represents the business transformation of both technology and cost leadership, focusing on differentiation by adding value and using Internet media to target selected business partners and customers through tailored Internet products/services. Business diversification is thus transformed into customer differentiation and service modules; management can thus focus on

both customer relationship management and supply chain management.

### Implementing the Strategies

Figure 3 outlines the implementation of these strategies; transformation from Stage 1 to Stage 2A represents the implementation of TBS; from Stage 1 to Stage 2B represents the adoption of BTS; and from Stages 2A and 2B to Stage C suggests the realization of TeS.

TBS implementation depends largely on current organizational technological capability and on the ease with which the technology might be adapted to the Internet. The process and the factors involved in implementing TBS include assessment of current technology and identification of the individual business activities/processes that can be e-commercialized through Internet technology [3]. Host Web site services usually need to be created or updated as part of the alignment of e-business and normal business operations; e-business thus remains peripheral to core activities.

A BTS implementation process focuses on business objectives and maximization of customer satisfaction. Success depends largely on current business characteristics (such as standardized products and services, information processes, and the relevance of products and services to a critical

mass of customers). Internet technology is used as an extension of organizational IS and media. Successful use of these media to create online businesses and target specific groups of customers support this strategy [3].

TeS emphasizes that both technology and business issues need to be considered when e-commercializing traditional businesses into online operations. Managers need to assess their personal and organizational capabilities, as well as technological trends, the nature of their business, and the extent of their process standardization, quality, security, and potential return on investment. Strength of management commitment and resource requirements also need to be examined in order to plan the detailed steps necessary for implementing total e-commercialization.

### Implications for Managers

Which strategy is most likely to be effective should managers wish to e-commercialize their organizations? The appropriate solution depends on organizational

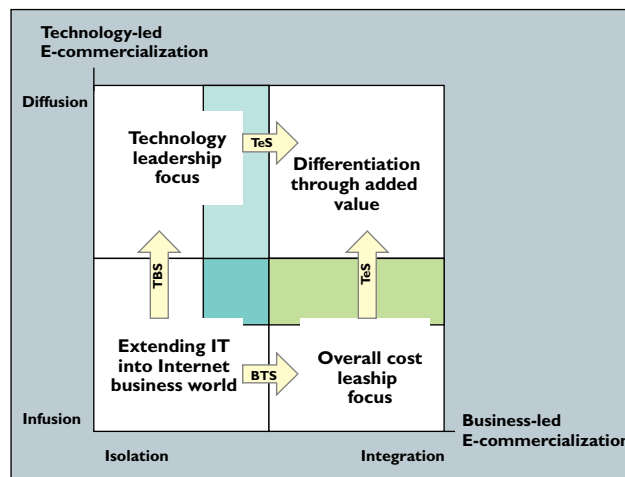


Figure 2. Strategies for e-commercializing business operations.

reality. Every organization has some amount of technological knowledge and ability to use IT. The critical concerns in e-commercializing an enterprise, however, lie with management style, attitude, and skill, as managers must create and communicate a clear vision and a suitable mission plan. They need to understand the effects of e-business on traditional business operations, return on investment, effective management, customer concerns, and technology issues. Technologies and management functions must be blended together [5]; otherwise, the decision to operate an e-business may be only a catch-up strategy following competitors who have already created e-businesses.

To succeed, e-commercialization must go beyond creating a Web site or adding shopping information about products and services. Management must have clear objectives and an in-depth understanding of current business operations to be able to specify which products, services, and/or data should be e-commercialized, along with a strong grasp of the expected outcomes of e-commercialization. Concurrently, they must understand the customer-related problems and requirements of e-business (such as privacy, security, and customer behavior). Moreover, management of an e-business does not end when a system goes online; other critical tasks requiring constant and expert attention include protecting business transactions and customer information against crime and vandalism while maintaining constant electronic and physical operation.

From a strategic-planning perspective, managers must examine their technological and managerial status, as well as where they want to take their organizations, before deciding whether to pursue e-commercialization. A strategic approach can assist them in clarifying management issues and in providing a framework to assess the risks. We developed the strategic grid, strategies, and implementation processes discussed here to help managers isolate potential problems before finalizing their plans to create e-business operations.

The implementation process reflects the principle that to be successful, every business needs: a sound business plan, a product (internal or external), customers (internal or external) who want and can afford the prod-

uct, and employees and contractors who can execute. Thus, the appropriate strategic approach leads to a results-based business plan focusing on a salable (external) or usable (internal) product. Included are internal systems (such as purchasing) and goods and services for external consumption, as they must meet the needs of customers who may be users (employees) or paying customers.

Users and paying customers alike need the knowledge and the desire to execute. Employees need to be able to operate and design the systems. Less obvious is that paying customers, too, need to be skilled at execution in order to acquire and use external systems; for example, the

hesitant customer response to products employing the Wireless Application Protocol results, at least in part, from their inability to execute, as these systems are often regarded as overly complicated.

Customers finding a technological process too daunting are unlikely to log on, or execute, in large numbers. The home VCR is an example of an unused yet mature technology; although in hundreds of millions of homes worldwide, few owners bother to record programs (products) for future consumption, finding the process too complicated. Such an attitude may be unimportant in an old technology, but many new technology companies hope to sell information components, rather than subscriptions, as cable companies do.

All strategic approaches need to consider cash flow, defined as either savings (such as from Internet-based purchasing systems) or as revenue from traditional sales. The key issue in giving cash flow proper attention is that expectations need to approach those who decide about investing in new systems or infrastructure. In this sense, there is nothing special about e-commerce, as the Internet is no more than an information-transportation network or communications device. Just as Morse code and the telephone changed the way business was conducted, so too will the Internet. However, there is no new economy, just the potential (as yet largely unrealized) for more efficient execution within an age-old economic framework; someone produces something of perceived value that customers (however defined) are willing to buy or use in sufficient quantity at an appropriate price. As

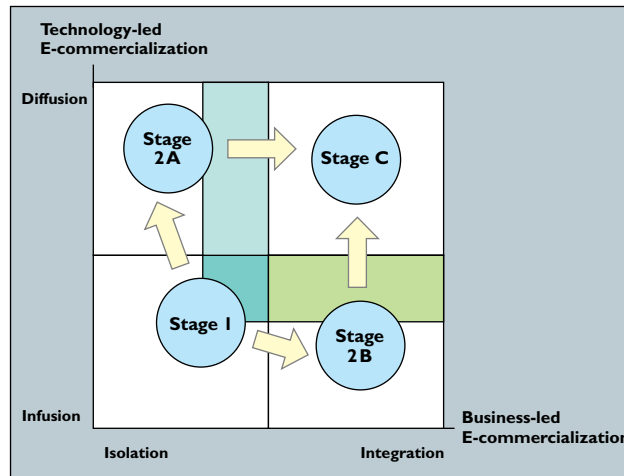


Figure 3. Transformation process for e-commercializing business operations.

many dot-com startup companies have found, straying from this principle can quickly lead to bankruptcy. A sound strategy based on business reality, rather than idealistic expectation, should be the starting point.

We must also stress that not every business should feel compelled to e-commercialize. The extent to which the Internet infiltrates an organization depends on its business characteristics and management skills/outlook. A copycat strategy without conviction is likely to be ineffective. Like all other aspects of business, e-commercialization must be made part of an organization's culture and reason for being. **C**

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