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Principles for e-Business Success

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Abstract

e-Business is the new, leading edge of electronic commerce. Organisations are using e-business applications such as enterprise resource planning, customer relationship management and e-procurement to transform traditional businesses into e-businesses. Why? What are the motivating forces behind this transformation? Answering these questions is the primary purpose of this paper. First, e-business is defined and placed in an historical context with its evolution through the electronic commerce concept. Then eight principles for e-business success are discussed and mini-case studies are used to illustrate their application in real businesses.

1. Introduction

In the opening pages of *e-Business: Roadmap for Success* Ravi Kalakota and Marcia Robinson (1999) outline “the eight rules of e-business”. These rules succinctly capture many of the driving forces, that are compelling organisations to adopt electronic business (e-business) applications such as enterprise resource planning, customer relationship management, selling chain management and e-procurement.

The purpose of this paper is to examine each of Kalakota and Robinson's rules for e-business and illustrate how they are being applied in real organisations. The paper also examines the emerging concept of e-business and places it in a historical context through the development of the electronic commerce concept.

2. What is e-Business?

In the beginning there was EDI. Electronic data interchange – electronic transmission of commercial information between two trading partners – was the original e-commerce application. However, EDI was technologically primitive, required complex standards to implement and was limited to organisations with pre-existing agreements.

In the mid-1990's, electronic commerce emerged as a term that was EDI as well as open buying and selling on electronic networks. For example, the Computer Desktop Encyclopedia (1995) defined electronic commerce as “Doing business on-line. It includes purchasing products via on-line services and the Internet as well as electronic data interchange (EDI), in which one company's computer queries and transmits purchase orders to another company's computer.” Similarly, a short definition of electronic commerce that was widely used at this time was “The buying and selling of information, products and services via computer networks” (Kalakota and Whinston, 1996, p. 1).

Within a very short period of time, observers began to realise that doing business electronically is more than buying and selling on the Internet. These observers realised that business itself – management, finance, negotiation, purchasing – is largely a process of information gathering, processing and distribution. Making that process digital made operations more efficient and would yield high returns for the organisation.

In a 1997 marketing campaign IBM introduced the term e-business as “how network technologies can be used to transform key business processes conducted both within an organisation, and externally with its customers, partners, stakeholders and suppliers. An element of e-business is e-commerce, which IBM defines more narrowly, as commercial transactions over the Internet only” (Wagstaff, 1997).

Some authors have adopted this perspective. For example:

The term electronic commerce is restricting, however, and does not fully encompass the true nature of the many types of information exchanges occurring via telecommunication devices. The term electronic business also includes the exchange of information not related to the actual buying and selling of goods. Increasingly businesses are using electronic mechanisms to distribute information and provide customer support. These activities are not “commerce” activities; they are "business" activities. Thus the term electronic business is broader and may eventually replace the term electronic commerce. (Greenstein and Feinman, 1999, p. 2)

Others reject this separation of the concepts. Years before IBM promoted e-business as an all-encompassing term writers on the subject were using electronic commerce as IBM would soon define e-business. To these authors the terms are interchangeable:

- “Electronic commerce (e-commerce) is the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks . . . E-commerce includes the sell-buy relationships and transactions between companies, as well as the corporate processes that support the commerce within individual firms” (Zwass, 1996).
- “Electronic commerce is the ability to transact business on open networks such as the Internet. Electronic commerce includes intra-company, inter-company, and company-to-consumer processes” (Segev, 1996).

Perhaps the strongest opinion on the subject comes from the author of *Opening Digital Markets* in an article appropriately entitled “E-commerce? E-business? Who E-cares”:

The effort to separate the e-commerce and e-business concepts appears to have been driven by marketing motives and is dreadfully thin in substance. Here's the important thing: e-commerce, e-business or whatever else you may want to call it is a means to an end. The objectives, as with IT, are to improve or exploit unique business propositions – with the focus now being in the online world. Worrying about the definitions of those words, or about which is superior to the other, or about which is a subset of the other, is a silly little inside-the-beltway argument. (Mougayar, 1998a)

The preceding paragraphs demonstrate that there is no definitive definition of e-business. However, this paper adopts the “e-commerce = e-business” perspective and so what follows could just as easily been described as the eight principles of e-commerce success. The definition of e-business used in this paper is "the employment of electronic technologies to improve business performance by integrating information applications, speeding up business processes, increasing sales and decreasing costs.

3. The Eight Principles of e-Business Success

The eight principles that are explained and illustrated in the rest of this paper are listed in table 1. These are adapted from Kalakota and Robinson (1999) because they represent a fairly comprehensive set relevant to modern business organisations. Others have compiled similar lists and are called business catalysts (Mougayar, 1998b), driving forces (Turban, Lee, King and Chung, 2000) or trends (Applegate and Gogan, 1995).

Table 1. The Eight Principles of e-Business Success

Technology is no longer an afterthought in forming business strategy, but the actual cause and driver.

The ability to streamline the structure, influence and control of the flow of information is dramatically more powerful and cost-effective than moving and manufacturing physical products.

The inability to overthrow the dominant, outdated business design and thinking often leads to business failure.

The goal of new business designs is to create flexible outsourcing alliances between companies that not only off-load costs, but also make customers ecstatic.

e-Commerce enables companies to listen to their customers and become either "the cheapest," "the most familiar," or "the best."

Don't use technology just to create the product. Use technology to innovate, entertain and enhance the entire experience surrounding the product, from selection and ordering to receiving and service.

The business design of the future increasingly uses reconfigurable e-business community models to best meet customers' needs.

The tough task for management is to align business strategies, processes, and applications fast, right and all at once. Strong leadership is imperative.

Source: adapted from "The Rules of e-Business" (Kalakota and Robinson, 1999, p. 5)

3.1 Technology is no longer an afterthought in forming business strategy, but the actual cause and driver.

The computer is no longer just another business tool, it is an essential ingredient in how businesses compete in the digital economy. Today a stand-alone computer is no longer sufficient. The new level of competition requires interconnected computers because the power of the computer to execute business strategy increases many times when it is used to connect to suppliers, customers, and business partners. If any entity in the value chain begins to do business electronically, companies up and down that value chain must follow suit, or risk being substituted. This principle is partly illustrated in Figure 1, which shows how electronic commerce technologies can be used in Porter's (1985) value chain.

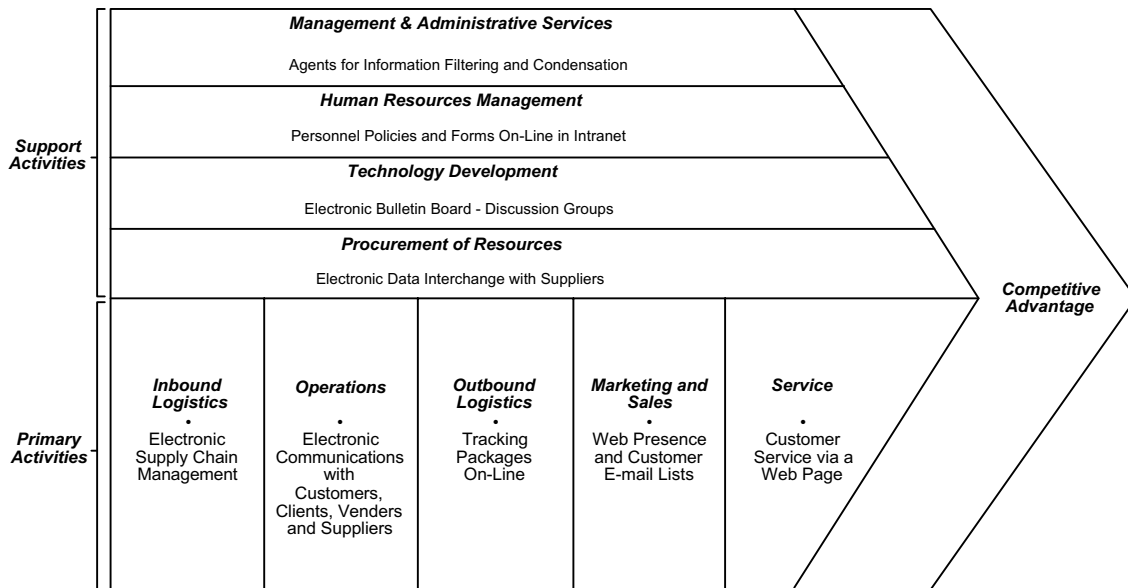


Figure 1. Electronic Commerce in the Value Chain of the Firm
 Source: adopted from Porter (1985)

3.2 The ability to streamline the structure, influence and control of the flow of information is dramatically more powerful and cost-effective than moving and manufacturing physical products.

The Information Age changes things. In *2020 Vision* Davis and Davidson (1991) suggest that economic life cycles are similar to human life cycles, moving through gestation, growth, maturity and aging stages. In 2000 the Information Age is in the first decade of the maturity stage. In this stage the patriarch of the Information Age – information – reigns supreme. The businesses that represent the “infostructure” of the Information Age – computers, telecommunications, network suppliers – are already well into the maturity stage. All other businesses – retail, media, financial services, government – are now following.

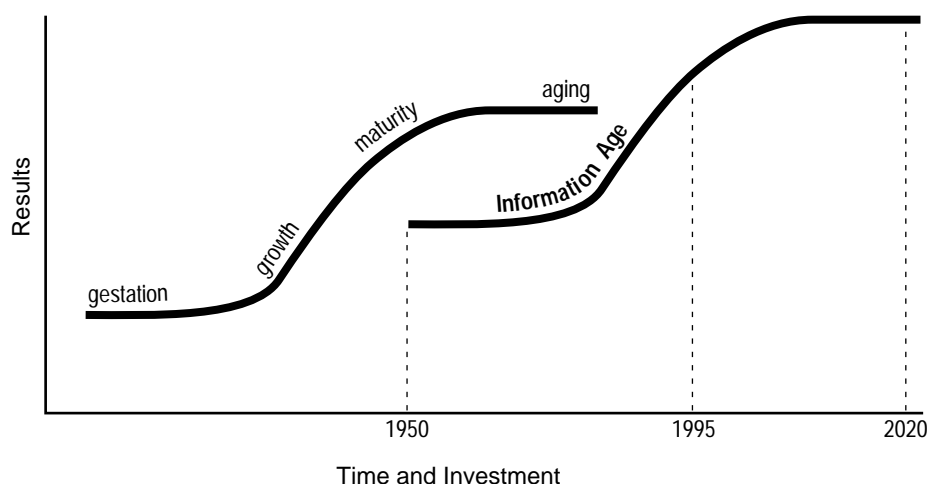


Figure 2. The Information Age Life Cycle

Information management will be a key definer of success in the Information Age. As Bill Gates (1999) argues: “The most meaningful way to differentiate your company from your

competition ... is to do an outstanding job with information. How you gather, manage, and use information will determine whether you win or lose.”

From now and into the future that we can plan for, value will be found in information-based products such as branding, customer relationships, supplier integration and the use of key information assets. Businesses must develop information-centric business strategies to participate in the Information Age economy.

3.3 The inability to overthrow the dominant, outdated business design and thinking often leads to business failure

It will be difficult to build this change on top of the existing infrastructure, instead transformational thinking will be required. Faced with impending change, established companies tend to rely on simple formulas: lower costs, increase production, open new offices. Companies resist cannibalising existing product lines or taking risks that innovate the marketplace.

Now companies will need to exist in a state of perpetual transformation, continuously creating fundamental change. Senior management must nurture a healthy discomfort with the status quo, develop the ability to detect trends earlier than the competition, make rapid decisions and be agile enough to create or adopt new business models. This is very difficult in established organisations (see mini case study below). This inability to recognise the change that is required and/or what strategies are necessary to adapt represents a major opportunity for the “e-consultant” industry.

Case study: Barnes and Noble thought they had nothing to fear from this new start-up bookseller on the Internet, Amazon.com. Barnes and Noble believed they could wait, watch and learn from the mistakes of this upstart company which, after all, did not know anything about selling books. When the time was right, Barnes and Noble would open their own Internet bookstore and with their reputation and strength in the marketplace swamp Amazon.com.

Of course it didn't happen that way. Yes, Amazon.com founder Jeff Bezos did not know anything about traditional bookstore sales. But he did know technology and his business strategy, formed in the back of a van during a cross country move to Seattle, Washington, recognised that books were a commodity product that could be easily sold on-line and that customers were willing to trade the comfort of bookstore cafes and browsing for better-than-expected customer service and the convenience of ordering over the Internet.

As they say, the rest is history. Barnes and Noble has been forced to rush to the Web and offer tremendous discounts in order to claw back market share from Amazon.com. Their belief in traditional business practices and then unwillingness to recognise the changes interconnected technology can make has cost them dearly in their attempt to remain the market leader in book sales.

Source: (Bayers, 1999)

3.4 The goal of new business designs is to create flexible outsourcing alliances between companies that not only off-load costs, but also make customers ecstatic.

No company can stand alone in the new marketplace. The virtual corporation (see diagram) focuses on core competencies and seeks business partners and contractors to perform non-core tasks. Outsourcing – contracting with vendors instead of providing the service from inside the company – is as old as business. What has changed is that interorganisational information systems now allow a greater range of outsourcing opportunities. Outsourcing also makes sense because no organisation can do everything well.

Case study: Nike is the world's largest shoe manufacturer. Despite this label, how many shoe-manufacturing plants does Nike own? None. How many trucks to move shoes from factories to stores does Nike own? Zero. Nike is a virtual company that, physically, is a building in Portland, Oregon containing management, shoe designers and marketers. Additionally, quality control inspectors at major manufacturing plants insure Nike's high standards are followed. All other services – manufacturing, distribution, information technology, etc. – are outsourced. Nike manages its worldwide production and distribution through interorganisational systems.

What has also changed is motivation for outsourcing. Traditionally outsourcing was attractive because it could cut costs. Today companies outsource to improve customer service.

Case study: When a customer orders a Dell Computer the component parts may come from several physical locations: the computer itself from a Dell assembly plant, the monitor from a Sony warehouse and the software from a distributor or manufacturer such as Symantec. United Parcel Service, not Dell, oversees the pickup, consolidation and delivery of the order. What arrives on the customer's doorstep, in a single delivery and in "From Dell" boxes, is an order which Dell has not been responsible for assembling but which meets or exceeds the customer's expectations for "service from Dell." Both distribution and inventory management have been outsourced to a package delivery company. Interorganisational information systems make it happen.

3.5 e-Commerce enables companies to listen to their customers and become either "the cheapest," "the most familiar," or "the best."

Faced with multiple choices and limited time, customers are seeking value by looking for the cheapest, the most familiar or the best-quality product. These three qualities reflect a three-way trade-off because it is difficult to be all three. Companies that try to do all three will tend to be middle-of-the-road companies that deliver mediocre results.

Wal-Mart in the United States and The Warehouse in New Zealand are examples of companies in which being "the cheapest" also means delivering "the best value". Wal-Mart keeps costs down by an automatic inventory replenishment system that aims to have a delivery truck delivering a box of toothpaste to the dock just as the last tube in stock is going out the front door. The Warehouse backs their goods with a no-questions-asked guarantee.

McDonalds best represents the "most familiar" rule. While some local variations are allowed – in New Zealand "Kiwi burgers" with beetroot and "Jaffa-flavoured shakes" are sold – for the most part a Big Mac purchased in Hong Kong will be indistinguishable from a

Big Mac purchased in Australia. Michael Hill Jewellers, Coca-Cola and Yahoo! are companies also carving out strong identities in their marketplaces.


Godiva chocolates, Bosch appliances and American Express credit cards are all examples of companies that rely on a reputation for quality products.

3.6 Don't use technology just to create the product. Use technology to innovate, entertain and enhance the entire experience surrounding the product, from selection and ordering to receiving and service.

Technology does more than improve efficiencies in manufacturing. Technology can be used to enhance the customer experience. This applies first to presenting an effective, integrated interface to the customer at the Web site. More significantly, it also applies to the back office systems that support customer service.


Case study: Amazon.com is more than just a bookstore. Amazon.com delivers author interviews, customer book reviews, pre-release information and out-of-print books by special order. Back office systems and cookies deliver personalised book recommendations to shoppers who have purchased books from Amazon.com. A book recommendation agent tells the prospective buyer "Customers who bought this book also bought:"

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Figure 3. Amazon.com Screen Shot

3.7 The business design of the future increasingly uses reconfigurable e-business community models to best meet customers' needs.

Many of these principles cumulate into the creation of e-business communities that rely on business alliances, cooperative networks or outsourcing to create end-to-end value streams. These e-business communities link businesses, customers and suppliers to create a unique business organisation.

Case study: Until the Internet, the process of purchasing a car had not changed almost since the automobile was invented. Auto-by-Tel changed that with a customer-centric process that rewards dealers who are able to respond to customer needs. A prospective customer uses Auto-by-Tel's information database to compare car models and to obtain dealer cost information. A customer then fills out a form specifying make and model, options, description of trade-in, need for loan financing, etc. Auto-by-Tel forwards that to a dealer in the customer's area, who prepares a quote for the customer's consideration. The value for the customer is access to the information required to bargain for the best deal. As the Chairman of Chrysler says "The customer is going to grab control of the process, and we're all going to salute smartly and do exactly what the customer tells us if we want to stay in business."

The customer doesn't pay Auto-by-Tel, the vendors do. Auto-by-Tel's e-business community includes car dealers, car insurance companies, loan companies and car accessories companies.

3.8 The tough task for management is to align business strategies, processes, and applications fast, right and all at once. Strong leadership is imperative.

Few companies are prepared to face the future imposed by these eight principles of e-business success. Little more needs to be said about the inefficiencies, inaccuracies and inflexibilities of information technology systems within corporations. End-to-end process integration requires a major change in applications to produce an infrastructure capable of managing these processes.

Technologists have the in-depth knowledge about specific technologies to meet identified needs, but strategies come first and for this leadership at the top is required. Senior management must take responsibility for understanding the implications of up-and-coming technologies and anticipating when and how they will affect business strategy.

4. Conclusion

This paper has addressed the question "why are organisations adopting e-business applications and being transformed into e-businesses?" The answer is found in the eight principles of e-business success. These principles outline *why* organisations are becoming e-businesses (e.g., to control the flow of information, to make customers ecstatic, to avoid business failure) as well as *how* they are doing this (e.g., create flexible outsourcing alliances, use technology to enhance the customer experience, strong leadership from the top).

As suggested above, Kalakota and Robinson (1999) are not the only ones to suggest forces or drivers in e-business transformation. Future research might take an expanded view of this topic by examining what these other writers have to say and identifying key similarities and

differences. Due to space limitations, only mini-case studies were used in this paper. A follow on study should consider a more in-depth case study examination of companies such as Amazon.com. In such a study the organisation would be the focus and the principles would be the lessons to be learned.

Few businesses will be able to avoid becoming an e-business. Those that refuse to change will be overrun by their competitors. Those that do accept the challenge will benefit from the principles, explanations and mini-case studies that have been described in this paper.

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