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What are the essential factors to consider when managing the business risks of ecommerce strategy? In this insightful article, Professor Dennis Viehland quickly takes the reader through a definition of ecommerce risk. He then clearly assesses the three most serious categories of business risk: competitive risk, transition risk, and business partner risk. In his conclusion, Professor Viehland offers research-based methods and solutions for managing e-business risk, which often bear a strong resemblance to risk management solutions found useful in traditional commerce.

"Risk E-Business": Assessing Risk in Electronic Commerce

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Risk is all around us. In our personal and professional lives we are aware of risk and we take measures to limit our exposure—home and car insurance, avoidance of hazardous situations, and contingency clauses in contracts are examples.

Risk is inherent in electronic commerce, too. The financial investment strategy of "no risk, no gain" applies equally well in e-commerce strategy—accepting some level of risk is necessary to take advantage of the opportunities offered by doing business electronically. This article provides guidance to managers seeking to manage key sources of risk in developing and implementing an electronic commerce strategy.

Business Risk in Electronic Commerce

What is e-commerce risk? In an e-commerce context, *electronic commerce risk* is the possibility that a negative outcome will occur in the process of developing and operating an electronic commerce strategy.

E-commerce strategy is used here in a broad sense. It could be the launch of a Web page or the creation of an e-business supply chain that depends on interorganizational information systems to source, manufacture, distribute, and sell product. In this sense, e-commerce includes the entire range of electronic business activities, what some people call *e-business*.

What is business risk? E-commerce risk can arise from a variety of sources. Information security—protecting the information asset from destruction or theft—is a widely recognized aspect of e-commerce risk and most companies have information security safeguards in place. What is not so easily recognized, evaluated, or managed is *e-commerce business risk*—threats in developing and operating an electronic commerce strategy that could negatively impact the well being of the organization itself.

There are a variety of sources of business risk—technology, legal and regulatory changes, financial, reputation, and business process controls, to name just a few (for a comprehensive list of e-business risk factors see Teach (1997) or Deise et al. (2000)). Three of the most significant sources of risk that arise directly from developing and operating an electronic commerce strategy are competitive, transition, and business partner risks. Each of these are analysed in the following sections, with suggested management strategies for mitigating the threat posed by the risk.

Competitive Risk

All organizations strive for an advantage over competitors in the marketplace. But

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is it possible that a strategic move into electronic commerce will have detrimental competitive impacts for the firm? Yes! Competitive risk is the possibility that a strategy intended to introduce competitive advantage could have negative and unanticipated consequences.

Risk can arise from a strategy that changes the basis of competition to a company's disadvantage (Vitale, 1986). When a company embarks on an electronic commerce initiative, competitors will not only follow, they will attempt to "raise the bar" with a more advanced strategy. In New Zealand, Tower Insurance (www.tower.co.nz) was the first New Zealand financial services company with a Web page, basically "brochureware." A few months later AMP (www.amp.co.nz) introduced their Web site that included a series of financial calculators (e.g., mortgage, retirement) to encourage interactivity with visitors. AMP has gone on to be New Zealand's only insurance company selling insurance on-line and Tower, the "first-to-the-Web" company, has yet to catch up.

The lesson to be learned here is that an organization that does not commit to continued investments in their e-commerce strategy would be better off not entering the race in the first place.

A second area of competitive risk is a strategy that increases customers' or suppliers' power to the detriment of the innovator (Vitale, 1986). In implementing an e-commerce strategy, a sponsoring company can provide tools, training, and expertise that enable customers and suppliers to be more active partners in e-commerce, especially B2B. However, unless the strategy includes locking in the customer or introducing switching costs, if a competitor comes along with a better opportunity, customers and suppliers will switch and the investments made by the original company will produce no long-term advantage.

A third area of competitive risk is a strategy that is badly timed (Vitale, 1986). Determining the time to make a competitive move requires careful consideration of the market and the customer. For example, home banking was available to bank customers in the mid-1980's, but the interfaces were unfamiliar and difficult to use, not many individuals owned computers with modems, and customers didn't trust the electronic systems. Of course, this changed as the popularity of the Internet grew, the Web browser became a standard interface, and secure servers became readily available. However, several American banks spent millions of dollars on home banking systems that never drew more than a few thousand users.

The lesson to be learned here is to be wary of the necessity to get there first, to be on the "leading edge" of the e-commerce revolution. It is possible that those on the "lagging edge" understand the e-commerce strategy better. They are prepared to use it when it becomes necessary, but are unwilling to initiate a potentially unfavorable change in the industry's competitive environment.

Awareness of and understanding competitive risks is the first step to managing them. In addition to the fundamentals (e.g., Who are our competitors? What are our/their strengths and weaknesses?), risk managers should consider the following questions in assessing competitive risk in an electronic commerce strategy:

- What are our motivations for the e-commerce strategy?
- How does this fit in with our long-term strategy?
- What changes in our industry might be brought about by the introduction of this electronic commerce strategy?
- Is first-mover advantage critical to obtaining the benefits the strategy promises?
- How fast could we expect a countermove from our competitors (recognizing, of course, that non-proprietary information technology can be acquired easily)?
- If a competitor counters with a similar but improved strategy, are we ready to respond in turn? If so, how?
- Is this strategy inevitable? What are the implications for our industry and our organization if we do it first? If a competitor does it first?
- Do the negative consequences identified above outweigh the positive benefits we expect from the strategy?

Transition Risk

Adopting an electronic commerce strategy is likely to require a reengineering of internal work processes, new work practices for staff, and long-term commitment and involvement of the executive team. While the marketplace demands rapid change, the pace of organizational change can be slow, politically risky, and costly. Transition risk is the possibility that a threat to the well being of the organization will emerge from a significant disruption in current operations caused by the implementation of an e-commerce strategy.

Transition risk is especially high when implementing e-business applications such as enterprise resource planning, customer relationship management, or electronic procurement. Unless employees, suppliers, and other stakeholders understand why these changes are being made, their impact may be muted or unsuccessful.

Part of transition risk is channel conflict. A simple example is the bricks-and-mortar retail store that goes on the Web. If a significant number of new customers shop at the online store, then it can be a success. However, if the online shoppers mostly represent existing customers who are not coming into the shop, then what has been gained? Essentially, the existing revenue stream has been divided into two streams, but costs (i.e., the Web site) have increased. Banks face similar problems with Internet banking because, at the initial stages at least, it tends to attract existing phone banking customers, but not necessarily a large number of new customers.

Ideally, an electronic commerce strategy will "grow the pie" instead of just redistributing the firm's market share from one distribution channel to another.

Transitions are about change, so managing transition risk is largely about managing change. Change management involves analyzing the changes facing the organization and developing plans to reduce the risks and maximize the benefits of change.

In carrying out this process, principles of change management should be recognized and followed. For example (Stokes, 1989):

- Everyone affected by a change perceives it differently, and will behave according to their perception.
- Organizations consist of technical, social, and administration systems and change in one system affects the other systems.
- Managing change means managing differences.

- Negative attitudes about change often result in negative self-fulfilling prophecies; the reverse is also true.
- Corporate and departmental cultures are key variables when managing change.
- Ambiguity almost always accompanies change but may be put to good use.
- Strategies for introducing and managing change range from the nondirective (which requires high participation on the part of those affected) to the directive (which requires low participation on the part of those affected). Normally nondirective strategies are more effective.

Business Partner Risk

In an e-business world, commercial firms are building interorganizational networks to speed up the business cycle, automate business processes, obtain new contracts, lower costs, improve cash flow, and reduce data entry errors and delays. These are just a few reasons why businesses adopt electronic data interchange, implement just-in-time (JIT) delivery, outsource, link supply chains, or contract with an application service provider.

However, forming these links also increases interdependence in an increasingly complex world of business. For example, as companies implement just-in-time processes along their supply chain, they remove internal processes, steps, and storage. Typically the cost of storage and support of inventory is transferred to downstream firms further down the supply chain. Frequently these are smaller firms that have a more difficult time carrying the cost of storage or out-of-stock positions. The result? At the same time organizations are becoming more dependent on downstream suppliers, costs are being loaded on these firms, increasing the likelihood of failure. While the JIT goal of cost reduction (really, a transfer of costs) has been achieved, business partner risk has increased.

Similar risks emerge with the increased use of outsourcing. Dependence on outsourcers is not new, but when outsourcing was restricted to secondary activities—the cafeteria, laundry, information technology—the risk from outsourcer failure was low. Today primary activities—manufacturing, distribution, customer service—are being outsourced and any failure by an outsourcer to deliver puts major risk on the organization.

The new, enlightened approach to managing business partnerships is that buyers don't want to put suppliers out of business. For example, over a 10-year period Chrysler moved from a win-lose, play-them-against-each-other relationship with hundreds of suppliers to a collaborative relationship with a small number of suppliers. Chrysler minimizes business partner risk by long-term trading agreements that encourage improvements in supply chain processes. Both Chrysler and the downstream suppliers share the benefits of mutual involvement in design and development of the products Chrysler purchases.

To manage outsourcing risk, managers must consider the following questions in handling outsourcing risk:

- How many components are outsourced?
- Of the outsourced components, how many are core or critical?
- What is the capability/expertise of the outsourcing vendors?
- Are these vendors regulated or unregulated? ISO compliant or not?
- Is there oversight by senior management on critical and core functions?
- Is there a dedicated group to work with management on a contingency plan in case of vendor default?
- Is there due diligence review of the outsourcer?
- What are the contract terms, especially with an outsourcer outside the country of residence?

Conclusion

Three prominent and significant business risks in e-commerce strategy have been described in these pages. It is instructive to note that the methods for managing e-business risk—asking key questions, change management—are not dramatically different from the methods traditionally used in risk management. This is not surprising since electronic commerce is, essentially, commerce.

Risk is inherent in business activities, and especially so when organizations are moving into new territory, as an e-commerce strategy inevitably implies. Managing that risk is a process of analyzing the risk factors, and then taking the steps necessary to reduce the threat to the business from that risk.

References

Deise, M., Nowikow, C., King, P., & Wright, A. (2000). *Executive's guide to e-business: From tactics to strategy*. John Wiley.

Stokes, S. (1989). Managing change in the MIS environment. *Handbook of MIS Management*. Auerbach Publishing, 37-51.

Teach, E. (1997). Microsoft's universe of risk. *CFO*, March, 69-72.

Vitale, M. (1986). The growing risks of information systems success. *Management Information Systems Quarterly, 10*(4), December, 327-334.

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