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By Louise Côté, Michel Vézina, Vincent Sabourin

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The strategic management process in e-business

Having access to the Web is essential for SMEs as owning a fax machine and a telephone. And though SMEs usually have limited material and human resources at their disposal, these authors state that successful e-business solutions are still within the reach of these companies. By thinking strategically about e-business, managers can select technological solutions that support the company's business strategies and create value for the company and its customers.

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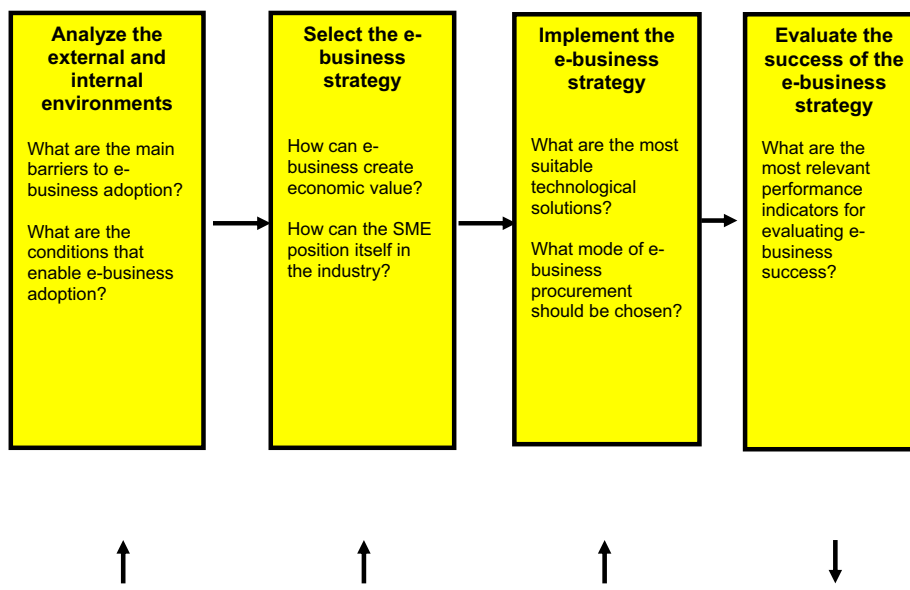
The strategic management process in e-business

Small- or medium-sized enterprises that adopt an e-business model must often make significant changes in their business processes and in the way they interact with customers and suppliers. Failure to plan for these changes could threaten the existence of the enterprise-which is why strategic planning is so important.

The e-business strategic management process illustrated in Figure 1 is based on the traditional model of strategic management. It is a systematic process consisting of four interrelated steps: (1) Analyze the external and internal environments, (2) Select the e-business strategy, (3) Implement the e-business strategy, and (4) Evaluate the success of the e-business strategy.

Every SME should experience this process, and

Figure 1 - Strategic Management Process for E-Business



drawing on 11 case studies, we describe how an SME should approach each stage of the process described in Figure 1.

Step 1: Analyze the company's external and internal environments

In the traditional strategic planning model, managers identify their company's strengths and weaknesses, as well as the obstacles and opportunities in their business environment. They are then ready to make strategic decisions that seek to balance their company's competencies with the business opportunities around them. This step is equally crucial for e-business planning.

The main barriers to e-business adoption

A wait-and-see attitude and scepticism on the part of clients and partners can put up barriers that discourage e-business solutions. In other cases, the nature of the company's product can make it more difficult to introduce e-business. Consider the example of Moules Industriels, a Sherbrooke, Que., firm that manufactures rubber and plastic moulds—a customized product that is generally unsuitable for Web-based sales because transactions cannot occur without prior personal contact. Moules Industriels can, however, use the Web to foster initial client contact, and when an agreement is reached with a client, the Internet can make further contact easier during the prototype development phase.

For SMEs located outside major urban centres, it is sometimes hard to find simple, economic solutions for distributing the products they sell on-line. La Ferme Martinette, a maple-product business in Quebec's Eastern Townships that markets its merchandise on-line, must rely on Canada Post to deliver goods to its customers. La Ferme Martinette operates at a disadvantage because merchandise pickup is not an option for many customers, and because it does not have personal contact with customers at the time of sale or product receipt. The Web makes it possible for SMEs like La Ferme Martinette to increase their customer base, but it

cannot solve all the logistical difficulties related to the sale.

However, our study found that by far the most important obstacle to e-business adoption among small- and medium-sized enterprises was lack of financial resources. The size of the investment and the long and sometimes uncertain payback period frequently cause SMEs to postpone investing in e-business. For example, 20 per cent of Polar Plastic's customers wanted the Montreal-based plastic-ware manufacturer to adopt an electronic data interchange (EDI) system, which was too costly, given the company's small client base. Polar Plastic knew that it would be very difficult to pay off the \$30,000 cost of the system over the short term. Instead, the company opted for EDI Gateway, a technological solution offered by an external supplier that processes customer orders and lets Polar Plastic transmit information to its clients' EDI systems. Through this intermediary company, Polar could receive and transmit information by fax to clients like McDonald's Restaurants. Until recently, the cost of contracting this particular EDI solution through an intermediary was a few hundred dollars per month.

What conditions enable e-business adoption?

When developing their e-business strategic plan, managers must take into account the number and nature of external factors that are compatible with the adoption of e-business.

Depending on the industry, government financing may be an incentive for adopting e-business. Other proven incentives are the time spent with SMEs to understand their needs and the investments in technological infrastructure made by the leaders of sector-based associations like the QICG (Quebec Institute of Graphic Communications) and the funding and technological expertise of partners such as government agencies and large corporations. Many companies know how to identify and take advantage of such arrangements. In our study, the triggering factor was usually the initiative of managers who realized the potential advantages of

e-business. For example, the vision and technological know-how of managers at Auberge de La Fontaine, a small hotel in Montreal, and Colibri Tours, a travel agency, led these companies to develop a Web site. After many years of negative growth, *Revue Gestion*, a magazine for business practitioners and academics, also sought to boost readership by going on-line.

Step 2: Select an e-business strategy

The selection of an e-business strategy requires solid knowledge of how e-business can create economic value for the firm. Successful SMEs know how to identify the scope of their activities and determine which products, clients and geographic markets they should target. They also know how to set clear and measurable goals.

How can e-business create economic value?

The ultimate goal of any strategic decision is to create value. Amit and Zott identified four opportunities to create value with the help of e-business: efficiency, complementarities, novelty and lock-in. (R. Amit and C. Zott, "Value Creation in E-Business", *Strategic Management Journal*, 22, 2001, p.493-520.) Efficiency is mainly derived from lower costs due to faster transactions, increased automation of the company's operations, and the ease with which clients can research relevant information. Novelty refers to the design and adoption of new operational methods in a given sector that link up new or existing participants, or introduce new products and services. By locking in to a particular, reliable technological solution, a company gains approval and trust among its client base. Complementarities are mainly concerned with the bundling of resources and technological capabilities, as well as the bundling of products and services, of various partners in one electronic network.

In our study, the principal value driver was efficiency for the firm and the customer. Using e-business allowed SMEs to reduce costs and find new clients, as was the case with Montreal's Auberge de La Fontaine, whose Web presence boosted the inn's revenues by 30 per cent. The inn was also able to

save on advertising costs by reducing the number of promotional flyers it printed. Its trilingual site (French, English and Spanish) allows customers to view available rooms and obtain information on Montreal's tourist and cultural offerings, adding value for its patrons and streamlining the booking process.

Value can also be created through complementarities and lock-in. Caractéra-Neomédia, a Quebec-based printing and new-media company, retains clients by providing them with comprehensive content-management services and alternative publishing methods.

How can the SME position itself in the industry?

To create value, companies seek to improve their positioning vis-à-vis their competitors. The SMEs in this study were seeking primarily to improve their client offerings by making their products or services more attractive. *Revue Gestion*, for instance, established an on-line database for individual and corporate clients. The search engine on its Web site allows readers to conduct speedy, targeted searches through its collection of 1,000 articles published within the past 28 years. By offering an electronic database of articles as well as a print version, *Revue Gestion* is adding value in ways that will strengthen its customer base.

Colibri Tours chose to develop a Web site in order to reach clients directly rather than through intermediaries. The travel agency was able to improve the speed and quality of its services, reduce its promotional costs and lock in customers.

RECF, a French-Canadian group of editors, inexpensively expanded its product range, enhanced its exposure and increased sales by making its plays and poetry publications available on-line. Some of the less profitable cultural products that RECF was unable to include in a printed catalogue are now offered on-line at lower cost.

Thanks to e-business, SMEs are consolidating and expanding their geographic market. For example,

GLP Hi-Tech, a plastics processor in St. Jean-sur-Richelieu, Que., created a Web site to attract international clients to its GLP Power division. The company now sells its products in over 20 countries to clients who would have been expensive to reach without the Internet. La Ferme Martinette draws customers from the Montreal area by advertising its sugar-shack activities on-line, and is also hoping to reach a more international market for its maple-sugar products. Auberge de La Fontaine focuses on the North American market, but is also attempting to attract international clients through its Web site.

Step 3: Implement the e-business strategy

After defining the targeted client base and geographic markets for new or traditional products, SME managers should plan the implementation of their e-business and decide what type of technological solution and supply chain to adopt.

What are the most suitable technological solutions?

Companies have a wide range of technological options from which to choose (see Table 1). Our study shows that SMEs usually develop Web sites and e-shops that complement their products and services, and fulfill their need for identity and independence. SMEs in plastics and printing often are reluctant to embrace technological solutions that impose standardization on the entire industry. In fact, portal solutions, virtual communities and e-malls are usually not attractive to SMEs because they do not support the SMEs' need for identity and independence.

Thanks to its Web site, Maison Laprise, a manufacturer of factory-built homes, is able to provide customers with a complete catalogue of its products, along with the relevant technical specifications for each home. The site's search engine

Table 1
Technological Solutions

Technological Solutions	Cases
E-shop: Information or requests for information, and sales and distribution of the company's products and services.	<ul style="list-style-type: none"> - Impression Paragraph - Auberge de La Fontaine - La Ferme Martinette - GLP Hi-Tech * - Colibri Tours * - Moules Industriels * - Revue Gestion - Maison Laprise - Polar Plastic * <p>* Information site only</p>
E-auction: Electronic auction sites.	
E-mall: Several sellers on one site.	- RECF
3rd party marketplace: Transactional support for sellers.	- Polar Plastic-EDI Gateway
Virtual communities: Enhances communications among members of a same community.	
Value chain service provider: Supports the value chain (supplies and payments).	
Value chain integrator: Creates value by integrating the components of the value chain.	- Caractéra-Neomédia
Collaboration platform: Provides tools and information to enhance collaboration between companies (e.g., co-design).	

Source: Adapted from P. Timmers P., "Business Models for Electronics Markets", *Electronics Markets*, Vol. 8, 1998, p.3-8.

allows clients to input the features they want in a home and quickly access an appropriate model. About 60 per cent of buyers said they visited the Web site before heading to the company's showroom. The company's on-line presence has bolstered its sales volume.

Some businesses prefer to involve other retailers or partners in their technological solutions, and to devise a technical format that is tailored to the specific operations of their association or sector. RECF, for example, runs an e-mall where editor partners can advertise their products.

What mode of e-business procurement should be chosen?

The procurement model that a company selects needs to complement the strategic importance of the project and the in-house availability of resources to develop such solutions (See V. Roy and B.A. Aubert, "Valeur stratégique, compétences clés et développement technologique", *Gestion*, Vol. 28, No.1, 2003, p.28-35). Table 2 presents four different

procurement models: partnership, preservation, outsourcing and recovery, and the solutions adopted by each SME in this study.

Businesses that enter into partnerships generally seek a partner (consultant or service provider) who can supply the expertise they lack to develop the new information system. However, most SMEs prefer to hire freelance programmers, because a partnership arrangement with a consulting firm is often expensive and time-consuming.

In the preservation model of procurement, the e-business system is developed entirely in-house. This model is usually adopted by businesses that have the internal skills to carry out the e-business project on their own. In addition, firms that select this model generally place a high strategic value on the project. As Table 2 indicates, most of the SMEs in our study chose the preservation model. At the outset, these firms had only modest ambitions, and because their initial Web sites were usually technically straightforward, it was possible for them to do the

Table 2
Technological solution procurement models

		Availability of resources and skills	
		Low	High
Strategic Value	High	<p>Partnership Join forces with an external partner (a consultant or service provider) having the expertise to develop an information system</p>	<p>Preservation Develop an information system entirely in-house</p> <ul style="list-style-type: none"> - <i>Revue Gestion</i> - development - <i>Impression Paragraph</i> - <i>Colibri Tours</i> - <i>Moules Industriels</i> - <i>Polar Plastic</i> (Web site) - <i>Caractéra-Neomédia</i> - <i>Auberge de La Fontaine</i>
	Low	<p>Outsourcing Have an outside supplier develop the system (or use the system of an outside supplier)</p> <ul style="list-style-type: none"> - <i>La Ferme Martinette</i> - <i>Polar Plastic</i> (EDI) - <i>GLP Hi-Tech</i> 	<p>Recovery Develop an information system jointly with competitors or by marketing an application developed by the SME</p> <ul style="list-style-type: none"> - <i>Revue Gestion</i> - system operator

Source: Adapted from Roy and Aubert (2003, p.32)

work in-house.

Caractéra-Neomédia considered e-business to be a major weapon in combating the declining demand for traditional graphic production. Since its e-business project had high strategic value, Caractéra acquired Neomédia, a company that was on the cutting edge of Web hosting and design. This acquisition gave Caractéra the in-house competencies to offer clients fully integrated graphic print production, Web development and high-end printing.

When the strategic value and expertise of in-house resources are low, outsourcing is a logical solution. This was the case for Polar Plastic and GLP Hi-Tech, who contracted out their e-business development to external consultants.

In the recovery procurement model, there are two approaches that can be followed: The first is to share development costs among several companies. Despite the obvious economic benefit of this approach, none of the businesses in our study chose this option. The second approach is to market the application developed by the company, and *Revue Gestion* is a good example. In order to recover part of its investment to develop a Web site, *Revue Gestion* offered Web hosting to other journals that were not close competitors.

For most of the SMEs in this study, e-business was implemented gradually. Some improved their Web site functionalities every year; others on a two- or three-year schedule. The owner of Auberge de la Fontaine became interested in using the Internet in 1996 as a tool to expand his client base. However, the company did not go on-line until 1998, and in 2000 the Auberge enhanced its Web site with more complete information; a database and real-time pricing system were also set up. Maison Laprise developed its e-business in three stages-first, by posting an information Web site, then by integrating a search engine, and, finally, by developing a transactional site so clients could purchase products on-line.

Step 4: Evaluate the success of the e-business strategy

After acquiring a sound understanding of how to create economic value with e-business and determining the firm's desired positioning, managers must finalize objectives relating to sales growth, cost reduction and profitability. They must also select the indicators that will enable them to assess the success of the e-business solution-scorecards showing financial, client, internal process and learning and growth indicators can be vital tools. (See R. S. Kaplan and D.P. Norton (1996), *The Balanced Scorecard*, Boston, MA: Harvard Business School Press.)

Indicators for evaluating e-business success

Overall, the businesses in this study used a small number of unsophisticated indicators. They placed importance on the profitability of transactions, and measured performance by analyzing additional sales volume and the savings realized by using e-business. In our study, only *Revue Gestion* established a set of indicators to assess the performance of its e-business project prior to implementing e-business. Many of these indicators are automatically captured on *Revue Gestion's* Web site (see Table 3).

Revue Gestion's on-line presence has increased the company's revenues by over 25 per cent. This improvement is largely due to the introduction of corporate on-line subscriptions for businesses and associations, which increased subscription rates from 2,500 to more than 30,000 in one year. At the same time, handling, marketing and printing costs declined, saving the journal an estimated \$194,000.

Auberge de la Fontaine's Web site expanded the company's client base by 15 per cent. In 2003, 24 per cent of the company's clients discovered the hotel through the Internet-49 per cent were American, 42 per cent Canadian, and 3 per cent French. Moreover, 52 per cent of the hotel's clients entered the site directly through its e-mail address, aubergedelafontaine.com; nine per cent through the bonjourquebec.com reservation portal; and the

Table 3

Performance indicators for Revue Gestion

<p>Financial Indicators</p> <ul style="list-style-type: none"> • Lower average cost per subscription • Increased revenue per subscription • Higher number of subscriptions • Payback period for technological investments 	<p>Internal processes indicators</p> <ul style="list-style-type: none"> • Number of service denials • Performance of search tools • Graphic quality of articles • Variety of download formats • Ease of maintaining Web site • Average time to prepare an issue • Decreased workload for managing and handling subscriptions • Download speed
<p>Customer indicators</p> <ul style="list-style-type: none"> • Higher number of subscriptions • Variety of articles • Quality of articles • Number of queries per user • Number of downloads per user • Number of complaints 	<p>Learning and growth indicators</p> <ul style="list-style-type: none"> • % of budget devoted to ICT • Number of site updates • Number and type of Web site functionalities compared with competitors • Average age of technology infrastructure

remainder through approximately 50 out of the 300 sites on which the hotel is registered. The Auberge was able to recover its investment in e-business within six to eight months.

Impression Paragraph, a printing company in Ville St-Laurent, Que., introduced Intraprint software that enabled customers to order their business cards online. This decreased turnaround on orders from 12 days to less than 48 hours, and reduced the number of errors. Previously, clients had faxed their handwritten orders, and these were not always easy to read.

This article illustrates the strategic management process involved in adopting e-business, based on the experiences of 11 Canadian small- and medium-sized enterprises. Although the SMEs in this study

had limited financial and human resources, they were still able to develop technological solutions that allowed them to reduce operating costs, increase capacity, diversify product and service offerings, increase exposure with clients and expand their market share. **I**