iExec Enterprise Essentials Companion Guide

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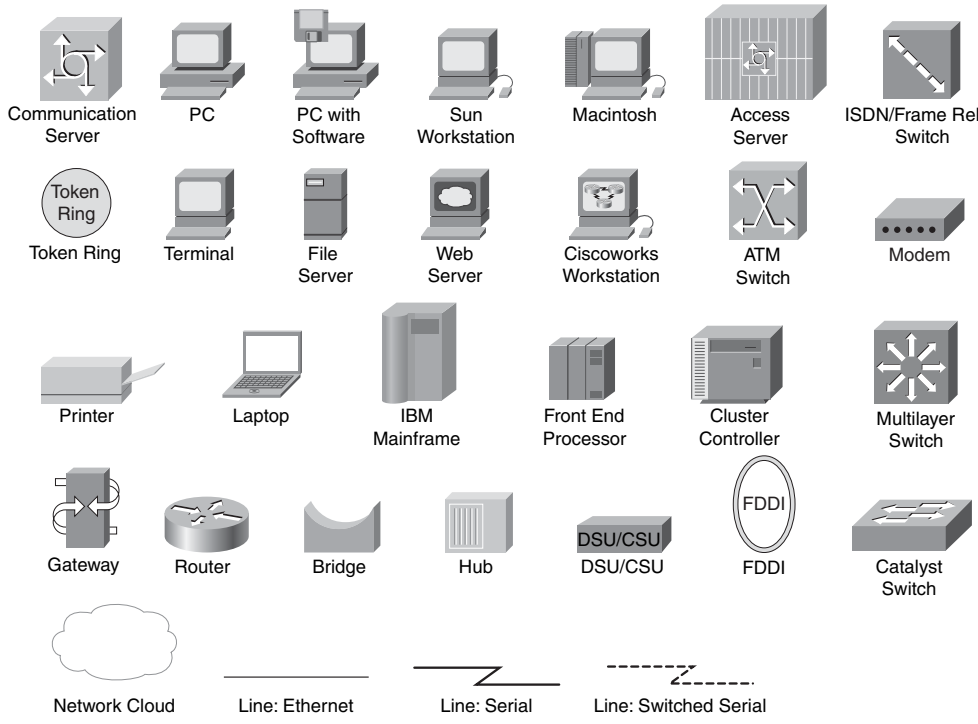


Command Syntax Conventions

The conventions used to present command syntax in this book are the same conventions used in the IOS Command Reference. The Command Reference describes these conventions as follows:

Boldface indicates commands and keywords that are entered literally as shown. In actual configuration examples and output (not general command syntax), boldface indicates commands that are manually input by the user (such as a **show** command).

Italic indicates arguments for which you supply actual values.

Vertical bars (|) separate alternative, mutually exclusive elements.

Square brackets ([ ]) indicate an optional element.

Braces ({ }) indicate a required choice.

Braces within brackets ([{ }]) indicate a required choice within an optional element.

Introduction

Welcome to the Business Essentials Program

This program seeks to provide information technology (IT)-related business education that will enable you to develop new strategies to transform your organization or business through the strategic use of IT and Internet applications.

This program features a blended learning model composed of an e-learning portion as well as an instructor-led portion.

The Business Essentials Program web-based component is 15.5 hours, and the instructor led component is 34.5 hours. The total course consists of 50 hours of instruction and training, 14-hour facilitated course—34 hours.

Course Overview

Critical Business Decisions

Throughout this e-learning course, you will be helping a medium-sized business owner enhance business processes for his company. You will help him to strategically apply IT and Internet applications to his business, Oasis Office Furniture.

Although sales have been good and profits are up, Oasis Office Furniture is faced with a few challenges. The owner believes his market share is on the verge of shrinking instead of expanding. He has some critical business decisions to make if he wants to stay competitive over the long run.

Course Objectives

After completing the Business Essentials e-learning course, you will be able to do the following:

- Describe the global trends and impact of the Internet and IT on business.
- Explain the business and market drivers using the Internet and IT.
- Describe the various strategies to increase productivity, efficiency, innovation, and profitability and create a networked virtual organization (NVO).
- Explain the concepts of IT governance.
- Assess your organizational readiness and explain the need for readiness planning.
- Describe the uses and value of Internet-enabled solutions in improving business processes.

- Perform an external and internal situation analysis.
- Create an e-vision for success.
- Apply the principles of portfolio planning and management.
- Identify and prioritize opportunities for process improvement using the Internet and IT.
- Describe the importance of change management to the success of your Internet and IT initiatives.
- Recognize when and how to build a business case.

In the last few years of the 20th century, IT came into its own. With the widespread implementation and adoption of the Internet and the realization that real services could be delivered over it for real money, IT came to be viewed as an essential enabler of higher customer service and greater business value. However, like other major technological innovations, it had a period of significant hype in which companies overinvested in IT technology under the mistaken impression that merely implementing IT was enough to ensure success.

For a while, IT investment and infrastructure buildout improved communications, and getting businesses online was enough to give companies a competitive edge. In the belief that the web would be a disruptive technology that would displace "bricks and mortar" business, venture capital flowed freely to anyone who had an idea; good or bad did not seem to matter. This "irrational exuberance" led to the dot-com bubble and ultimately its collapse in 2001. The collapse served to drive some businesses back to the equally irrational view that IT was critical to the success of a company. The resulting swing in business strategy was to significantly depress the IT market as companies retrenched their automation efforts. The overall market grew enough to consume the excess computing capacity that had been delivered to start-ups and established enterprises.

However, as the Internet has grown from its infancy, we are learning each day that the Internet and IT are disruptive technologies that have intensified competition, enabled transformational growth, and completely changed businesses, industries, and even countries. Concurrent with the rapid buildout and collapse of IT and its carrying capacity, IT moved from a simple business enabler to the foundation on which business was conducted. The concept of IT as a business enabler was innovative and forward thinking; the speed at which bandwidth was implemented without bandwidth consuming applications and customer demand was the root of the dot-com bubble burst. As small businesses consumed IT-enabled capabilities to capture market share from larger enterprises, there came a slow realization that large investments in plant and fixed infrastructure, capital expenditures (CapEx), were no longer necessary to generate large recurring revenue streams. It has, in recent years, become apparent that such investment ties up investment dollars that could be used to generate intellectual property and extend differentiating business services to the customer. In fact, investment in fixed plant, with long-term depreciation cycles, can impose such a taxing overhead on a business that its very survival can be threatened.

Now, in the first decade of the 21st century, it is easy to see that business will be fundamentally different from its historical predecessors. The combination of global markets with the commoditization of the means for production ensures that the most successful businesses of the 21st century will be intellectual property creation. This means that IT and its ability to transcend geographic distance, enable collaboration, and reduce fixed plant investment must be fundamental to all strategic business planning.

IT as a core component of business strategy is a relatively new concept, and many companies still do not grasp the potential growth opportunities it represents. Companies that understand and embrace IT as a core business imperative when applied to its value creation and delivery will be rewarded with substantial market advantages.

For some time now, IT budgets have been focused on cost reduction rather than value creation. This approach fundamentally ignores the value side of IT and fails to recognize that business processes, without tightly integrated automation, cannot survive in a competitive environment.

One of the contributing factors to firms not understanding the value of technology within business has been the lack of understanding on the application of IT to specific business issues. Although many MBA curricula cover information technology, most do not discuss IT in the context of business strategy and innovation. This book and the course on which it is based offer some approaches and remedies for this situation.

This book addresses the value of IT to the business and shares some sensible approaches to exploring how to apply IT to nearly any business. In this way, it provides a context for business that is more in keeping with the realities of business in the Information Age.

Organization of This Book

This book is designed to be a companion to the *Cisco Business Essentials Program*. Although the book is written to match the main course headings, it can also be used in an independent context as source material for individual or classroom instruction.

This program has eight modules. Following is a brief description of each module:

Module 1 introduces global trends, opportunities, and strategic imperatives driving the use of the Internet and IT.

Module 2 explains IT-enabled business strategies to increase productivity, efficiency, innovation, and profitability. It also covers how to create the concept of an NVO.

Module 3 explores how to assess and build organizational readiness and how to improve IT governance, as well as the importance of organizational readiness to enrich business outcomes.

Module 4 examines Internet-enabled solutions to enhance business processes and how to apply the solutions to internal and external business processes.

Module 5 describes strategy and planning processes, including the portfolio management approach, and how to use them to create a successful Internet-enabled business roadmap.

Module 6 introduces the principles behind process, project, and change management, and how they promote project success and adoption.

Module 7 explores what a business case is, why it is important to create a business case for your Information Technology (IT) initiatives, and briefly reviews the main components of a business case.

Module 8 is the Conclusion. Upon completion of this course you should have enhanced your knowledge of the opportunities, tools, and approaches required to plan and implement better strategies.

The following sections quickly preview each module.

Module 1: Strategic Imperatives

In Module 1, you will learn how current global business trends can help incorporate Internet and IT initiatives into your business strategies.

Upon successful completion, you will be able to describe the following:

- The global business trends, and how businesses are using IT to respond to those trends
- The impact of IT on your business plans, innovation, productivity, performance, efficiency, and customer satisfaction programs
- Market and business drivers, and the strategic importance of Internet and IT in your business plans
- Ways to increase your financial performance and value to the customer by integrating business processes with new technologies

Module 2: Management Strategies

In Module 2, you will learn about management strategies and how Internet and IT add value to an organization. You will learn how IT and various strategies can improve innovation, productivity, efficiency, and customer satisfaction. You will also learn about the evolution of the NVO, key NVO strategies, and their impact on governments, industries, and businesses. This knowledge will help you and your organization move one step closer to successfully implementing Internet and IT initiatives.

You will be able to explain the following:

- Key management strategies
- Ways that Internet-enabled business strategies add value to your organization
- What a Business Value Framework is, and how it works
- The strategies for becoming an NVO

Module 3: Organizational Readiness

In Module 3, you will learn about the process of planning for organizational readiness as well as how to use some of the tools to determine how close your organization is to being "Internet-savvy." You will also learn about the value and characteristics of organizational readiness and the process of becoming an Internet-ready company.

You will be able to describe the following:

- The value and characteristics of organizational readiness
- The importance of IT governance to the success of IT initiatives
- The four key principles of IT governance
- The importance of leadership and culture
- Why taking into account the IT governance process during planning is vital to the success of IT initiatives
- How to use the Net Readiness Scorecard to assess your readiness for organizational success with IT
- How to create an Organizational Readiness Improvement Plan for your organization

Module 4: ICT Solutions

In Module 4 you will learn about Internet-enabled solutions. You will examine workforce optimization, customer facing, and supply chain solutions.

By the end of this module, you should be able to

- Compare the value of Internet-enabled solutions
- Recognize process maps and their role in solutions
- Recognize several different solutions that focus on processes within an organization or that extend outside the organization to external entities
- Identify how solutions can be applied to address organizational needs

Module 5: Strategy Development

In Module 5, you will learn how to build a strong business case with a complete portfolio of new IT initiatives for your organization. You will discover how to identify, prioritize, and create business justifications for these new initiatives.

You will be able to do the following:

- Define the elements of a comprehensive business case
- Conduct internal and external situation analyses

- Create an e-vision statement
- Use metrics to select projects, and manage a project portfolio
- Develop a business strategy
- Generate a portfolio of initiatives, and prioritize them
- Conduct internal and external situation analyses
- Use the portfolio approach to create an Internet-enabled business roadmap

Module 6: Portfolio Management

In Module 6, you will learn about the elements of project success and various management methods for promoting it in your organization.

You will be able to describe the following:

- The principles of business process management and define, measure, analyze, improve, and control (DMAIC)
- The challenges and principles of project success
- Ways to successfully implement a project with project lifecycle management
- The importance, approaches, and principles of change management
- The steps to create a change management plan
- Adoption strategies and the continual adoption planning process

Module 7: Business Case

In Module 7, you will explore what a business case is, why it is important to create a business case for your Information Technology (IT) initiatives, and briefly review the main components of a business case. You will be able to answer the following questions:

- What is a business case and how is it used to create a project proposal?
- When should you create a business case and project proposal?
- What are the major components of a business case and a project proposal?

Upon completion of this module you should be able to

- Recognize when to create a business case
- Identify the major components of the business case
- Compare financial and non-financial justifications
- Apply financial calculations to support a business case

Module 8: Conclusion

This course should enhance your knowledge of the opportunities, tools, and approaches required to plan and implement better strategies.

Through the strategic use of the Internet and IT, you should be able to create an actionable proposal and business justification for an Internet-enabled business application that will provide measurable benefits to your organization.

Having completed this program, you should now be able to

- Identify global trends and the impact of the Internet and IT on businesses.
- Describe how the Internet and IT can be used to address the challenges and opportunities facing your business.

MODULE 1

Strategic Imperatives

All these modules are designed to provide a firm grounding in the application of technology to business. When used in combination with classroom study and exercises, this text will give you the tools you need to build a successful business armed with the appropriate information technology to compete effectively in the global business environment of the twenty-first century.

It begins with a review of the forces shaping business in markets today.

Global Trends and Strategic Imperatives

As noted in the previous section, the way business is conducted has fundamentally changed in the past decade. Empowered by the Internet, IT is now an essential part of business and society.

For example, although cooking and serving fast food might, on first examination, seem to be a non–technology-related undertaking, the truly successful fast food restaurants are intensely dependent on IT. Inventory is tracked and managed, distribution is planned, and replenishment is executed automatically based on target inventory levels and expected delivery times. This allows real-time changes based on actual demand, reduces excess inventory and spoilage, and eliminates lost sales due to out-of-stock situations. Business intelligence is also gathered in real time, allowing businesses to monitor changes in customer preferences, advertising, and buying behaviors. By comparison, smaller fast food operations that rely on manual processes (even using electronic records) suffer from lost productivity and human error through manual processes. In addition, delays in sensing and responding to change in demand or disruption in suppliers can result in reduced sales and profits.

Likewise, for exporters and outsourcers who are trading across geographical borders, the extension of IT through the Internet is proving to be essential to competing globally. The Internet is enabling both product and information flows, creating a new virtual form of transportation, and enabling business to extend its reach to other markets and customer bases. It allows a business to inexpensively achieve a world-spanning presence that, in the past, was only available to large companies that had extensive advertising capabilities.

The Internet and IT can be used in many ways and to varying degrees to bring benefits to all businesses and public sector organizations. Organizations are using the Internet and IT strategically to create new products and services, improve productivity and efficiency, increase revenue, and improve customer satisfaction. Organizations are also using the

Internet and IT to improve the efficiency and effectiveness of communication, collaboration, and process sharing. Used effectively, the Internet and IT can help your organization compete and survive in the economy of today.

By the end of this module, you will be able to do the following:

- Describe the global trends and impact of the Internet and IT on business and the public sector organizations in driving productivity, efficiency, innovation, customer satisfaction, and quality of service.
- Describe the business and market drivers for the use of the Internet and IT.
- Explain why the use of the Internet is a strategic imperative for competitiveness of business, industries, and countries.
- Explain how external integration is driving financial performance and customer value for the organization.

The next section discusses how the Internet has impacted global productivity and competitiveness.

The Impact of the Internet on Global Productivity and Competitiveness

The Internet and IT are changing the world and the way business is conducted and services are delivered. New technology advancements allow both private and public organizations to improve productivity and efficiency, deliver new customer value, and transform their operations.

In this section, you will learn how the Internet and IT do the following:

- Drive productivity and competitiveness
- Affect business in the public and private sectors
- Influence current global business trends
- Help organizations respond effectively to new trends

The Internet and Global Productivity

The evolution of business has largely been the process of managing the means for communication, such as telephone, telegraph, printing press, and transportation. Historically, commerce evolved as a way to communicate information and to move products from producers to consumers. The individual who enabled the transportation of the product was able to generate a profit on the transport.

Modes of communication initially involved writing letters, which were delivered by an unstructured mail delivery system such as someone traveling in that direction. The first

commercial telegraph was used in Great Britain in 1839, ironically, within the railroad industry. Commercial use of telephones arrived in the later part of the nineteenth century. These communication devices were point-to-point until Bell emulated the Western Union telegraph exchange concept, which introduced what eventually came to be known as the public switched telephone network. Rapid advances in wiring technology, from a single wire to twisted pair to four pair, allowed long distance and international calling capability. Cellular telephony was developed as an offshoot of radio frequencies. Handheld cell phones were introduced in 1973 with a media event demonstrating the tool between Motorola and Bell Labs. Also in 1973, packet-switched voice was carried over ARPANET, the precursor to the Internet, utilizing the Network Voice Protocol, which ran on top of the earliest versions of IP. Early in the twenty-first century came the advent of voice over the Internet infrastructure, based on IP. This is known today as VoIP. Throughout the history of electric telephony, the voice communication provider market rhythmically expanded and contracted, very much like today.

Modes of transportation initially involved the development of roads, then ships, followed by canals, rail lines, highways, trucking, and aircraft. In each case, the transportation function enabled new forms of business and new ways to link businesses. As each mode of transportation evolved, it initially involved a boom where entrepreneurs moved quickly to build infrastructure, followed rapidly by a burst, where excess capacity drove down investment and markets. Ultimately, in each case, there came a time where the new form of transportation led to new markets and business models and where the excess capacity was consumed and then augmented.

An important point to note is that the evolution of new forms of transportation also involved increasingly abbreviated cycles of adoption. Whereas primitive roads took 1000 years to transform business, railroads took only 200 years, and airfreight took a mere 50 years to impact business.

An important concept here is that transportation is a way to deliver things of value from one place to another. Now with the advent of the Information Age, the thing of value is actionable information or intellectual property. The Internet, standards-based information systems, and fast, low-cost logistics networks have enabled global value chains that have reduced costs by improving efficiencies and accelerating information and product flows. In this regard, the Internet may be considered a new transportation system, and it has evolved at breathtaking speed. In a mere four years, the Internet connected more than 50 million people, and it is now approaching more than 1 billion people. Projections completed recently by research firms estimate that well over half of the world will be digitally connected by 2010.

When Al Gore coined the phrase “information superhighway,” he only got it half right. Although the Internet can be thought of as a highway, it is also something more. Unlike highways, in which there is only a transportation function and it is limited by time and space, the Internet is not limited by either dimension. As shown in Figure 1-1, as intelligence is being built into the Internet, it is increasingly becoming a virtual marketplace where collaboration is leveraged to generate more value almost instantaneously.

Figure 1-1 Virtual marketplace

The dramatic increase in the use of the Internet and IT over the past decade has helped increase the competitiveness of businesses that harness its power. The expanded use of the Internet and IT has also enhanced the productivity of organizations, governments, and individuals. The Internet is driving these increases by doing the following:

- **Collapsing timeframes:** Unlike a road, the Internet is not traversed in the classical sense of traveling somewhere. On the human scale of interaction, it is enough to present data to the network to make it instantaneously available to the receiver. In a sense, this accelerates travel to the speed of light and radically collapses the timeframes associated with information exchange.
- **Changing relationships:** In the age of the Internet, it is no longer possible to be unaware of the activities of either businesses or their customers. Markets are beginning to approach the ideal market condition of perfect knowledge. This fact is radically reshaping the ways in which business is conducted. Now markets and businesses operate in much greater transparency, where fewer secrets are kept from customers, competitors, and other business constituents.
- **Enabling collaboration:** Collaboration is the reason that business has traditionally built office complexes and campuses. A fundamental strategy of business is to bring together resources and enable people with good ideas to interact and coordinate actions to create value and generate a profit. In the age of the Internet, office buildings, complexes, and campuses have become less important. Collaboration can be facilitated electronically through a web presence. This means that rather than building expensive office buildings, businesses can use networked technology to place human minds in close logical proximity so that ideas can be generated and actions coordinated. In many cases, businesses are becoming more virtual, operating without the physical constraints of the past.
- **Shortening time to market:** Using collaboration facilitated by the Internet, businesses can quickly generate information that can be made available to suppliers and customers, radically shortening the time to market. It is no longer necessary for businesses

to rely on physical interactions of people to develop and ready products for markets. Now people can work together over time and distance in real time or asynchronously. For example, engineering teams in various parts of the world can work 24 hours a day on different aspects of a product to enable it to be developed and delivered more quickly. Time-to-market and feedback loops are now defined by the time it takes to make decisions rather than the time required to modify business processes.

- **Creating economies of scale:** In the past, many products were never introduced because they lacked a sufficient market. Now, automation combined with the connectivity afforded by the Internet allows almost any product to find a global market, thus creating the economies of scale necessary to produce a product profitably.
- **Transforming customer value:** Customer value is determined by the perceived difference between the customer evaluation of all the benefits and the costs of offering the perceived alternatives. IT-enabled benefits such as shorter time to market, faster delivery, increased ability to customize, and improved customer service levels are transforming customer value.

The Net Impact Study, conducted in 2002 by Varian, Litan, Elder, and Shutter, found that both large and small organizations that adopted Internet business solutions realized significant financial returns for their efforts. A study called "Net Impact 2003: Driving Networked Business Productivity," conducted by Momentum Research Group, identified specific characteristics of the organization that contributed to the increase in revenue and reduction in costs when using Internet business solutions.

Organizations that indicated the greatest levels of revenue generation did the following:

- Deployed Internet business solutions focused on customer service and support and research and development (R&D)
- Worked to enforce data standardization across the organization
- Focused on ensuring that mobile users had access to the same data that they would on their desktop
- Experienced greater purchase volumes from existing customers since the adoption of Internet business solutions

The benefits of the Internet not only impact the organization, but affect entire economies. As more organizations use the Internet to cut costs, productivity rates improve, which in turn translate into a better economy.

Citizens enjoy a higher standard of living due to an improved economy in several ways:

- Through growth in real wages, which reflects productivity
- Through slower inflation rates, which also enhance real wages
- Through added spending on social programs, which improves the quality of life and potential tax cuts due to larger government surpluses

Productivity growth is especially important to economic policy makers who are concerned with improving the quality of the citizens' lives. For budget policy makers, projections of productivity growth are the most critical element in long-term budget forecasting, despite the fact that productivity growth is one of the most uncertain elements to predict.

The Internet represents a new and powerful way to communicate information faster, cheaper, and with greater flexibility. This should allow organizations to do the following:

- Reduce the transaction costs of locating and purchasing required supplies, including labor
- Enhance the efficiency of producing and delivering goods and services through lowered inventories and enhanced cooperation among designers of new products and services in different locations, whether inside or outside the firm
- Reduce the cost and improve the effectiveness of dealing with customers by out-tasking the customer-facing process with Internet-based, self-service applications

It is important to note that the mere communication of information at higher speeds does not result in business transformation. It is the combination of this communication with the ability to add value to the communication that provides transformational impact. As information is generated through collaboration within the Internet, it can be multiplied, amplified, and enhanced to generate new information and insights that otherwise would not have resulted had conventional forms of communication been utilized.

The Convergence of IT Standards and Productivity

Why did this transformation in information and transportation technology take place? Largely, it is a story of the evolution of standards and can be described in the context of computing.

When data processing was a function of mainframe computers, computing was centralized and focused on data analysis and record keeping. The impact on productivity was nominal. Mainframe computers were used primarily to support back-office functions such as accounting, recording transactions, and tracking personnel. Information and business processes were not extended to many of the business personnel; the IT impact on productivity increases was minimal, if at all.

Hampering positive business impacts of IT efforts was the extreme customization required of mainframe systems. Standards, to the extent that they were used at all, were implicit at basic levels, such as the number of bits per byte. Most computers were not interoperable, and networks, where they existed, used proprietary protocols and arcane control methods.

As mainframes gave way to minicomputers tied together with primitive networks, the impact of IT on business increased. It meant computers could be used to enable business operations. Because many more users could leverage computers in their job, IT was able to increase the overall productivity of the organization.

Standards were still a problem, however, and they were mostly proprietary, making interoperability between systems manufacturers difficult.

During the 1990s, a number of standards were developed and generally adopted. TCP/IP as a data interchange standard gave rise to the Internet and the World Wide Web, while standards for computer architectures and functionality gave rise to interoperable hardware and software. In addition, the general adoption of desktop computers gave just about every professional employee access to personal computing and data networking.

This ubiquitous access ensured that computing could be applied to just about all back-office as well as customer-facing functions. The impact on productivity has been profound. Dr. Alan Greenspan, former chairman of the U.S. Federal Reserve, noted that much of the productivity increases experienced in the United States has been as a result of the application of IT to business. According to a study conducted by Cisco, the expected financial impact on the U.S. economy alone, through 2010, will amount to more than $1.6 trillion in increased revenues attributable to information technology implementations. In addition, over a half a trillion dollars in cost savings will be recognized during the same period.

As this influence has extended to the global economy, significant increases in productivity are being experienced worldwide.

This impact on revenues and costs comes at a price. The Internet is an information engine that is indiscriminant regarding the information being transported or its use. This has introduced a whole new area of concern that has to do with who owns and gets to control information and its flows. The next section shows how.

The Internet and Public and Private Sectors

When should information be shared, under what conditions, and should the government be involved? In the twentieth century, these questions were fairly trivial. The creator of the information owned that information. Where there was doubt, there were copyright and patent laws to resolve disputes.

In the age of the Internet, these questions have become increasingly important and complex. When information flows freely and can easily be acquired and repurposed, the rights of information owners are easy to abridge.

When the information in question is personal, the security and privacy issues quickly become critical. Increasingly, governments have moved to protect the privacy of personal data with rules associated with data protection. HIPAA, the Health Insurance Portability and Accountability Act in the United States, attempts to protect the privacy of personal health information. Similar laws in Europe, either under consideration or already in effect, seek similar safeguards.

Additional rules, such as the Sarbanes Oxley Act in the United States, seek to ensure the accuracy of financial reporting data by publicly traded companies by mandating severe consequences if such data is distorted. Data security, as a consequence, has become a big issue for enterprises.

All these regulations are a direct result of the ease with which the Internet allows data to migrate. However, despite all the problems related to this freer access to information, the Internet is providing many more benefits.

The Internet has allowed organizations to significantly strengthen their relationships with customers and constituents while also empowering their employees. In addition, the Internet has enabled businesses to develop virtual organizations in which to extend their scope and power, and to strengthen relationships with suppliers and manufacturers.

The most successful organizations fundamentally know what their customers want and need and are organized to address those needs better than their competitors. In the past, this was somewhat of a hit or miss proposition. Organizations frequently used market research surveys to assess customer needs and desires. Although customer surveys are still being used, innovative companies such as Amazon, eBay, and others are using IT and the Internet to capture this information in real time using the web and analytic tools to monitor preferences and changes in buying behaviors while profiling actual and prospective customers on a daily basis.

At the same time, Internet-based applications allow for the direct interaction between the back-end systems (those systems concerned with inventory and financial management) of the enterprise and the customer. This enables a level of intimacy and customer knowledge that significantly improves the delivery of service and potential to maximize the revenue generated.

Customers use the Internet to research products and services, download information such as brochures and user manuals, and access customer support information at their convenience. By providing personalization such as online order receipts, products marked for future purchase, and access to useful information including customer feedback, a business builds greater customer loyalty and preference. Because of the Internet, a customer is much more likely to find interactions with businesses convenient and satisfying.

Organizations also benefit internally from the ability of the Internet to facilitate better communications and interactions, encouraging greater employee empowerment. Secure access to the tools and information of the organization facilitates the ability of an employee to work effectively and efficiently.

Prior to the web, a significant portion of employee time was spent looking for and organizing information. Compared to their counterparts from the twentieth century, employees today spend far less time looking for company data and much more time using it.

One area of profound transformation in the age of the Internet has been the degree to which organizations can connect to leverage strengths of others and to form virtual organizations. Virtual in this sense means that the organization is composed of connections, not physical structures or people in close physical proximity. The Internet has allowed businesses to extend systems and information to suppliers and channel partners to facilitate the production and delivery of goods and services to consumers, while concurrently partitioning the private information of the company. This has led to improvements of efficiency and profitability for all parties in the supply chain.

As in other areas, the loss of ambiguity in communications has increased satisfaction and loyalty between organizations. It has also enabled the delivery of goods and services at much lower prices and without many of the overheads that characterize conventional business arrangements.

The most important impact on the interaction of organizations, though, has been the degree to which the Internet enables one organization to gain the benefits of the resources, skills, and capabilities of another. This has allowed organizations to specialize in what they do best, magnify their capabilities, and create an extended workforce as partners take on tasks that were originally done by the organization.

The Internet and IT can transform the interactions of an organization with its suppliers and manufacturers. Through the sharing of information, the relationship between an organization and suppliers is strengthened, enabling just-in-time processes to function reliably. This bonding is also enabled with other partners, such as distributors, resellers, shippers, and service providers. In each case, access to information concerning product orders, delivery status, and customer requirements improves the flow of goods and services to customers. Smooth product flows enabled by web-based applications and centralized information systems results in increased inventory cycles, decreased friction, and improved cash flow for all the participants in a delivery channel.

When partners can effectively take on tasks that an organization would otherwise have had to do, the organization can focus on its core skills and maximize its investment in the development of intellectual property that can improve the quality of its product or service.

The Public Sector

Organizations in the public sector also benefit. As tax rates and the cost of governing rise, constituents become increasingly concerned that taxes are being utilized efficiently. In the past, this has perversely led to ever greater bureaucracies devoted to audit and control. Today, networks and distributed processing can efficiently deliver and, more importantly, track the delivery of benefits and services.

The movement of online public services is considered so important to effective government that a number of international institutions are involved in promoting it. For example, the World Bank has identified several online programs, known as e-government programs, as a way for governments to promote the development of local economies. The World Bank has put together an e-government handbook for developing countries to help governments identify and make the necessary changes.

The World Bank highlights five major benefits of e-government:

- Better service delivery to citizens
- Improved services for businesses
- More clarity of information
- Reduced opportunities for corruption

- Greater empowerment through information
- More efficient government purchasing

As both public and private sector organizations reap the benefits of increased automation enabled by extensive networking, fundamental changes to global society are taking place. Some of these changes are discussed next.

The Internet and Global Trends

Although future generations might look back on the twentieth century as the age of warfare or even the age of industrialization, they will certainly view the twenty-first century as the onset of the age of the global economy. Fueled by the Internet, this global economy has generated several notable trends, including these:

- Globalization
- Specialization and outsourcing
- Increasing customer expectations
- Compressed value-add cycles

This section examines each trend in depth and shows how it is contributing to the changes.

Globalization, or the rise of the global marketplace, enables companies, no matter where they might be located, to service customers anywhere on the planet. The Internet is enabling new and specialized competitors to address market opportunities faster than ever before. This acceleration increases the pressure on existing businesses and competitors. Thus, to survive, businesses must continuously monitor the competitive environment and create strategies that will help achieve competitive differentiation and operational efficiency.

Globalization also drives outsourcing and specialization. Organizations are engaging outside vendors to manufacture and produce their products for them. In the past, organizations manufactured the whole product themselves and had control over the entire process.

Now, organizations are focusing on what they do best and allowing other organizations to complete secondary tasks. For example, a car manufacturer designs and assembles cars, tasks that it is typically good at performing. Parts and partially assembled items are sourced from specialized manufacturers, tasks that the car manufacturer is typically not the best at conducting. This allows the car manufacturer to reduce costs, improve efficiencies, and increase quality. By integrating the information systems of the supplier and contract manufacturer with the information systems and processes of the car manufacturer, a virtual organization is created. This virtual organization acts as a single company that ultimately increases the value, efficiency, and overall financial performance of the car manufacturer.

The Internet and the positive experience it creates for customers have increased customer expectations. Customers know that they can receive excellent service and purchase high-quality products at competitive prices online. Exceptional service, high quality, and competitive pricing have become the baselines that consumers use to judge a firm.

Looking at the travel industry, for instance, customers who have traditionally called an airline agent to book a ticket might now go online to research schedule and fares and buy their own airline tickets. They can make these arrangements whenever they want, from wherever they want, without spending any time on the telephone with an agent. Bookings are almost instantaneous, and the power that the customers have to select their preferences is great. Customers can select the dates and times they want to travel, in addition to choosing their preferred airline, their seat number, and whether they want a paper ticket or e-ticket.

The speed of commerce has increased. Customers are more knowledgeable of products and comparable, competitive products. Product life-cycles are becoming shorter as manufacturers collaborate with other suppliers to shorten development cycles and combine offers to create new products and services that can increase competitive advantage. Businesses have to address emerging market opportunities more quickly. This compressed value-add cycle is forcing these organizations to partner effectively and to manage their business processes more efficiently.

Addressing the Global Trends

The Internet and IT are driving profound changes in the global economy. The rate of change can make it hard for businesses to keep up. Fortunately, the same technologies that promote change also allow businesses to master that change. Organizations are using IT to address the global business trends. Specifically, they are using IT to for two purposes:

- To integrate disparate internal processes
- To increase collaboration with suppliers, customers, and partners

This section examines both of these points.

IT can help integrate processes by linking disparate systems. Using networked applications allows companies to do the following:

- Increase the efficiency of their business processes
- Reinvent business models
- Reconstruct value chains, which are the sequence of activities that produce a value, or a particular good or service

Operational efficiency has become critical in some industries where competition is intense. Through the use of the Internet, organizations can reduce costs by putting information online for these purposes:

- To automate processes
- To connect people
- To remove administrative costs
- To grow profits
- To increase margins

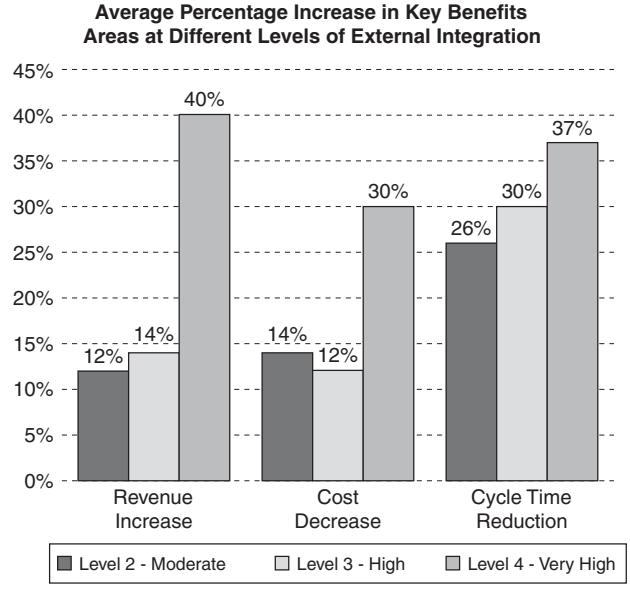
An organization can integrate its core business processes with suppliers, customers, and partners by using new technologies to increase collaboration. This reduces cycle times and controls costs, so the organizations can remain competitive and viable in the global economy.

IT also allows businesses to cope through the promotion of collaboration. By tying together an organization with its suppliers, customers, and partners, costs are reduced, cycle times improved, and customer satisfaction increased.

Conclusion

Using the Internet and IT to enhance collaboration even moderately can bring benefits to the organization. For example, a recent study indicated that even moderate levels of external integration, such as allowing customers, suppliers, and partners to view the information for an organization online, cut costs by an average of 14 percent (NerveWire 2002, 14). As Figure 1-2 illustrates, as the level of integration increases, benefits increase. Such benefits allow the organization to remain competitive in a global environment.

Figure 1-2 Benefits of Increasing Levels of External Integration



There has been massive growth and adoption of the Internet by the public and private sector worldwide in just one short decade. In this section, you learned how the Internet could do the following:

- Drive productivity and competitiveness
- Affect business in the public and private sectors
- Influence current global business trends
- Help organizations respond effectively to new trends

You should now have some ideas about how the Internet and IT will affect your organization and how you might compete more effectively in the global economy.

Exercise

In the following space, list some of the ways that the Internet is likely to impact your business. List the ways in which your business can utilize the Internet to improve your operations.

IT and Its Effect on the Organization

In the previous section, you were introduced to the Internet and some of the ways in which it is impacting the global business environment. You also learned how an organization can utilize the Internet to become more efficient and profitable. This section examines the ways in which IT impacts the organization. You will see how IT can boost productivity, increase efficiency, develop innovation, improve customer satisfaction, and enhance quality.

In this section, you will learn about the positive financial impact that IT can have on an organization, specifically in the following areas within the organization:

- Productivity
- Efficiency
- Innovation
- Customer satisfaction
- Quality

IT and the Organization

As noted in the Introduction, the Internet is emerging from under the dark cloud that was the dot-com bubble burst of the first years of this century. It is becoming apparent that business is no longer separate from IT. In fact, it is fundamentally enabled by IT. As a consequence, IT must be pursued in a way that improves the essential business functions that produce revenue. IT can do this in numerous ways.

The use of Internet-enabled applications allows companies to increase the efficiency of their business processes, reinvent business models, and reconstruct value chains. Organizations are using the Internet for several purposes:

- Put information online
- Automate processes
- Connect people
- Reduce administrative costs
- Grow profits
- Increase gross margins

The Internet also enables the centralized knowledge and core functions within organizations to be distributed, shared, and adapted by anyone in the organization. This allows organizations to provide better customer service, address new market opportunities, quickly adapt to changing conditions, and form virtual teams to create new value. From this networked intelligence comes global competition. With more competition, organizational efficiency needs

to rise, and more focus needs to be put on the value chain so that the organizations will not just survive but thrive.

In essence, the use of Internet-enabled applications amplifies the efforts of employees so that they can produce more value for a given amount of work. As a consequence, IT can be thought of as a force multiplier.

IT and Productivity

This notion of force multiplication is at the heart of productivity. *Productivity* involves doing more with fewer resources. In the case of business, it is increasing the revenue generated per employee through the greater ability of employees to deliver goods and services to customers willing to pay for them faster and more efficiently.

IT can enhance productivity by enabling growth and scaling operations. An increase in productivity can be achieved in several ways with IT. For example, reducing delays in the supply chain and sales process of an organization also reduces cycle time. Therefore, the organization can create more products in less time, which translates into increased output and revenues.

IT enriches productivity by enabling employees to acquire and retain satisfied customers. IT also enables an increase in the production of goods and services for better revenues at improved margins. Each of these activities, prior to the Internet, had a force multiplier of 1. That is, one employee could only do what one employee was capable of accomplishing with his own knowledge and resources. With Internet-enabled IT, force multiplication is well beyond 10 to 1 compared to business processes that are not IT enabled. For some industries, the force multiplier can be in excess of 100. No end is in sight to the force multiplier as firms integrate technology with business processes. With productivity increases of 3 percent or more per year, this compounding will double the overall force multiplication in less than 24 years. By the end of the century, IT-enabled productivity gains will increase productivity by more than 1500 percent.

However, productivity gains by themselves do not create profitable companies. A company can be extremely productive and still go out of business. More is needed.

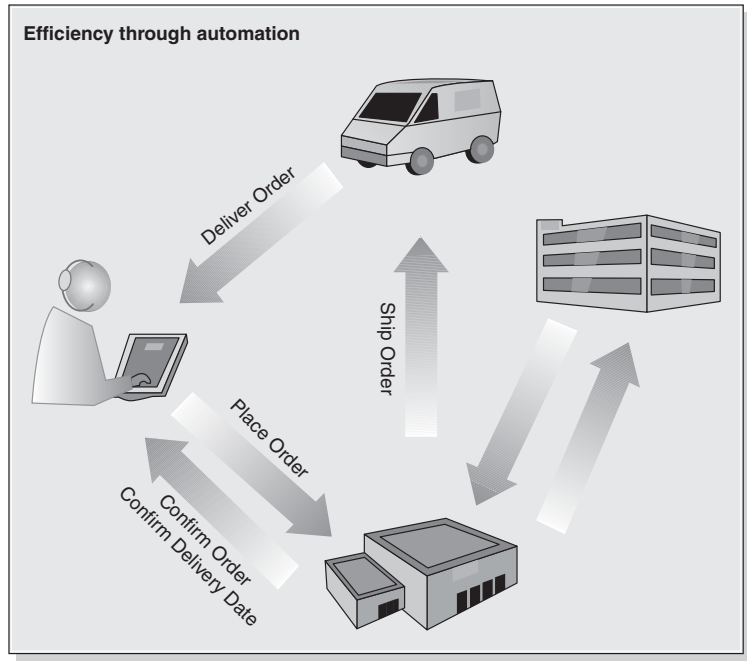
IT and Efficiency

Another requirement of a successful business is efficiency. What this means in practice is that the company needs to utilize its means of production in ways that maximize the output for a given input. Unlike productivity, which seeks to maximize the output in absolute terms, efficiency seeks high productivity with minimum extraneous cost. Efficiency is high productivity with minimum waste.

IT shines in the efficiency department. With Internet-enabled IT, companies can track their business processes, inputs, and outputs to reduce process time, decrease waste, and maximize throughput. IT does this by simplifying and automating transactions and by involving the customers in the delivery of goods and services by enabling them to conduct their own transactions.

IT can improve efficiency by reducing or avoiding costs related to head count, materials, travel, transaction time to completion, and transaction costs. Internet-enabled applications that are focused on the reduction of administrative tasks can decrease the cost and advance the efficiencies of administrative staff to process applications and remove human latency and potential for errors. As shown in Figure 1-3, organizations lower the cost of sales and order fulfillment by linking internal systems and processes from order entry to delivery.

Figure 1-3 Efficiency Through Automation



However, a piece is missing from the business equation. As noted previously, the business of business in the twenty-first century is intellectual property, or the creation of good ideas. As Peter Drucker (*Innovation and Entrepreneurship*, 1985) noted, intellectual property can be thought of as a direct replacement for capital, money, and labor. As the dot-com has illustrated, small companies armed with good ideas can outperform much larger companies.

The production and application of good ideas is innovation.

What Is Innovation?

In practice, *innovation* is the process of making practical use of an invention or good idea to do the following:

- Produce new products or services
- Improve existing products or services
- Improve the way in which products or services are produced or distributed

Innovation is used to gain competitive advantage or social benefit. From the standpoint of business, however, innovation is the fuel that drives revenue generation. Few businesses can expect to produce the same product for the same price for any length of time. Global competition ensures that competitors will surface that can do the same thing cheaper, faster, and better.

It is the concept of innovation that is the most powerful influence in business. Even if a company chooses not to innovate, innovation will still take place within the competitive market because competition forces innovation. At the very least, a company must match its competition to remain in business. To do so, it will either innovate or adopt the innovation of its competitors. No other alternatives exist.

Innovation is implicit in the development of new products and services (product innovation), the application of goods and services (application innovation), the way in which goods and services are produced (process innovation), and the way in which all these things are managed (business process innovation).

IT and Innovation

Just as IT is essential to productivity and efficiency, it is proving to be critical to the innovation process. The Internet and IT are driving innovation in these ways:

- By enabling companies to create unique products and services by combining offers over the web
- By enabling customers to customize products ordered over the Internet
- By creating a unique customer experience by providing multiple channels and tools to buy products and receive services
- By enabling businesses to differentiate customer value propositions (for example, leasing versus buying, online coupons, or combined offers)

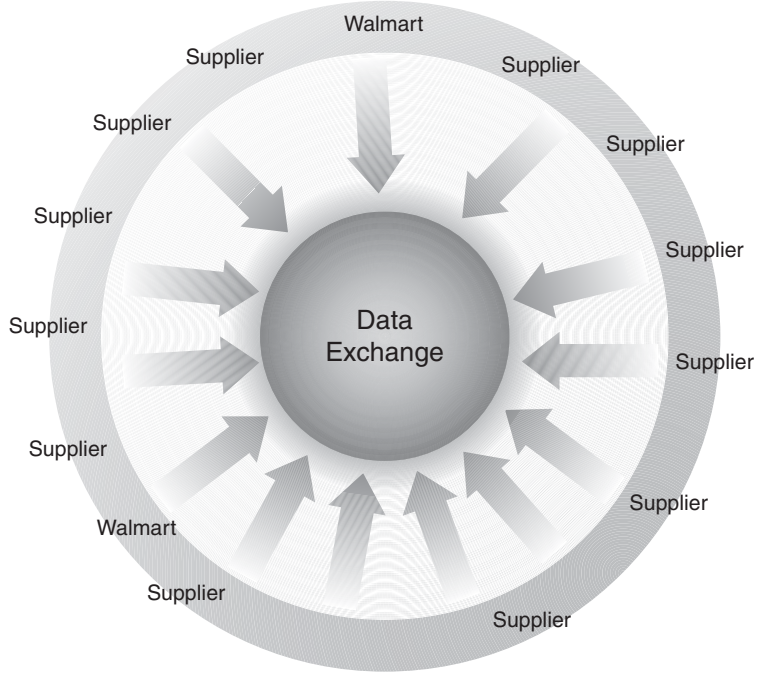
Innovation and Efficiency Case Example

The use of IT allows organizations to adopt and develop innovative technology, which in turn gives them a competitive advantage.

For example, Wal-Mart, a giant American retailer, invested in IT to create a sophisticated information network. As shown in Figure 1-4, the network linked company suppliers directly to sales information from its thousands of stores. This allowed Wal-Mart to record, analyze, and manage product inventory information immediately. Wal-Mart was able to order only what it needed from its suppliers, thus keeping inventory costs down and bringing sales up. In the past, with a disparate system, Wal-Mart was not able to track this kind of activity in a timely manner.

As a result, Wal-Mart went one step further to implement *scan-based trading*, a process innovation that requires suppliers to retain ownership of all goods until the customer buys them upon checkout. Scan-based trading lowers Wal-Mart inventory costs and improves profitability.

Figure 1-4 Wal-Mart's Supplier Network

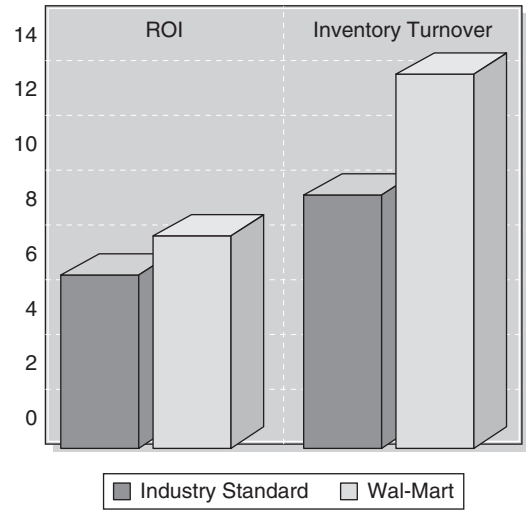


IT, Efficiency, and Innovation

As noted previously, innovation is critical to business because it has a direct, measurable impact on financial results. Businesses that encourage creativity and innovation tend to outperform those businesses that do not. As you saw in the previous case study, and illustrated in Figure 1-5, through integrated networked information systems, Wal-Mart leads its industry in key financial performance measures, including these:

- Sales per employee
- Inventory turnover
- Return on invested capital
- Return on assets

Figure 1-5 Wal-Mart's Financial Performance Metrics Compared to its Industry



It bears noting that Wal-Mart is one of the most highly studied companies in the world. Just as the Japanese captured world attention with their application of total quality management principles, Wal-Mart is driving a wave of copycats that seek to replicate what Wal-Mart has achieved. It is inevitable that other Wal-Mart-like companies will evolve; what is certain is that at least one of those rising competitor companies will be even more efficient and innovative than Wal-Mart is today. The bar that Wal-Mart set will be raised and will drive further change in the discount retail market.

IT and Customer Satisfaction

Satisfaction has become a principal metric in the evaluation of the effectiveness of the delivery of a good or a service. It is also a strong indicator of the probability of repeat business

from a customer. Measuring customer satisfaction informs a supplier about its performance and the quality of its relationship with the customer over time. Customer satisfaction also informs a supplier about the current and future needs, issues, and expectations of its customers. Businesses seek to maximize satisfaction and typically invest substantial resources in trying to determine the level of satisfaction of their customers. In fact, a common complaint of many consumers is that they are overwhelmed with opinion surveys by vendors with whom they have done business. The point of all of those surveys is to gauge satisfaction.

But what is satisfaction? *Customer satisfaction* can be defined as the ability of a company to fulfill the business, emotional, and psychological needs of its customers. Generally, from a survey point of view, the question is this: did the transaction make you happy? Although "happy" is a state of mind subject to interpretation, in the context of a business transaction, it can be a good determinant of how satisfied the customer is.

The Internet and IT are driving customer satisfaction by enabling the following:

- Self-service and trust-building through the sharing of information
- 24×7 access to place orders, access information, and gain customer service support
- Unique customer experiences through the use of personalization tools that recognize returning customers
- Improved responsiveness to service requests

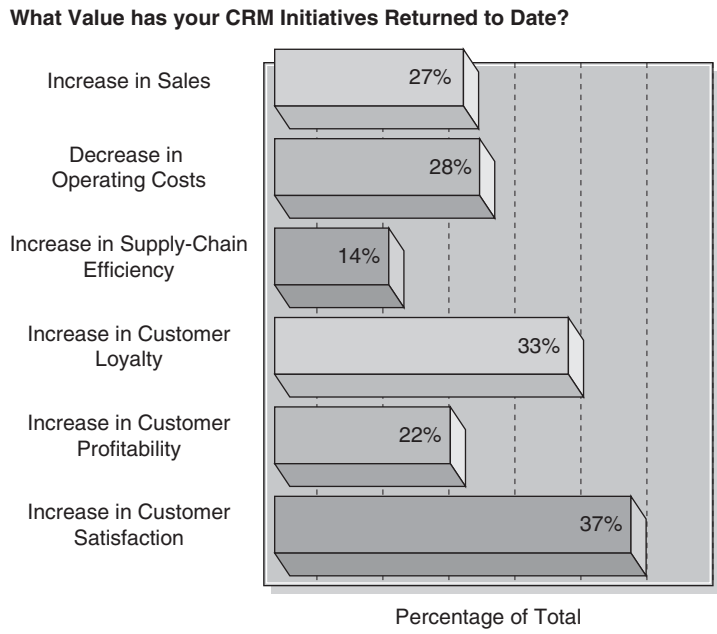
And, customer satisfaction can have a measurable effect on business financial performance. To the extent that satisfied customers tend to be repeat customers, seeking to maximize customer satisfaction can be good business. Market research also shows that it is easier and more affordable for a business to retain a customer than to gain a new customer, so the impact of customer satisfaction is high for the business.

The *Reference Management Barometer Study* by PriceWaterhouseCoopers surveyed top executives from multinational companies and found that nonfinancial performance measures were considered more important than current financial results in creating long-term shareholder value. Nonfinancial performance measures include product and service quality and customer satisfaction and loyalty. Among those surveyed, 83 percent cited customer satisfaction and loyalty as long-term contributors to shareholder value.

Today, customers are increasingly expecting to receive service and support through a variety of means, including the Internet. Integrated contact centers and Web-based applications are reducing customer acquisition costs. Web-based tools and customer relationship management (CRM) applications are created to improve customer satisfaction outcomes. As shown in Figure 1-6, technology improvements lead to greater revenue and higher levels of customer satisfaction and loyalty.

Although an initial measure of customer satisfaction is important, you need to recognize that the feeling of satisfaction can dissipate rapidly if a product or service does not live up to expectations over time. This notion of satisfaction durability is central to the next concept: quality.

Figure 1-6 Value of Customer Satisfaction Improvement Initiatives



IT and Quality

Prior to the great Japanese quality revolution, few people thought much about the idea. However, since the 1980s, quality has become a central theme in any business. Although quality as a practice has undergone several iterations (TQM, Six Sigma, and so on), the fundamental idea is the same: reducing defects.

As W. Edwards Deming and other process improvement thought leaders pointed out, the reduction of defects is not an activity that can be imposed on a process; it must be integral to the process. By ensuring that a process is in statistical control, defects are minimized and process improvement can be undertaken to further reduce the defect rate.

Processes that are deemed in control are defined as repeatable. IT and the Internet have enabled the repeatable processes by helping to do three things:

- Improve design collaboration and project management
- Provide a single source of trusted data linking engineering, manufacturing, and customer service systems
- Improve consistency of customer-facing and supply-chain processes

The Reference Management Barometer Study by PriceWaterhouseCoopers surveyed top executives from multinational companies and found that 89 percent of business leaders cited product and service quality as a contributor to long-term shareholder return.

In addition, quality has a direct, measurable effect on near-term financial performance as it relates to manufacturing. Key quality metrics that influence financial performance include product returns, credits, yields, and scrap variations.

Conclusion

As you have seen, Internet-enabled IT can fundamentally drive business productivity, efficiency, innovation, customer satisfaction, and product quality. As has been noted, the most profound impact of IT on business is likely in the area of innovation. Because intellectual property is the business everyone is in, innovation is the engine that drives intellectual property creation. As more of the noncore functions of an enterprise become commoditized, ultimately the one essential core competency of any business is its ability to develop, leverage, and expand on good ideas.

Internet-enabled IT is an essential part of making innovation possible. Armed with the good ideas made possible by IT, businesses can then use the power of IT to become more efficient and productive and to improve customer satisfaction and product quality.

The next section examines some of the fundamental concepts behind market forces and business responses to those forces.

Market and Business Drivers

All businesses share the need to focus on revenue, growth, and profitability. Market and business efficiency often determine whether an organization will succeed, survive, or fail.

In this section, you will learn the following:

- What market efficiency is
- What business efficiency is
- The key forces of market efficiency and business efficiency
- The drivers of market efficiency and business efficiency
- Ways to improve business efficiency

To this point, the focus has been on the dynamics of technology. You have seen how the Internet combined with IT has transformed businesses and industries and brought local markets into global markets. You have also seen how the same technology can transform businesses into much more productive and efficient revenue-making machines. You might assume that, armed with this technology, a business is assured of success. However, nothing could be further from the truth.

If that is the impression you have gained from the material so far, do not feel bad. This is exactly what happened to entire economies during the dot-com era. Equipped with technology and little else, many businesses secured large amounts of capital and then discovered that they did not really know how to make money or even why money is made. What they did not understand is the fundamental way in which markets operate and, more importantly, how businesses operate within markets.

This section reviews the ideas of market efficiency and business efficiency: what makes a market operate, and what the corresponding processes are within businesses that must operate within the market.

Efficiency, you will recall, is a way of thinking about productivity with minimal waste. It turns out that in a market that is unconstrained by artificial controls and in which information is allowed to flow freely, maximum efficiency can be approached. This section explores the implications of such efficiency on businesses that aim to achieve success within such unconstrained markets.

Market Efficiency and Business Efficiency

What is meant by market efficiency or business efficiency? Efficiency implies talk about a reduction of overheads and a high degree of throughput. But what does this mean in the context of a market?

It turns out that a market can be thought of in much the same way that you think of a business. A market consumes raw materials and information and produces goods and services that customers want—at the price they want them. Of course, a market is composed of many businesses, all of which want to maximize their own profits and share of the market. How can this work?

Free markets function because all the players in the market have fairly complete information on the actions of the other players. As long as all players have the opportunity to act upon their information, the actions of each will be constrained by the actions of the others. In other words, competition will act to prevent any one player from grabbing too large a share of the market and from arbitrarily raising prices. The market will always act to reduce prices, increase quality, and maximize innovation. This does not work perfectly, however, which is why most countries have laws against monopolies. However, unconstrained markets where most of the players obey the rules will always work better and be more efficient than those markets that are constrained.

Assuming a free market, unaffected by overregulation or the actions of monopolists, several forces influence market and business efficiency.

Market Efficiency

- *Transparency* is the ability of the market to get information about price, products, and services.
- *Stability* is the steadiness of pricing and the supply of products.

- *Availability of substitutes* is the alternative products and services that can be used to address a need.
- *Market intelligence* includes insights into the products and services that enable customers to judge quality and performance.

Business Efficiency

- *Low latency/lean operations* mean an efficient supply chain with reduced cycle time and low inventory levels. This creates a smooth flow of goods and services from the supplier to the customer and lowers operating costs.
- *Agility* is the ability to change quickly to meet market needs.
- *Core vs. context* is the focus on activities that enhance competitive differentiation and minimizes non-value-added costs.
- *Collaboration* is the ability to tap external resources and gain the value of customers and partners. As a result, cost is lowered.
- *Business intelligence* is how much a business knows about its own organization, its market, and its competitors. This knowledge helps the business take advantage of opportunities and address challenges more quickly.
- *Rapid implementation* means shortening the time it takes for a product or service to reach the market.

Market efficiency is defined by transparency, stability, alternatives, and intelligence. The common theme here is that information is allowed to flow freely. All the players are aware of each other and their actions. Consumers are aware of the players and can choose between them. In other words, anything that promotes this free flow of information contributes to efficiency.

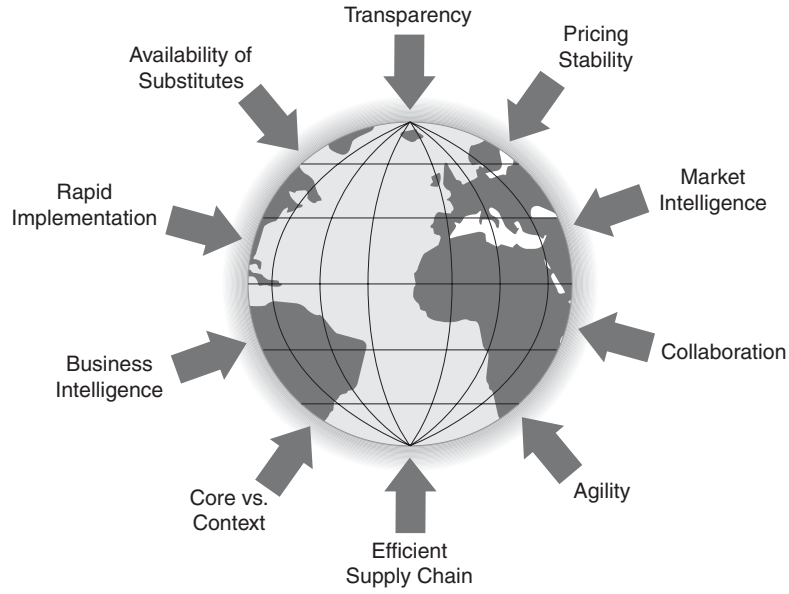
Businesses, on the other hand, also benefit from information flow. Information helps them stay agile, focus on core competencies, collaborate with internal and external resources, acquire business intelligence, and speed implementation.

Drivers of Market Efficiency and Business Efficiency

Over time, market efficiencies in all industries naturally increase. Organizations must keep up with the market by improving their business efficiency, or they will fail. As market leaders become more efficient, they are in turn able to drive further market efficiencies and gain a competitive advantage.

The Internet and use of information are key drivers of both market efficiency and competitive advantage. Figure 1-7 shows how the Internet improves market efficiency by increasing market transparency and educating customers. It betters business efficiency by enabling businesses to reduce costs.

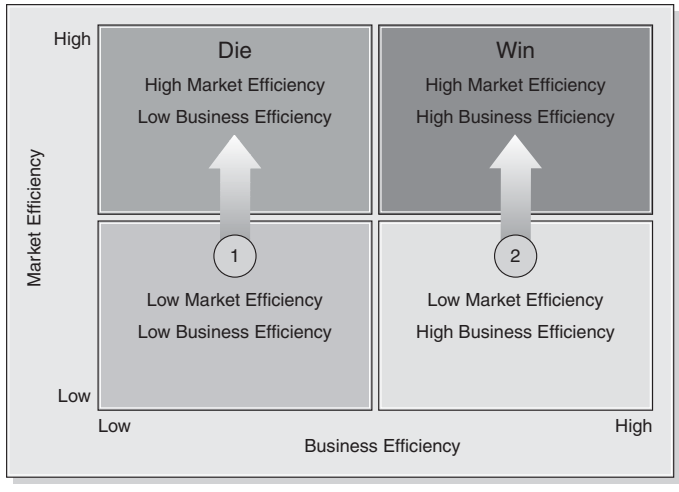
Figure 1-7 Market Efficiency Improves Through Increased Market Transparency



Efficient and Inefficient Markets and Businesses

As Figure 1-8 illustrates, you can represent market efficiency and business efficiency as a four-quadrant model. Market efficiency moves from low to high along the vertical axis, whereas business efficiency moves from low to high along the horizontal axis. If you consider this chart carefully, you will realize that this defines the way in which different kinds of businesses and markets interact to enable business success or failure.

Figure 1-8 Business Impacts of Increased Market Efficiencies



Success or failure of a firm in a given market is influenced by a combination of the efficiency of the market and the efficiency of the business operating within the market. Thus, it is necessary to examine the organization to determine whether the business efficiency is high or low.

High Market Efficiency and Low Business Efficiency

- Highly efficient markets enable the free flow of information to customers.
- Thus, customers select only the most competitive suppliers.
- If business efficiency is low, the organization will most likely reduce costs.
- This is done by reducing the workforce and budget cuts.
- Eventually, the organization will go out of business.

High Market Efficiency and High Business Efficiency

- Highly efficient markets enable the free flow of information to customers.
- Thus, customers select only the most competitive suppliers.
- When an organization has high business efficiency and attractive products, customers will regularly select its products or services.

Low Market Efficiency and High Business Efficiency

- Inefficient markets inhibit the free flow of information.
- Customers are ignorant of the choices available and continue to select known providers.
- An efficient organization is able to address the most attractive opportunities.
- This undercuts inefficient competitors.
- The efficient organization thus dominates its market sector.

Low Market Efficiency and Low Business Efficiency

- Inefficient markets inhibit the free flow of information.
- Customers are ignorant of the choices available and continue to select known providers.
- An inefficient organization survives until the customer becomes more informed or a competitor gains competitive advantage through improved business efficiency.

As you might recall, market efficiencies naturally increase over time. For businesses to survive, they must improve their efficiency; otherwise, they will fall behind the market and fail. Efficient businesses may be able to drive market efficiencies and competitive advantage through innovation and cost leadership:

1. An organization that has low business efficiency will be able to survive temporarily in a market that also has low efficiency. However, as customers become more informed or a competitor gains a competitive advantage through improved business efficiency, the organization must improve efficiency or fail.

2. An organization that has high business efficiency in a market with low efficiency will do the best. However, if the market efficiency increases, and the organization can maintain high business efficiency, it will continue to do well.

In the following space, indicate where you think your business falls in this chart. List at least three reasons why.

Business Scenario

Take a look at the following business scenario:

- Zipcart Company is a business that produces golf carts. In its ten years of operation, it has remained profitable while growing its business by an average of 15 to 20 percent each year.
- The golf cart market has been experiencing steady growth over the past couple of years, attracting new entrants who have introduced products similar to those of Zipcart. Also, new foreign competitors are offering similar products at lower prices. The Zipcart market share is declining, and its resellers are demanding lower pricing to compete.
- To improve its competitiveness and profitability, Zipcart recently integrated its order entry, scheduling, inventory, and shipping systems with its manufacturers, distributors, and suppliers. This integration has increased production efficiency while lowering costs. This has enabled Zipcart to lower pricing while remaining profitable.

Do you think that Zipcart is operating in a market of high market efficiency, low market efficiency, mid-market efficiency, or no market efficiency? On this and the following page, give your answer and list your reasons.

Conclusion

As you have seen, in highly efficient markets, efficiency must increase for the business to survive in the market. As market efficiencies develop over time, driven by the rise in business efficiencies by various organizations, your organization must constantly look for new ways to improve and streamline its processes as well as cut costs.

The Internet enables both markets and businesses to achieve efficiency. As the Internet increasingly pervades the global economy, it is driving market efficiency worldwide. This transformational dynamic is creating a single global market where businesses everywhere are forced to be efficient or die.

External Integration and Business Value

Organizations that want to survive and thrive in the economy today must leverage their relationships with their partners, suppliers, distributors, and manufacturers. Gone are the days of hoarding information, maintaining independent information sources, and keeping processes disconnected.

This section discusses the following:

- External integration
- The four levels of integration
- The way the integration of processes and technology relate to financial performance
- The way the integration of processes and technology relate to customer value

Prior to the Information Age, companies basically worked in isolation. Although vendor-supplier relationships existed, these tended to be relationships beyond the loading dock. The Japanese realized that for high-quality process control to work effectively, supplier relationships would need to be tightened. The just-in-time (JIT) manufacturing methods required suppliers to be tightly coupled into the manufacturing process. In some instances, this even required access to the vendor systems. These connections, though, were static. Typically, the integration of systems was hard enough that only a few critical suppliers were integrated and then, with the expectation that the relationship would last for a considerable period.

With the advent of Internet-enabled IT, the ability to link closely with a supplier became a capability that was accessible to all businesses. The Internet, with its ubiquitous presence, ensured that any company could connect with any other, and the systems available for process management and inventory control made it relatively easy for any company to grant access to its systems for the purpose of production.

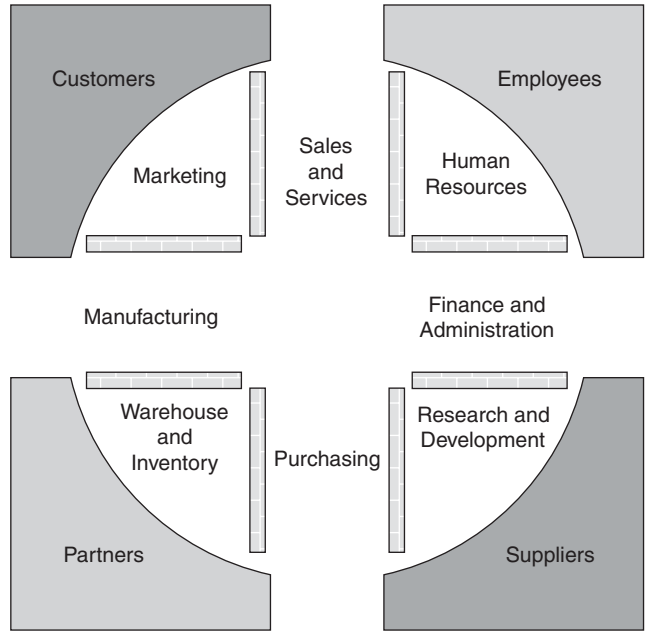
The ability to leverage your partners and suppliers has moved beyond something that is a nice-to-do to a level of must-do. To survive in a global economy, closely coupled vendor-supplier relationships are essential. Organizations that want to survive and thrive in the economy today must leverage their relationships with their partners, suppliers, distributors, and manufacturers. Gone are the days of hoarding information, maintaining independent information sources, and keeping processes disconnected.

The next section examines the implications of external integration, explores the four levels of integration, and then discusses some of the financial implications of such integration.

External Integration

External integration works only when businesses internally link their own departments and information assets. Historically, information systems within an organization were not networked. These non-integrated departmental information systems are shown in Figure 1-9. Each department managed its own information, and this information was not shared between suppliers and purchasing, between employees and human resources, or between customers and warehouses. Customer and supplier data had to be entered into the information system each time the data came in contact with a different part of the company. Paper-dependent processes and a large, middle management layer were required to handle business and administrative processes.

Figure 1-9 Non-integrated Departmental Information Systems



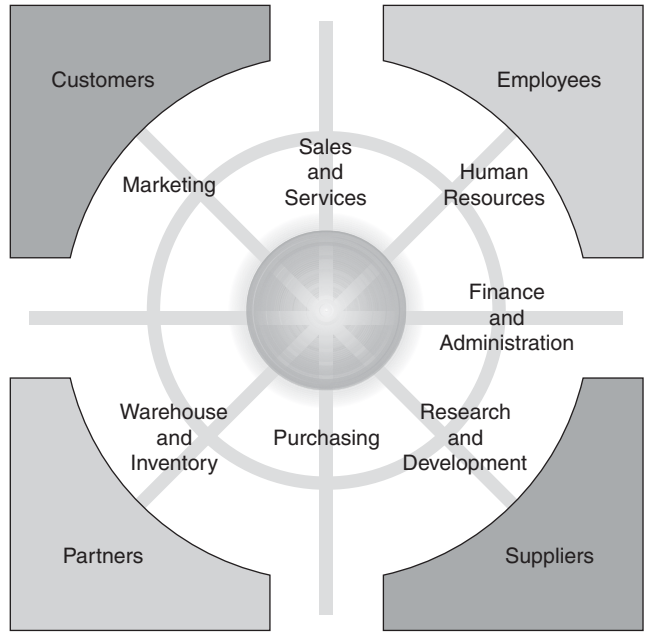
Today, Internet-enabled organizations break out of their own departments to share information through the use of standard technology platforms and IT platforms. Where this is not true, companies have problems. Examples abound: U.S. automobile manufacturers, for years, relied on largely archaic information technology to track and deliver new cars to customers. The Japanese, with well-integrated automation, were able to deliver cars much faster, even when separated from their markets by large geographical distances. U.S. manufacturers are only now developing this same capability and continue to lag the Japanese in many respects.

Using Internet-based IT, business processes and relationships are restructured using web-based applications and the Internet. The result is more connection, better collaboration, and improved customer value.

After it is internally integrated, an organization can consider integrating externally. *External integration* refers to the level or degree to which an organization integrates its information, systems, and processes with other external organizations. As shown in Figure 1-10, these external organizations include suppliers and customers, as well as business partners. Integration can entail anything from the ability to view or exchange information online to the ability to share databases.

A recent study shows how organizations can measure how well they have integrated externally by using a four-level scale (NerveWire Study, 2002). Take a close look at the different levels, and determine where your organization is on the external integration scale.

Figure 1-10 Integration with External Organizations



Minimal Integration

- Most interactions involve sharing information.
- Organizations can share information through e-mail, fax, phone, or meetings.

Moderate Integration

- Most interactions involve online viewing of information in databases.
- Organizations also engage in an electronic exchange of information, through e-mail and on the Internet.
- Organizations have a limited ability to change the databases of another.

High Integration

- Most interactions involve automated transactions.
- The transactions occur between other databases and applications.

Very High Integration

- Most interactions involve tightly integrated databases and applications.
- Organizations can share their databases and applications.
- Organizations redesign processes and eliminate redundancies.
- Organizations shift secondary activities to the appropriate partners.

Based on these ratings, on this and the following page identify where you think your organization is on this scale. Give 3 to 4 examples of why you think this is the case.

Any level of integration will yield some business benefits, even at the lowest level (NerveWire, 2002). You can assess the level of benefits by using the seven key business measures:

- Revenue
- Costs
- *Cycle time* (time it takes to accomplish a business process)
- Quality
- Head count
- Number of new products or services introduced to the market
- Customer retention

Organizations at the highest level of collaboration achieve major revenue gains, in addition to cost and cycle-time reductions, quality improvements, and increases in customer retention. Highly integrated organizations enjoy improved financial performance and added value for their customers.

According to NerveWire, the following financial benefits characterize organizations at each level of external integration[1]:

Minimal Integration

- Organizations experience no increase in revenues and no cost reductions.
- Organizations experience no increase in customer retention and no quality improvements.

Moderate Integration

- Organizations that reach this level enjoy a higher percentage increase in revenue.
- They reduce cycle times by an average of 26 percent.
- They reduce costs by an average of 14 percent.

High Integration

- Organizations that reach this level enjoy greater results.
- They raise revenues by 14 percent.
- They reduce cycle times by an average of 30 percent.
- They reduce costs by an average of 12 percent.
- They improve quality by 19 percent.
- They increase customer retention by 18 percent.

Very High Integration

- Organizations that reach this level enjoy huge financial benefits.
- Revenues increase by an average of 40 percent.
- Cost reductions increase by about 30 percent.
- Cycle times decrease by about 52 percent.
- Customer retention increases by 36 percent.

1. Source: NerveWire Study, 2002

Conclusion

Just as teamwork within organizations yields the benefits of multiple points of view and leverages the strengths of each individual to optimize decisions and the creation of good ideas, so too, integration both internally and externally to a business can improve the ability to compete successfully and to generate revenue.

Integration with other organizations, suppliers, partners, and customers generates business benefits. The more integrated an organization is, the higher the financial benefits will be. In this section, you learned about external integration and the four levels of integration. You also learned how the integration of processes and technology relates to increased financial performance and improved customer value.

Summary

This section focused on the impact of Internet-enabled IT on markets and businesses. You have seen how the communication capabilities, both between individuals and systems, have accelerated competition and torn down walls that have separated business from their markets, businesses from their suppliers, and businesses from their customers. You have also seen how the Internet has fundamentally transformed the world economy from small markets separated by geographic distances to a global economy that transcends geography and time.

This module wrapped up its examination of the Internet with a discussion of integration and how even moderate levels of integration can have significant financial benefits to business.

At this point, though, you might think that this seems a bit overwhelming. From the standpoint of a small business, especially, you might think that it is impossible for a business to survive for long in a global market where almost anything that you have thought of has already been implemented by someone else. This is not true, though.

In the next module, you will see how to put effective business strategies in place to leverage new technology to your advantage.

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MODULE 2

Management Strategies

In the previous module, you learned how the Internet is transforming the way in which business is done. As information becomes pervasive, markets become global, and integration becomes key to business success and even survival.

The problem, of course, is in the doing. During the dot-com, many businesses thought that they had the magic bullet when it came to effective use of information technology (IT). Of those, many failed because they could not develop an effective strategy for deploying IT in support of business. Many others survived bad technology starts, but because the experience was so painful, they ended up retrenching and reverting to older, more manual processes. These are the businesses that are having problems today.

Business today is moving to a virtual business model, where technology takes the place of capital infrastructure. These networked virtual organizations (NVO) are developing sound approaches to the application of technology to enable business. More importantly, because of the free flow of information enabled by the Internet, you can see exactly how they do this.

This section examines these NVOs and discusses how they are transforming the conduct of business, government, and industries. It does this with an eye toward capturing their strategies so that you can use them to transform your approach to business.

By the end of this module, you should be able to do the following:

- Explain key management strategies.
- Describe Internet-enabled business strategies and how IT adds value.
- Describe the Business Value Framework of an organization.
- List the three components of the Business Value Framework.
- Explain the three strategies for NVOs.

Management and Strategy Fundamentals

This section reviews several fundamental management strategies and explores the impact of the Internet and IT on each. You will learn each of these concepts:

- What value is
- How to create value for a customer and for your organization

- What a value chain is
- Two basic business strategies: cost advantage and competitive differentiation
- How and when to outsource or out-task business processes to partners

The point of business is to deliver a good or service to a consumer and capture some of that perceived value in the form of revenues. The higher the value perception, the more revenues that can be generated. Perceived value is generally a problem for industries in which the product has become a commodity.

For example, take the case of tissue, which is very commoditized. For most brands, the price charged is very nearly the cost of manufacturing the product. Yet, some players in the market are able to charge a premium for their tissue, which consumers are willing to pay. They are able to charge extra by differentiating the product in some manner. For example, some put the tissues in designer boxes, add scents, or make the tissues look prettier with embossing. Consumers view these small changes to what is a commodity product as being intrinsically better, so they are willing to pay more.

But what is this idea of value in the context of general business? How can it be measured and, more importantly, how can it be increased? This section examines the concept of value in business. It looks at value chains and how they can be optimized. It also seeks ways to add value without adding business resources by using out-tasking and outsourcing to augment business personnel and leverage the core competencies of others.

What Is Value?

Value is a perception of worth. If a consumer believes that the worth of a product is equivalent to the worth of the money that would be spent to purchase the product, the value of the product is the same as its price. Another way to look at this is that the customer believes that the utility of the product is equivalent to its price.

In practice, though, utility is not the only criterion that determines a value perception. As noted, the perception of value can be based on many things that do not actually add to the utility of the product.

Many times, however, value can be augmented when a vendor packages a product with other related products or services. This is why many IT vendors are now pursuing managed services. The product that is being managed is a commodity for which the market has determined that the price must be close to the cost to produce it. The price of service, on the other hand, is strictly driven by the customer perception of value. Thus, margins can be kept high, and the vendor can leverage the commodity to generate revenues in excess of what the commodity itself would drive.

Successful organizations must maximize the value perception of the customer to generate the highest possible revenues from the goods or services they offer. Organizations have two primary objectives:

- **Create value for the customer:** This means creating something that the customer will value enough to want to buy. For example, this entails producing a product that is useful, relevant, and affordable for the customer.
- **Capture value for the owner or shareholder:** This means making a profit by selling something for more than it costs to make it.

Organizations make a profit when their revenues are greater than their costs:

- **Revenue**: The amount that buyers are willing to pay for a particular good or service
- **Cost**: How much an organization must pay to create that particular good or service

Two common strategies are used to increase profits:

- **Maximize revenue (growth)**: This can occur when an organization is the sole or main supplier of a product or service and demand is increasing. Another way to grow your revenues is through competitive differentiation: When an organization offers unique benefits, such as better quality products or faster services, customers prefer its products or services over the competition.
- **Minimize costs (productivity and efficiency)**: This occurs when an organization reduces the costs of its products or services, creating a cost advantage. Organizations can reduce their operating costs by finding less expensive source materials, by improving their manufacturing processes, and by using centralized business processes and automation.

As you can see in Figure 2-1, a business seeks a balance between cost containment and revenue generation. These dynamics are not independent. Reducing costs too much might impede the ability of a business to generate revenue, whereas completely fixating on revenue generation might allow costs to spiral out of hand. It is only when maximum revenue is generated at maximum efficiency—for example, at the lowest cost—that a business can survive and expand.

Figure 2-1 Balancing Cost Containment and Revenue Generation

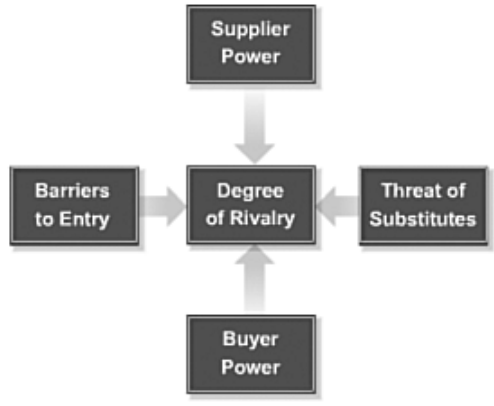
Michael Porter, the founder of the Monitor Group and a world-renowned expert on management, in 1985 developed a framework for thinking about how cost containment and revenue generation work in the marketplace. His five forces allow you to evaluate how successful a given business will be in a particular market. The five forces are buyer power, supplier power, barriers to entry, asset specificity, and the threat of substitute products.

Following is the framework for the five forces so that you can apply it to maximizing revenue and minimizing costs:

- **Buyer power**: This is the power that buyers have over the producers in an industry. For example, if there are numerous cell phone manufacturers but a limited number of people buying them, the buyers have more control, and prices will drop.
- **Supplier power**: If suppliers are powerful, they can exert control over the producers that they supply. For example, if only one mine provides a needed material to a particular industry, that mine can sell its material at a high price.
- **Barriers to entry**: In theory, any organization should be able to enter or exit a market. In reality, however, many different factors can prevent a new organization from entering an existing market. These can be such things as government regulations, patents or proprietary knowledge, or asset specificity.
- **Threat of substitute products**: This occurs when a product has competition from a different industry. For example, the price of containers from other industries, such as glass bottles, steel cans, and plastic containers, affects the price of aluminum beverage cans.
- **Rivalry among firms in the industry**: How much rivalry and competition exist between different organizations within the industry? This could be low if there is an informal code of conduct or high if there are numerous organizations competing for few buyers.

Figure 2-2 depicts the Porter Five Forces Framework. Armed with this framework, you can now examine how different business strategies work in practice. For example, competitive differentiation can be successful because, as a strategy, it can reduce buyer power as a result of the unique product being produced. A unique product reduces buyer sensitivity to price.

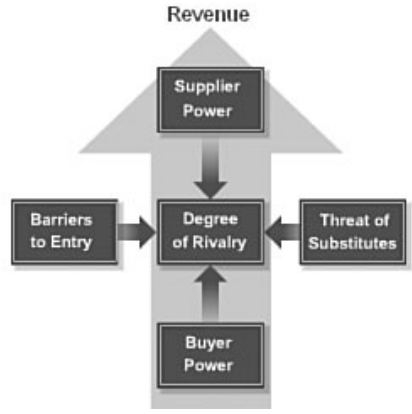
Figure 2-2 Porter's Five Forces Framework



Competitive differentiation also addresses supplier power. With higher sales margins, you can either absorb supplier price increases or pass along those increases to the buyer, because there are no buyer alternatives.

Finally, competitive differentiation allows you to fend off new entrants to the market because you have already defined the product and have set standards for utility and price that the new entrant must beat. Figure 2-3 illustrates how a firm can leverage different market forces to generate revenue.

Figure 2-3 Market Forces Impact on Revenue Generation

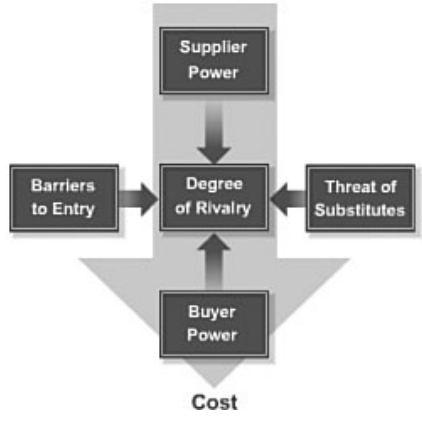


A second strategy that has been discussed is that of cost advantage. Figure 2-4 shows how a firm can leverage market forces to achieve a competitive cost advantage. If you are producing a good or service for the lowest cost, reducing the sale price negates buyer power by driving competitors out of the market, thus leaving the buyers with only you as a provider.

Cost advantages also give you some advantage over raw material suppliers because, to maintain a cost advantage, you are probably making large supply purchases at the lowest possible cost. Suppliers who want to be part of your market are forced to compete with each other for your business.

Cost advantages also discourage new entrants. If your cost is truly the lowest possible manufacturing cost, new entrants are less likely to target your market in the first place; however, if they do, they need to find a way to beat your cost advantage.

Figure 2-4 Market Forces Impact on Cost Containment



Value, then, is a dynamic that seeks to increase the willingness of the buyer to buy at the price the seller wants to sell. When the value perception is high, the buyer will pay the asking price. As noted, though, sometimes the buyer will pay the price asked when no alternative products or services are available in the market. In a situation such as this, value perception is lower than the price, and the buyer will switch to a lower-cost provider when one presents itself.

The Value Chain

Armed with a definition for value, you can learn how that value is generated by the business and delivered to the buyer. This generation and delivery of value is called a value chain. This section explores some of the implications of such a chain.

Michael Porter, in addition to his five forces, developed a flow diagram that illustrates the sequence of activities that generates value. As shown in Figure 2-5, these activities are inbound logistics, operations, outbound logistics, marketing and sales, and service and support. You will learn about each of these steps next.

Figure 2-5 Value Chain

Inbound logistics refers to the process of receiving, storing, and distributing raw materials for the manufacturing process. In many businesses, this step is highly automated and involves delivering raw materials to the production process in a just-in-time manner.

Operations refer to the process of turning raw materials into finished goods and services. This includes any manufacturing process. In businesses that are tightly integrated with OEM manufacturing, this might be a wholly or partially outsourced activity. However, even completely outsourced production operations need internal management of the operations process.

Outbound logistics is involved in the warehousing and distribution of finished goods. This process, too, can be almost wholly eliminated if a business is tightly coupled with its customers. For example, many vendors expect their customers to warehouse and distribute their products.

Marketing and sales is composed of the activities that identify customer needs and generate sales. Although this process is shown as a downstream activity to outbound logistics, in reality it can take place along the entire value chain. Successful businesses usually attempt to identify customer needs well before anything is actually manufactured and often involve customers in the process of overseeing manufacturing.

Service and support refers to the activities of ensuring that the goods delivered to the customer continue to perform as expected and to deal with any customer difficulties arising

from the use of the product. In addition, as noted previously, service can be the point of the value chain, where the primary focus of the business is in the delivery of service offerings.

All these value chain processes depend on support functions within the organization, such as management, human relations, technology associated with creating value activities, and procurement activities such as purchasing.

As has been noted, the entire value chain can be highly leveraged by technology. Technology can be applied at each activity along the value chain to drastically impact the degree of effectiveness of that activity. Changes in technology can dramatically affect the competitive advantage of your organization. Changes in technology can incrementally change the value-adding activities themselves or can create new configurations in the value chain.

For example, implementing advanced information systems and standardizing the network infrastructure can make an organization more competitive. They can reduce cycle times, allow faster decision making, and create higher levels of integration with partners and customers. This results in lower cost and higher levels of satisfaction throughout the value chain.

The application of Internet-enabled IT can confer significant competitive advantage. The Internet-centric organization gains competitive advantage and increases its market value not only through the products and services it sells, but also through the way in which it shares and uses information.

Value chains link the supply chain in your organization with the customer. Implementing Internet-enabled systems in different parts of the value chain reduces costs, increases the efficiency and productivity of your organization, and creates new products and services for your customers.

The Internet and IT can support the value chain of an organization in several areas:

Primary value chain activities:

- **Inbound logistics:** Automated storage, scheduling of incoming shipments, shipment tracking
- **Operations:** Production scheduling, testing and quality assurance (QA), inventory management
- **Outbound logistics:** Scheduling, shipping out products, routing, tracking
- **Marketing and sales:** Pricing, availability and order management, product demonstrations, promotions, training
- **Service and support:** Checking order status, maintaining pricing history, scheduling service and support, tracking problems, offering self-service programs to customers

Value chain support functions:

- **Organization infrastructure:** Records management, scheduling, decision management support, compensation

- **Human resource management:** Benefits enrollment, workforce resource planning, performance management, recruiting
- **Technology development:** Collaborative design, computer-aided design, security, capacity planning
- **Procurement:** Bidding, ordering and tracking systems, price analysis

It is no wonder that organizations enabled by technology can significantly outperform those competitors that are not technology enabled. What is even more important is that information technology is such a competitive advantage that even small businesses that are IT enabled can now outperform much larger organizations. IT, it turns out, can neutralize advantages that used to be defined by capital holdings. This is important in a global economy, where the ability to maneuver quickly can be a key to success. A large organization usually is not as responsive to market changes as a small company, and when the small company is empowered with the appropriate technology, the large company can be at a significant disadvantage.

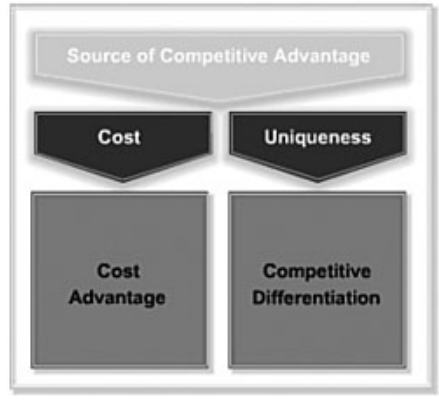
On this and the following page, list all the areas in your organization where IT could affect your delivery of value or add competitive advantage.

Cost Advantage and Competitive Differentiation

As you saw earlier, organizations strive to deliver value to the customer that is greater than the cost of the activities that created it, generating a profit. By analyzing the value chain of your organization, you can discover its core competencies, areas in which IT can improve business processes, and activities in which it can pursue a competitive advantage.

It is important to take a closer look at how cost advantage and competitive differentiation strategies apply to the value chain and how they can help your organization expand in the marketplace. Figure 2-6 shows how cost advantages and competitive differentiation, when applied to the value chain, can drive competitive advantage for a firm.

Figure 2-6 Cost Advantage and Competitive Differentiation Applied to the Value Chain



- **Cost advantage (productivity and efficiency):** Cost advantage is achieved through the reduction of costs (for example, manufacturing or shipping) associated with bringing a product or service to the buyer and creating more revenue with the same amount of input (cost).

  After your organization has determined the nature of its value chain for a given product or service, you can perform a cost analysis on each part of the chain. An organization develops a cost advantage by reconfiguring the links in its value chain to reduce the costs of as many stages as possible.

  Reconfiguration means making structural changes, such as adding new production processes, giving business functions to external partners or organizations, changing distribution channels, or trying a different sales approach. Reconfiguration, though, does not necessarily come without its own cost. However, where such reengineering can be done within a predictable cost and time frame and provide a market advantage, it might be worth considering.

- **Competitive differentiation (growth):** Differentiation stems from uniqueness and perceived value (how much customers think a product is worth). When an organization focuses on activities it does best and creates innovative and unique products and services, it naturally rises above its competitors. As its products become more valued in the marketplace, an organization can increase the price of those products, creating revenue growth. An organization can achieve a differentiation advantage by either changing individual

value chain activities to increase uniqueness in the final product or by reconfiguring the entire value chain.

This approach, too, is not without its risks. Differentiation for the sake of differentiation is easy, but the customer might not appreciate or value it. It is critical that as you innovate, you do so with attention to what will resonate with the customer. Many companies have devoted a large portion of their budget to R&D activities only to find that the market was not ready or was unwilling to buy the fruits of their innovative activities.

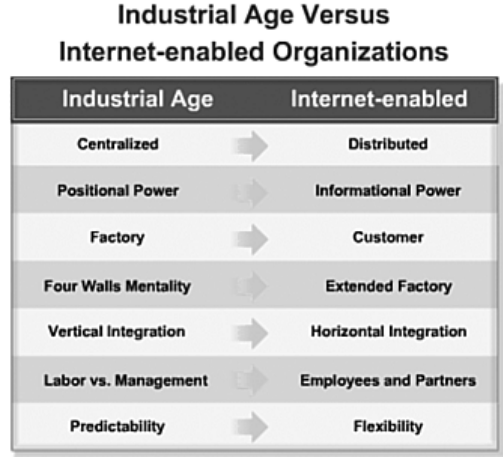
Out-Tasking and Outsourcing for Competitive Advantage

In the previous section, you discovered that it is possible to manipulate the value chain to achieve cost reduction and competitive differentiation. One of the most effective ways to do this is to apply IT to the various value chain steps to increase the flexibility and cost dynamics of the business.

Another way in which Internet-enabled IT allows a business to reduce cost and differentiate is to provide a means to share or even off-load pieces of the value chain to other organizations. When only pieces of the step are off-loaded, this is called out-tasking. It is called *outsourcing* when the complete step of the value chain is done by another organization.

For those doing business in the twenty-first century, the whole notion of outsourcing might seem pretty mundane, but it is actually a radically new way of looking at business. In the Industrial Age, manufacturers concentrated their operations in a centralized physical location. This allowed them to own and control their entire value chain, which gave them an advantage over the competition. Internet-enabled organizations are different. They connect with customers, employees, partners, and suppliers in ways not previously possible. Using the Internet, it is possible to share knowledge and key processes globally in near real time. Figure 2-7 shows the stark differences between an Industrial Age firm's value chain compared to an Internet-enabled firm's value chain.

Figure 2-7 Comparison of an Industrial Age Firm's Value Chain to an Internet-Enabled Firm's Value Chain



This information exchange allows a tighter coupling between disparate organizations than was ever possible even between departments within the same organization during the Industrial Age. This is important because it allows different organizations to focus on their core competencies and leverage others to create more value than would be possible if a business tried to achieve competency across all the value chain functions by itself.

For example, a clothing manufacturer might sew clothes extremely quickly and efficiently but not know anything about how to prepare the material beforehand or how to sell the finished product. Another organization might know a lot about how to market clothes but know relatively little about how to manufacture them. When these two organizations work together, the clothing market works more efficiently, because each organization is doing what it does best.

As a consequence of this new focus, industries and organizations are undergoing fundamental shifts from large, organization-owned value chains to networks of specialized organizations, each focused on what it does best. This partnership helps them deliver greater value and increase overall financial performance. Internet applications allow organizations to interconnect with suppliers and partners and create an extended "virtual organization" that spans the globe.

In 2003, we wrote a book that describes the continuum for virtualizing business processes (*The Case for Virtual Business Processes*, Cisco Press, 2003). On the one extreme, a business automates nothing and out-tasks nothing. On the other extreme, the business chooses to outsource large parts of its value chain. This virtualization continuum makes clear that an organization can choose how much to outsource. We pointed out that the best place to be for most functions within the business is somewhere in the middle of the continuum. You do not want to put too much of your business in the hands of someone else; but you do not necessarily want to devote a large amount of your resources to performing functions that are not core competencies, either.

The key, of course, is to recognize the nature of core competencies. Anything that is fundamental to the creation of intellectual property in your business is a core competency. All other functions are peripheral and could conceivably be out-tasked.

How can you identify your core competencies in practice? It turns out that you can apply two tests to a particular activity to determine whether it constitutes a core intellectual property for the business. The tests are to assess whether the activity constitutes a key differentiator from competitors, or if allowing another organization to perform the task would increase any risk factors of doing business to the firm.

The degree to which differentiation is a core competency is tied to the ease with which a competitor could reproduce it. If, for example, the difference between your product and that of your competitor is the color, that would be easily reproducible. The product would not be much different and would not be core to the business. Therefore, outsourcing color selection is a reasonable choice. If, on the other hand, the difference is profound, say a completely new function that the competitor cannot copy, it would be core and would represent a differentiator that you would not want to outsource. That is a segue to the second point.

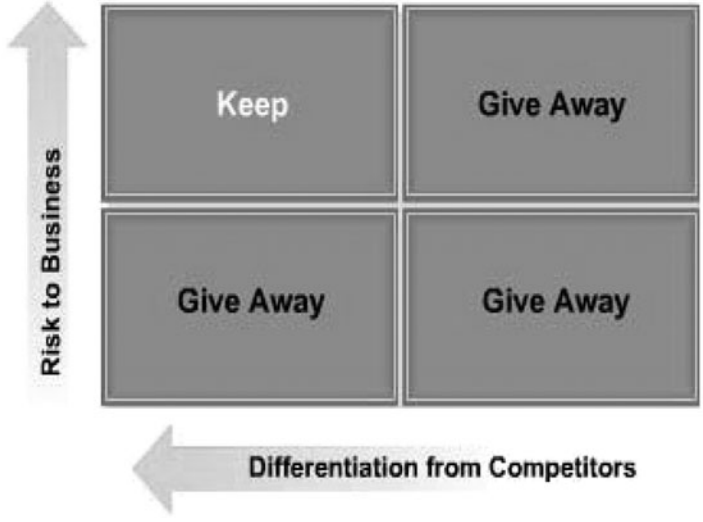
Risk to the business would be increased if the color selection outsourcer happened to outsource to a third party whose quality controls were not of the highest standards. In such a case, the small differentiation of the product would be negated by the low quality. The risk to the business that the poor quality, such as uneven color tone, would significantly degrade sales is considerable.

Many activities, if outsourced, might constitute a risk to the business. At first blush, they might not be perceived as a source of differentiation, but they could still damage the business if done poorly. In the case of a service company that chooses to outsource its customer-facing service functions, this could be a high-risk decision.

Tasking and Outsourcing Table

To represent all this graphically, look at the table shown in Figure 2-8. The X-axis represents differentiation from competitors, with activities that directly contribute to the competitive advantage of your organization positioned on the left. The Y-axis represents risk to business, with activities that pose a high risk to your organization positioned higher up in the table.

Figure 2-8 Out-Tasking and Outsourcing



- **Keep:** You should perform activities in the upper-left quadrant within your organization. These are activities that both differentiate you from your competitors and have a high risk to your organization.
- **Give away:** You should out-task or outsource activities in the other three quadrants of the table to qualified partners.

The next section looks at differentiation and risk to business in more detail.

By differentiating between activities that your organization should do itself and those that partners can do for you, your organization will be able to focus its resources on its core activities and leave less essential tasks to outside partners who specialize in those activities.

But how do you determine which activities to give to whom?

Look at the previous table in more detail. You should outsource some of the activities to partners and out-task others. What is the difference?

- **Outsourcing:** The partner manages and oversees the entire process.
- **Out-tasking:** Your organization defines and oversees the process, giving specific tasks to the partner to complete.

This section looks at the issue of which activities to outsource and out-task in more detail.

As you have already seen, you can evaluate any element of the value chain of an organization in terms of its differentiation from competitors and its risk to the business of the organization.

- **Differentiation from competitors:** Your organization might outsource or out-task both core and context elements to partners. What you must decide is the degree of control over the process that your organization must maintain.
- **Our way (core):** For processes that are a source of competitive differentiation, your organization must be an expert in that function and manage the process.
- **Your way (context):** Your organization can delegate processes that are not a source of competitive differentiation to a partner who will manage the process.
- **Risk to business.** Your organization might outsource or out-task both mission-critical and non-mission-critical elements to partners. Again, you must decide on the degree of control that your organization wants to maintain over the process.
- **Our standards (mission critical):** Processes that are mission critical must adhere to the performance standards that you have developed.
- **Your standards (non-mission critical):** Processes that are non-mission critical can use standards developed by a partner for whom this is a core competency.

So, as you can see, the context within which outsourcing and out-tasking are evaluated is the degree to which competitiveness is enabled. The dynamics within which this evaluation take place are differentiation and risk. In the next section, you will see how differentiation can be created in practice using IT.

Case Studies

This section looks at three case studies that involve companies attempting to achieve differentiation through the application of technology. After each case study is a worksheet where you should list the key differentiation that was achieved and note whether you think that this differentiation is reproducible by the competitors of the company. Also note whether you think that this differentiation would be a good candidate for outsourcing or out-tasking for the company in review.

Case Study 1: In a Decidedly Low-Tech Business, CEMEX Has a Surprisingly High-Tech Workforce Customer View

Known for its innovative use of technology to streamline business operations and increase productivity, CEMEX turned an IT eye to its workforce. With a strategy of growth by acquisition, the company needed to unify newly acquired workers as well as employees across multiple countries. The solution: CEMEX Plaza, an employee portal that connects people to information and improves customer service and satisfaction.

Background

Based in Monterrey, Mexico, CEMEX is the number-three cement company in the world and, since its acquisition of Southdown in 2001, the number-two cement maker in the U.S. Founded in 1906, the company today employs more than 25,500 employees and has customers across four continents.

Since mixing its first batch of cement in 1906, the company has followed a philosophy of continuous innovation. The stated mission of CEMEX is to serve the global building needs of customers and build value for stakeholders by becoming the most efficient and profitable cement company in the world. It has kept that promise by aggressively applying Internet-enabled solutions across the enterprise.

Challenge

Using technology, CEMEX had become the most efficient cement producer in the world. But the company also wanted to ensure it was delivering the best customer service to strengthen its position as the preferred provider and partner in the construction industry. That meant it needed a way to link employees to knowledge management databases to raise the standard of customer satisfaction.

"We wanted to create a way for people from different countries and newly acquired companies to come closer together," says Gilberto Garcia, IT planning leader for CEMEX. "Our chairman defines it as building 'One CEMEX' and sharing a 'CEMEX Way' of doing things."

The vision was to establish a standard method to access contents, services, and applications needed to perform employee business functions. Critical success factors for the solution demanded that it be as follows:

- Personalized
- Secure
- Valuable to the company, business processes, business units, and employees
- Accessible from any computer with an Internet connection
- Scalable and flexible to support CEMEX growth

Solution

Working with the Internet Business Solutions Group (IBSG) of Cisco Systems, CEMEX decided that it was time for a portal linking employees across the business. To build employee interest and help encourage cultural change, CEMEX held a contest to name the new portal.

"We had a lot of participation, a lot of great ideas for naming the portal, but the best one was 'CEMEX Plaza'," says Garcia. "It was to connote a sense of a place where people come together to share information and news, conduct business, and debate important topics."

As a component of managing culture change, CEMEX launched e-learning as one of the first applications on the portal. One of the first courses available at CEMEX Plaza was training on Internet capabilities. In addition to e-learning and access to company databases, other applications that have come online include a company-wide directory; E-Room, a tool for online collaboration; and E-Document for electronic document management.

Results

From its beginning, CEMEX Plaza has grown from 1,500 to 160,000 visits per month. To date, the company estimates that it has saved U.S. $6.9 million in reduced costs and improved productivity on an investment of U.S. $3.6 million.

"CEMEX Plaza has become a very important tool because everything is there: company strategy, information about competitors, compensation information," says Garcia. "It has become the most important channel of communication between employees and the company."

As part of the portal strategy, CEMEX at first put global applications online. What the company realized is that there needed to be more local content to meet unique employee needs. "We came up with the concept of communities of practice, which allows for creation of customized content," Garcia says. "Because it's very expensive to create a community from scratch, we developed a toolkit that is very easy to use and not costly."

Another "lesson learned" according to Garcia is to establish a governance model for portal content early in the process. "In the beginning, it was problematic," he says. "Somebody needs to be empowered to make decisions about content and strategy. The community model is working well for us, with local people creating and managing local content. If I were to do this again, I would involve the business units and all geographies from the beginning. We designed the governance model when we were in the middle."

Through all the expansion of capabilities, there has been no need to buy additional software. "Cisco defined a roadmap and IT foundation when we built the initial infrastructure, and at that time they recommended what we would need to evolve our e-enablement efforts," Garcia recalls. "Because of the excellent work of this team, we have no problems with technology."

Next Steps

CEMEX believes that the portal can keep delivering a return ratio of 100 percent of its investment each year, mostly in productivity improvements and cost avoidance. Always on the cutting edge, CEMEX plans to evolve CEMEX Plaza by adding new applications. "We are not satisfied with where we are," Garcia observes. "We're always looking for improvements. For the next phase, we're looking to integrate more business intelligence capabilities into the portal."

On the next page, list the CEMEX sources of differentiation and whether these could be outsourced or out-tasked.

Case 2: IBSG Helps FedEx with a New Generation Sales Force Automation Platform

Customer View

After tapping the expertise of the Cisco IBSG, delivery and transportation industry leader FedEx Corporation implemented Sales.fedex.com—a mission-critical, one-stop online source for sales tools and customer information that has spurred its sales force to generate an extraordinary 15 percent increase in sales productivity.

Background

In 1971, current CEO Fred Smith founded what today is known as FedEx Corporation. Smith has capitalized on continuing technological innovation to build the enterprise into a worldwide behemoth with 240,000 employees and contractors with operations in 215 countries. Headquartered in Memphis, Tennessee, FedEx is a U.S. $25 billion family of businesses that offers a global network of transportation, information, and supply chain services. Those services are delivered through such well-known holdings as FedEx Express, FedEx Ground, FedEx Freight, FedEx Custom Critical, FedEx Trade Networks, FedEx Supply Chain Services and, most recently, FedEx Kinko's.

Fred Smith has capitalized on continuing technological innovation to build the massive enterprise. The company was one of the first to harness the power of the Internet to provide fast, easy, and convenient service options for its customers.

FedEx made waves by launching a website in 1994 with a bold new package tracking application—one of the first true corporate web services. Over time, FedEx has continued to pioneer new technological territory, such as when it became the first transportation company with website features that allowed customers to generate their own unique bar-coded shipping labels and request couriers to pick up shipments. Today, Fedex.com hosts an average of eight million unique visitors per month and handles on average three million package tracking requests daily. More than 2.5 million customers connect with the company electronically every day, and electronic transactions account for almost two-thirds of the more than 5.4 million shipments FedEx delivers daily. Cutting-edge information technology is critical to the continuing success of the business—a fact supported by the contention of Smith that "information about the package is as important as the package itself."

Chief Executive Magazine named Smith "CEO of the Year" for 2004, recognizing him for "building a $25 billion company that virtually invented an entire industry, transformed other sectors as diverse as manufacturing, retail, and transportation, and heightened expectations of globalization."

Challenge

The FedEx Services sales force comprises some 3200 U.S.-based professionals with approximately 30 percent engaged in telephone-based selling, 50 percent in the field, and about 20 percent in corporate sales. Like the rest of the company, the sales organization

uses technology to deliver superior customer service. However, as a result of ongoing acquisitions and the consolidation of legacy IT systems, the FedEx sales tool—Sales Source—had become outmoded, unable to quickly and effectively supply the sales force with accurate, up-to-date product and pricing information.

Resources were scattered over several divisions and anytime-anywhere availability was lacking, recalls FedEx director of sales planning Denise Yunkun. “In the beginning we just kludged all the systems together,” she says. “When we took a step back and evaluated Sales Source, it became obvious that we needed to do something better in terms of giving our sales people performance and information tools as well as access to each other as a way to build best-practice momentum.”

“The vision for FedEx sales is optimum efficiency and effectiveness when it comes to interacting with customers,” adds senior vice president of FedEx Solutions, Tom Schmitt. “We needed to find ways to use technology that would point us toward the right conversation with the right customer in terms of value propositions—and then make it easy and effective to follow up with add-on products and value. We believed that technology could deliver the tools to do that.”

Solution

Beginning in 2002, a consultant from the Cisco IBSG met with FedEx sales and IT professionals. What began as a best-practice sharing session quickly evolved into a true collaboration effort aimed at transforming the FedEx Sales Source into a faster, more integrated, and productive sales resource.

Capitalizing on the consulting expertise of IBSG—and using the Cisco e-sales portal as a catalyst for new ideas—FedEx developed a new, online sales portal and toolkit called Sales.fedex.com. Matt Maddox, IBSG consultant, says the engagement with FedEx “evolved from simple best-practice sharing to true collaboration. Development teams from both sides met regularly, alternating between Memphis and San Jose, to share ideas and serve as unbiased sounding boards, with IBSG facilitating the relationship and managing the engagement. And the impact on Sales.fedex.com is clear. The functionality, as well as the look and feel, is so similar to e-sales that it looks like they were jointly developed.”

Sales.fedex.com also provides benefits to the company sales force by permitting constant contact from remote sales locations as well as accurate, real-time tracking of sales incentive compensation.

Results

Sales.fedex.com is an integrated sales technology platform that creates a workflow around the sales function of FedEx, according to Sanjoy Haldar, manager of Sales Technology Strategy for FedEx Services. “Our sales professionals now can go to one place on the web and get all the tools and information they need to identify sales prospects, develop customized value propositions, enter calls, review shipping histories of particular accounts, plan follow-ups, and measure their own performance.”

Besides making it easier and more efficient for FedEx sales professionals to input relevant data and stay on top of customer information, Sales.fedex.com has helped to significantly increase productivity. “After about a year of utilizing the new Sales.fedex.com productivity tools, we had a 15 percent increase in time spent on actual selling,” Schmitt says.

Even though the company kept its sales force flat, that 15 percent improvement in customer facing time translates into 30 percent of the incremental revenue put in the plan for next year. This additional income will come from increased sales productivity.

In addition, the new online sales portal for FedEx includes tools that enable the company to identify the potential box and letter shipping needs of nearly every registered business in the United States. Based on that compilation, FedEx sales professionals have been able to target the highest potential customers and develop recommended call cycles to contact those businesses with value propositions built around their needs. The upshot is that the FedEx sales force is using its gain in sales time to contact more and more well-targeted, high-potential customers.

Given these kinds of productivity gains and increased customer contacts, Schmitt says FedEx is convinced it will realize its incremental revenue goal from sales force productivity improvements. “We’re confident we’ll get that because we believe our sales people are going to be significantly more efficient and effective with these tools.”

Next Steps

In addition to expanding Sales.fedex.com from its domestic U.S. operations to FedEx sites around the world, the company says its focus is on delivering even more sales information and performance management enhancements and on utilizing the online resource to improve customer relationship management.

“We’re integrating even more with our marketing divisions and want to pull more customer service information in,” Yunkun says. “We’ve provided faster, more integrated and effective access to tools from a sales perspective—pricing, territory management, compensation—and now we’ve got to bring other peripheral functions into the mix to give our sales professionals a better 360-degree view of the customer. And we intend to continue collaborating with Cisco. It’s like we’re sister companies—even though we’re in different industries, we share a common desire to do the right thing for our customers and our sales force.”

On the next page, list the sources of differentiation for FedEx and whether these could be outsourced or out-tasked.

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Case 3: British Airways—Getting in Shape with eWorking

Executive Summary

Background

British Airways has made enormous strides since its privatization in 1987. Throughout the 1990s, it earned customer loyalty by focusing on industry-leading standards of service.

Challenge

Recently, however, the air travel industry has experienced shocks on an unprecedented scale. At the end of 2001, British Airways needed to take a radical look at its operations to stay abreast of a fundamentally changed marketplace. The British Airways board of directors was very aware of the emergence of Internet technology and keen to get value from it for the entire business.

Solution

The British Airways Future Size and Shape program recognized the need for judicial investment to secure a real change in its business model. One of the ways in which British Airways realized that is through its eWorking program—simultaneously changing the culture to one of immediate self-service and delivering hard, tangible benefits to the company and its people.

The involvement of Cisco Systems helped accelerate achievement of those objectives.

Benefits

British Airways (BA) launched an ambitious eWorking program that extends to every corner of its global organization. A total eWorking investment of U.S. $11.5 million allowed the company to save U.S. $110 million in less than four years.

The British Airways intranet has revolutionized the way the organization operates. eWorking includes intranet-based processes and tools that save both money and time in procurement, flight and cabin crew planning, and crew briefings, and provide global access to information at any time from anywhere. BA is now witnessing 4 million page views per month on its intranet site from BA people in the office, and 200,000 per month via the Internet from people at home or from crews down route. That figure is rising all the time.

Huge Savings

Procurement Director, Silla Maizey, confirms that British Airways spends some U.S. $7 billion per year on goods and services ranging from aircraft purchases, through fueling and airport services, to office stationery and equipment. A large proportion of this expenditure is on things that the company can purchase more effectively via an eProcurement portal.

“For the company, the benefits are quite clear. For the individual, what is really good is that you can select from catalogues online. It is efficient; it is easy. In fact, you are in control of it all. From the company’s perspective, it is quite the opposite. It means we don’t have to

manually intervene, so we introduce the fact that you do not have to have transactions costs, so compliance is higher," Maizey explains.

The eRequisition system is part of strategic sourcing—which also includes eSourcing, eContracting, and eIntelligence. In addition to reducing prices, it enables continuous budget control and provides a highly effective platform for development of supplier relations. Silla Maizey says, "It's a process from end-to-end. So that means that we identify the business need, we have a seven-step process that takes us right through sourcing goods, applying the right strategy to that sourcing, taking the RFIs, going through implementation, negotiation, and then managing and developing our suppliers."

Introduced in March 2002, eRequisition was projected to save "tens of millions of dollars" a year within three years.

Motivation Through Choice

Crewlink Online is an intranet portal that gives flight and cabin crew access to a range of facilities including duty rostering and scheduling. Crewlink Online takes the complexity out of accessing relevant information, enabling people to take action themselves.

With regular flights to 219 destinations in 92 different countries, flight crew planning used to be highly complex, lacking the flexibility to enable flight crews to plan their duties to harmonize with their personal needs. Traditionally, flight crew planning involved sending out reams of paper-based information 6 weeks in advance to some 3500 flight crew members, who could then select which duties they wanted to be scheduled for.

eBidding brings together a huge volume of complex company and union rules and adds the concept of personal preferences or parameters.

Lloyd Cromwell Griffiths, director of flight operations, says, "Flight crew can put in a range of parameters and simply filter through the trips that match their requirements. Having given a pilot the lifestyle of his choice, we have a happy contented employee, which leads to two further benefits.

"The first is that we have the lowest sickness rate of any airline in the world. The second is that we are taking complexity out of the bidding process and speeding it up."

Mike Street, director of customer service and operations, adds, "One of the key aspects of my job is motivation—motivation of 26,000 front-line staff but particularly 14,000 cabin crew. One of the key things that controls one's life is knowing when you come to work, when you don't come to work, and when you can have a day off for your friend's wedding, or whatever you might want to do.

"If you feel you have some control over the way in which your work is arranged, then you are going to attend more frequently. You are not going to be likely to need to take an odd day off to attend a wedding, and you are going to want to do your work in a much better way. We have found that eBidding and ePreferential bidding have made a significant difference to the way in which work is allocated and to the general level of motivation and satisfaction of our crew."

Self-Servicing Queries

Ask Scheduling is another function accessed through the Crewlink Online portal or BA intranet, which seeks to answer crew rostering and scheduling questions online with little or no human intervention. It consists of a database containing frequently asked questions and answers, with the top 20 displayed on the first screen. Crew members can access the service at any time, from anywhere in the world, and search for answers to nearly all their questions.

Mike Street explains, "There are lots of questions that you would like to know about—the availability of leave, when you can have a day off—and we have a service within our eWorking processes, within our reporting center, called Ask Scheduling, and it's just what it says. It is Ask Scheduling all the questions that you want to know.

"We used to do it largely face-to-face. Twenty-four hours a day there was somebody there that you could go and talk to. But you were reliant on that person's interpretation of information. Today through the Ask Scheduling eWorking process, you get a consistent answer. "It gives information to the crew, information they vitally need. From the company's perspective, it has cut down enormously on the administration costs. We now have a face-to-face facility open between 11 a.m. and 3 p.m. instead of 24 hours a day, so you can see the cost reduction in that. We are getting great applause from the crew for providing this service, and the rate at which it is expanding is enormous.

Key Facts

British Airways, unlike many other major airlines, is owned entirely by private investors. Key statistics are as follows (preliminary results for financial year ending March 31, 2002):

- 265,000 private shareholders, including 49 percent of British Airways employees
- Turnover U.S. $12,000 million (down 10.1 percent from previous year)
- Operating profit negative U.S. $158 million (128.9 percent down from previous year)
- Operating margin negative 1.3 percent (down 5.4 points from previous year)
- More than 40 million passengers carried (down 14.8 percent from previous year)
- 755,000 tons of cargo carried (down 17.4 percent from previous year)
- Overall load factor 64 percent (down 3.4 points from previous year)
- 360 aircraft and 57,227 employees (MPE—down by 2.8 percent from previous year) working in approximately 200 locations

In the fourth quarter, announced actions were having a significant effect on costs. Operating profit was positive (at around U.S. $50 million), cash burn was zero, and the airline had its largest year-end balance since privatization.

"It has been far more successful than I would ever have imagined, and in about three times the time that I was told that we would get to this level of interaction. So I'm very pleased with Ask Scheduling, and I know the crew are. They say so all the time. Already we are getting a thousand questions asked of it a week."

Brief and to the Point

eWorking is not only about providing access to information and the facilities to use it. It is also about ensuring that information reaches specific people with specific needs, such as flight crew who need detailed and effective preflight briefings.

Five years ago, it would have taken pilots at least 15 minutes to work through reams of paperwork to check weather reports along the route, calculate fuel loads, and much more. Today—through eBriefing—a pilot simply looks at a screen, taking 15 to 20 seconds to assimilate data that has been selected and sorted in advance.

Lloyd Cromwell Griffiths says, "The number-one requirement is that it is safe—that there is enough data in the briefing that it is safe for pilots to go flying. The second requirement is that it doesn't take forever to give the briefing, and the third requirement is that the pilot is able to sift out from the briefing what is really relevant, really valid, needs to be read before they depart, and what actually can be read en route or is not so relevant to that particular trip, because we are buried by information coming in.

"By using crew briefing, we are able to highlight the areas that are relevant and demote down the page of the screen the areas that are not so relevant and so, for instance, a pilot operating a twin-engine airplane will have all the points relevant for his diversions."

The major commercial benefits are that safety is improved by providing timely, accurate, and updated information, and the airline is always sure of flying the best route in the given circumstances.

Intranet over the Internet

British Airways now offers all staff remote access to its intranet over the Internet, externalizing some 90 percent of its intranet facilities and content to security-accredited members of staff, enabling them to use intranet facilities and functionality from their own homes or hotel rooms in far-flung places.

Although there is always an office-based alternative, more than 25,000 users each month are now accessing the intranet remotely. Intranet facilities are being extended to staff such as loaders, baggage handlers, and check-in staff. For example, 32 intranet access points have been installed at Heathrow, enabling front-line employees, who deal with British Airways customers on a daily basis, to access up-to-date information and consequently offer better service.

The combination of intranet facilities such as staff travel, online manuals, BA News interactive, People online, and online help desks is encouraging people to go to the web as their first port of call—and driving the desired culture change in British Airways.

The Revolution Has Begun

British Airways has reduced its annual IT costs by 20 percent, but total technology investment has increased—running at U.S. $125 million for the current year. Total investment in eWorking currently stands at $11.5 million. Every project that British Airways undertakes must cover its costs within six months. Three years from now, British Airways will be saving U.S. $110 million every year from its eWorking program because of these investments.

Rod Eddington says, "eWorking is critical to British Airways. We employ nearly 50,000 people around the world, and we need to work together in a tightly integrated way, and eWorking allows us to do that."

The speed and willingness with which the people of British Airways have adopted the web and eWorking shows that this was a revolution waiting to happen. The ultimate beneficiaries are the British Airways customers and shareholders but, along the way, the company is making the working lives of its people more fulfilling and more rewarding. As the British Airways eTransformation continues to accelerate, it is becoming an Internet role model for airlines throughout the world. British Airways has a reputation for innovation, and its use of the web will keep its competitors in trailing positions.

On this and the next page, identify the ways in which British Airways achieved differentiation through the use of IT. Is this differentiation sustainable? Does it constitute a core competency?

Conclusion

This section reviewed several strategies for achieving success in the marketplace. These strategies included increasing productivity and decreasing costs. Cost reduction can involve the approaches of outsourcing and out-tasking, but care must be used in selecting activities to out-task, because they could be critical to core competencies.

One way to radically reduce cost is to apply the power of Internet-enabled IT to streamline core business processes by reducing overhead and increasing efficiency.

The Business Value Framework

This section explores the three components that compose the business value of an organization:

- Financial drivers
- Business differentiators
- Improvement disciplines

Why do shareholders invest in businesses?

The simple answer is to make money. However, this answer is not usually so simple, especially when the business in question is a start-up that has not had a chance to demonstrate revenue generation. In such a case, the question is more prospective and becomes this: can this business generate revenue sufficient to pay back my investment plus a profit? Or, in other words, is this investment risky?

It is the failure of business start-ups to understand this desire of investors to minimize risks and generate a profit that usually leads to problems. Businesses often view the acquisition of initial investment as some sort of lottery process that generates free money and no accountability. Reality is often a hard pill to swallow—especially when a start-up business owner discovers that the investors are impatient with the progress of the start-up and are willing to take control of the company to ensure its success. Many entrepreneurs have seen their companies taken away when revenues were not forthcoming quickly enough.

When business owners understand the ways in which investors assess risk, they are much better able to run their businesses in a way that is consistent with that assessment. This section will examine the business from the investor point of view. You will see that, fundamentally, this assessment rests on an estimation of company value.

This assessment begins with the business value framework.

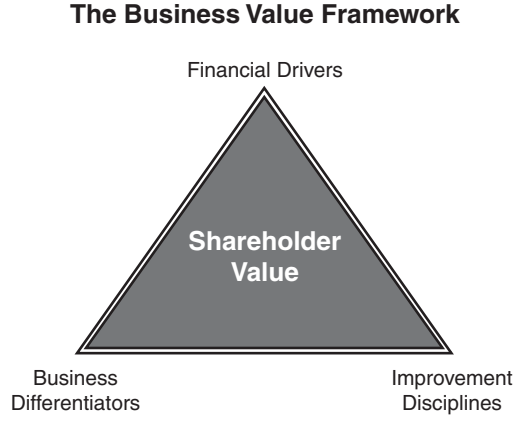
Overview of the Business Value Framework

You are probably familiar with the concept of business value because you likely use it when making your own purchases. When you go shopping for a car, for example, you are looking not only at the model of car and its features, but at the company behind it. Does the company have a good reputation? Does it have a focus on product quality, and does it have a reasonably solid financial base? Will it be around in a few years, when my car starts needing repairs? Car value, it turns out, is much bigger than just the car.

This is much like the process used to assess business value. Investors look at three dimensions: business differentiators, financial drivers, and improvement disciplines. Financial drivers are associated with growth, profit, and risk. Business differentiators are associated with innovation, quality, and productivity. Improvement disciplines are associated with prioritization, process, and people.

These three drivers, shown in Figure 2-9, can be thought of as forming a pyramid. Each needs to be satisfied, or the pyramid will fall. Each is critical to achieving a high value assessment.

Figure 2-9 Business Value Framework



The First "D": Financial Drivers

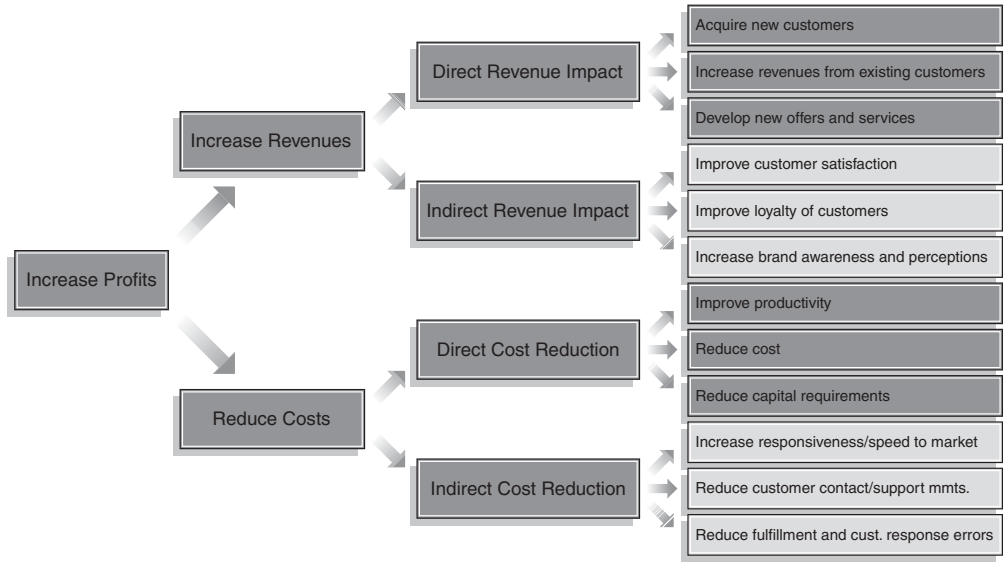
Financial drivers are those attributes of a company that drive revenue in an efficient way. The two primary drivers impacting a value perception are growth and efficient productivity.

As you have seen, growth strategies are designed to maximize revenue. If a company employs strategies in such a way that revenue grows over time, the value perception of investors is increased. If a company fails to grow or grows less than the market in which it operates, the value perception of investors is decreased.

By the same token, productivity and efficiency are also important to investors. These attributes translate into cost control and are long-term indicators of the potential of the ability of the firm to grow in a sustainable manner. Investors are interested in whether costs increase in proportion to revenues or are increasing faster than revenues. Ideally, costs are decreasing in relation to revenues as a firm takes advantage of economies of scale.

As discussed, productivity and efficiency are important to value and value creating, and neither can be pursued in isolation. For example, online banking can reach a customer base in areas that might not have many bank branches. The acquisition of new customers at low incremental cost can lead to increased profits. Using the same example, online banking reduces the number of people needed to process transactions. This in turn reduces customer support or contact requirements, which increases efficiency, lowers cost, and grows profits. Figure 2-10 shows the flow of financial drivers to increase a firm's profits.

Figure 2-10 Financial Drivers of the Business Value Framework



For a publicly traded company, how is all of this reflected in its stock price? Stock prices reflect the investor estimates of growth, profit, and risk. As profit and revenue grow, so does the stock price. As the risk of the investment increases, the stock price declines. Of course, both of these dynamics happen at the same time, so stock price can be thought of as the capital market expectation of how profitable that organization will be in the coming years, adjusted for risk. This expectation of future profitability determines how much investors are willing to pay for a share of stock.

Revenue growth is assessed in terms of average annual sales over a period of years. In other words, one-time revenue growth is usually not sufficient to assess the revenue potential of a company. It is the sustainability of revenue production that eases the fear of risk for investors. The duration in years of sustained revenue growth is usually called the *competitive advantage period* (CAP).

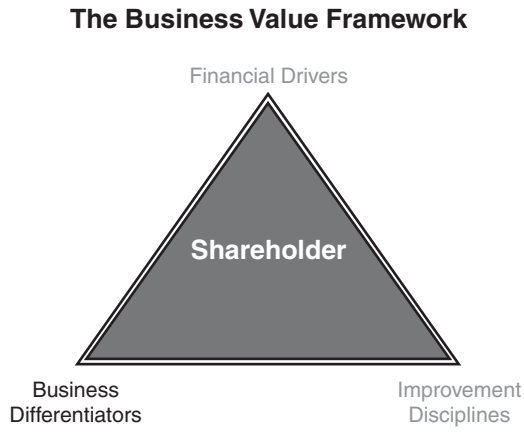
Profit growth is driven by revenue growth coupled with cost controls. Cost controls seek to control both variable costs—those costs associated with production—and fixed costs—those costs associated with operations. In addition, cost control seeks to reduce the cost of assets and taxes. In practice, this means a focus on process management to ensure the most efficient production process possible within the constraints of good quality.

To the extent that investors see either poor revenue growth or poor cost containment, their perception of risk increases, and their perception of value decreases for the company.

The Second "D": Business Differentiators

Figure 2-11 shows the second driver for shareholder value as differentiation. Unless your business is completely unique to begin with, you are probably worrying about how you can make yourself appear different to your customers. Even commodity producers constantly look for ways to make their product more appealing to customers through more compelling packaging or other cosmetic differences.

Figure 2-11 Differentiators of the Business Value Framework



Aside from purely cosmetic changes, though, how can your business achieve differentiation? It turns out that true business differentiation can be achieved through a business focus on innovation, quality, and productivity.

Innovation, of course, allows you to create completely new products that address customer needs in unique ways. This approach has been the preferred one for technology firms, especially those devoted to the information technology market. Innovation requires, though, that you free up the human and capital resources necessary to create it.

Quality is another way to achieve differentiation, especially in commodity markets. If your product is inherently better from a form, fit, and function perspective, it is probable that customers will prefer it to the product of your competitors, for whom the quality level is not as high.

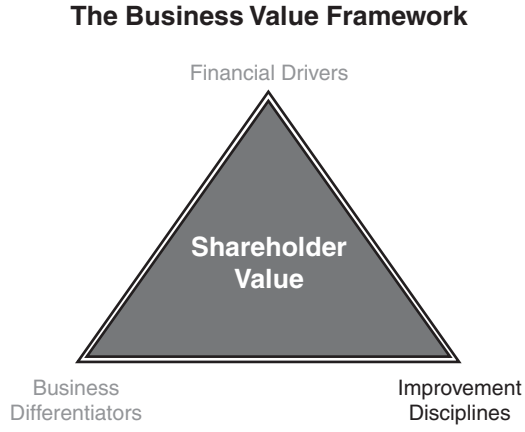
Finally, productivity is an enabler of differentiation because, if you are able to produce a product more efficiently, all other things being equal, you should be able to free up resources that allow you to focus on improving quality and innovation.

These three pillars of differentiation allow a business to carve out unique pieces of a market. They are data points that serious investors research when deciding where to place their money. Venture capitalists, especially, tend to favor businesses that are highly differentiated.

The Third "D": Improvement Disciplines

The third leg that defines shareholder value is improvement disciplines, as shown in Figure 2-12. Improvement disciplines allow a business to devote resources to innovation, quality, and productivity. Since the era of the Japanese quality revolution, improvement disciplines have been at the forefront of business thinking.

Figure 2-12 Improvement Disciplines of the Business Value Framework



Essentially, improvement involves a focus on three things: prioritization, process, and people. You learn how this works next.

Prioritization involves focusing your attention on what really matters. If everything is deemed high priority, nothing actually is, because you are constantly shifting from project to project, while nothing is actually accomplished. For a business to be successful, it must be able to decide what it will devote its resources to and, just as importantly, what it will *not* devote its resources to.

Deciding on what is important is the key to prioritization. Once again, priority, products, and projects are those that have the highest probability of contributing to the growth or differentiation of a firm. When in doubt, assign a higher priority to those that generate the greatest revenue.

Process improvement has been endlessly debated, and many structured approaches are available to address process management. Chief among them currently is Six Sigma, which attempts to evaluate processes in terms of defects per million attempts (DPMA). This approach is an outgrowth of Total Quality Management (TQM), which looks at processes statistically. Both process improvement methods are concerned with the idea of process control. If a process is in control, it is producing the highest quality possible for the least amount of overhead. If it is out of statistical control, the process can be improved to achieve a more efficient production dynamic.

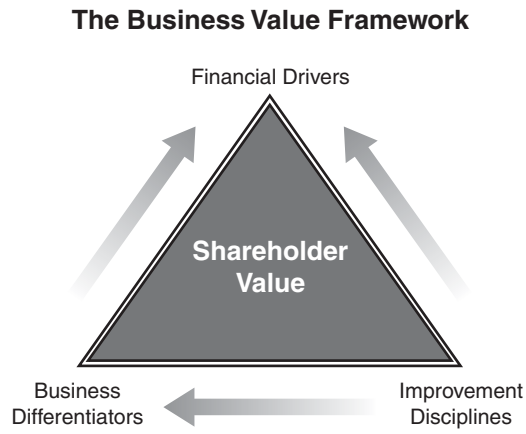
Finally, people improvement focuses on the training of employees to adopt new skills that enable new business processes. Although many companies have chosen to achieve improving skill sets through attrition and replacement, over time, this approach becomes counterproductive as employees with critical knowledge of the company and its culture leave. A better approach, and more cost effective in the long run, is to hire good employees and then provide training to keep them current. Morale is improved this way, and the company does not hemorrhage talent over time.

How Does It All Fit Together?

The three drivers for shareholder value—financial drivers, business differentiators, and improvement disciplines—cannot be pursued independently. Each depends to some extent on the other two drivers, as shown in Figure 2-13. Improvement disciplines drive business differentiation. Business differentiation drives financial performance, as does improvement. However, without financial performance, neither differentiation nor improvement is possible.

Each of these drivers is important to prospective investors and shareholders. Each will be evaluated by the market and will, for publicly traded companies, determine the stock price. For private companies, these are still important, because they determine how willing private investors or venture capitalists will be to provide funding.

Figure 2-13 Interrelationship of the Three Drivers for Shareholder Value



Conclusion

This section discussed the ways in which its constituents value a business. You have seen how financial drivers, business differentiation, and improvement disciplines work together to raise the value perception of investors who then express their value perception by the price they are willing to pay for stock. The next section examines how this works for virtual organizations: those businesses that are founded on information rather than fixed capital.

Networked Virtual Organizations

NVOs are a direct result of the revolution in computing technology that began in the late twentieth century and which reached critical mass with the dot-com bubble. As discussed earlier, this has led to a fundamental shift from fixed capital assets as a driver for business success to networked IT as the basis for success.

This section examines the NVO and its organization and then looks at some case studies that illustrate the power of the NVO approach in a business context.

In this section, you will learn about the following:

- NVOs
- The three key NVO strategies
- NVO impacts on various industries and organizations

The Networked Virtual Organization

What is an NVO? It has many definitions. Cisco Systems, for example, defines an NVO in terms of its culture. John Chambers, the chief executive officer (CEO) of Cisco Systems, defines NVO as: "…a business model based on two basic assumptions: companies and government organizations will add value on a sustainable basis by focusing efforts on core capabilities. They will rely on systems and out-tasking partners for those responsibilities that others can do more effectively; at the heart of this model is increasing productivity using networking technology to appear as one virtual entity to their customers."

The NVO concept first appeared in a book called *The Virtual Corporation*, by William Davidow and Michael Malone (1992). They wrote that the virtual corporation is a "corporate partnership model" that combines the strongest functions (core competences) of multiple companies:

- Technology
- Financial strength
- Development capability
- Branding

Their findings established that a single organization cannot manage all these competencies alone. Organizations need partners to succeed. Although Davidow and Malone conceived this idea before the explosion of the World Wide Web, organizations are now combining this idea of the "virtual corporation" with the Internet to run their organizations more efficiently.

We also wrote about such organizations when we published our book, *The Case for Virtual Business Processes: Reduce Costs, Improve Efficiencies, and Focus on Your Core Business* (Cisco Press, 2003). In that book, we took a somewhat different view of NVOs or, as we called them, virtual business processes. We defined a virtual business process as a process that leverages Internet-enabled IT to achieve significant increases in productivity and profitability.

The common thread within all these definitions is the idea that technology can allow a company to off-load the noncore functions to outsourcers so that investments can be made in those functions that are fundamental to the business: the core functions.

The network is the critical element that makes the NVO business strategy possible. The network links people, information, and processes to enable greater customer intimacy, innovation, value, and productivity. In essence, the organization that adopts an NVO business model has the capabilities to create and manage a networked virtual ecosystem (NVE) of companies. These companies work together for a specific purpose and for a specific period to deliver products or services.

NVO is, in essence, a new way of doing business. The NVO business model is based on three key strategies:

- **Customer centricity:** An NVO responds rapidly to the needs of the customer. The customer needs come first, so an NVO puts them at the center of the organizational value chain, not at the end.
- **Core versus context:** An NVO focuses on those elements of business functions where it adds the most value, has the greatest skills, or are its core competencies. It lets multiple partners perform noncore competency activities. Partners, however, must have the necessary skills to run these activities.
- **Continuous standardization:** NVOs adopt standard business processes, standard sets of data, and standard IT systems throughout the organization to minimize costs associated with customization.

Groups of NVOs that partner to bring products and services to market operate in an NVE. When executed properly, an NVO business model increases productivity and reduces costs through the continuous improvement of core versus context evaluations of an organization. The most effective organizations follow all three strategies at the same time.

The next section looks at these strategies in a little more depth.

Strategy One: Customer Centricity

The whole point of an organization is to deliver a product or service to a customer at a profit. Axiomatic to that, the customer needs are important and should be met. Although it is easy for a conventional business to forget this, and many have, an NVO cannot afford to. Customer focus is the way that an NVO can outmaneuver its competition, even if the competition is substantially larger and has substantially more resources. Because companies that respond quickly to their customers often sell more products and services at a higher profit margin, NVOs apply technology to speed up their customer responsiveness.

The NVO approach places customers at the center of the network, effectively making them a partner in the process. Call it a customer-centric view of the world. Sometimes customers might be consumers, and other times they might be organizations. Still other times, in the case of a public school, for example, customers might be children and the family. Regardless of who the customers are, the important thing to remember is that customers are at the center of the planning and operation of the organization.

Strategy Two: Core Versus Context

NVOs have a fanatical focus on core competencies. Supporting or context competencies are quickly outsourced or done away with entirely whenever it is possible. NVOs rely on multiple partners to perform business functions that are required to deliver products and services. By partnering with other organizations that have complementary core competencies, an organization can achieve the benefits of industry scale and innovation that it could not achieve if it tried to do everything by itself.

Core is all about providing new competitive advantage in the market. It is not core business or core competencies. It is the new offerings that an organization makes to drive a competitive edge. Context is all the processes required to run the organization and to fulfill commitments.

As described in the previous section, context tasks can be easily identified based on their relationship to revenue production or differentiation. If the task under consideration adds value to the organization either by increasing revenues (either directly or prospectively) or by decreasing costs, it can be assumed to be a core skill. If the task only consumes resources without conferring an advantage or by adding incremental revenue, it should be outsourced or out-tasked.

As has been noted before, out-tasking and outsourcing are different:

- **Out-tasking:** The NVO organization plays an active role in defining and overseeing the function used by shared partnerships and systems.
- **Outsourcing:** A partner manages and oversees an entire process.

Strategy Three: Continuous Standardization

Finally, NVOs pursue standardization fanatically. They seek to standardize processes, data sets, and IT systems. These standards allow the organization to operate much more efficiently than it otherwise could. Standardization also allows groups of NVOs to operate more efficiently, essentially functioning as a single entity. This concept is called *continuous standardization*.

NVOs need to establish standard business processes inside their organizations, across all departments and divisions, as well as with partners on the outside. Some organizations, for example, might have different ways of handling customer orders depending on whether they came in over the web, over the phone, in the mail, or in a store.

Non-standardized ways of handling customer information make it difficult for the organization to quickly gauge customer response to new items or sale prices. And it makes it next to impossible to create a just-in-time (receiving goods only as they are needed in the production process) inventory management system run by the suppliers of the organization. Having a standard set of data inside and outside the organization is critical to becoming an NVO.

How can the three strategies of NVOs generate business value? Implementing an NVO strategy is an ongoing process. Organizations must continually revisit questions such as these:

- What is core and what is context to the business?
- Which business processes should be standardized, and which should remain unique?
- What is the nature of the NVE that it is a part of?

How an organization answers these questions will determine the best way to increase business value. Each of the NVO strategies generates bottom-line value, but as a general rule, you can imagine the NVO driving business value as shown next.

The three NVO strategies can have a significant impact on many organizational initiatives.

Following are a few of the financial benefits gained by NVOs:

- Higher revenue growth
- Lower operating costs
- Improved asset management

NVOs are significantly more nimble in the market than conventional business. Because they are technology enabled rather than fixed asset enabled, they can respond more quickly to customers; they can adjust their aim more readily and with fewer internal organizational issues; and they can focus on core value-generating competencies rather than investing in asset upkeep and modernization.

In the following case studies, you will see how two companies applied NVO technology to improve operations and revenues.

Case Studies

The following case studies show how conventional companies can adopt NVO technology incrementally to become more efficient. After each one, you will find a blank page to note the ways in which the case study enables the company to operate more like an NVO.

Kennisnet Case Study

To illustrate the Continuous Standardization strategy, watch the video to see how Kennisnet has been able to improve e-learning services by standardizing technologies and business processes.

Centrelink

Centrelink, a leading Australian government agency, has benefited from an NVO strategy in many different ways. They built an NVO to improve service, quality and choice for citizens, while also reducing costs. Watch the video to learn more about Centrelink.

NVOs Delivering Returns

As you have seen, NVOs use technology to respond faster to customer needs and changes in customer demands; focus more on core activities that add the most value, thus allowing the organization to be more productive; and define and work with standard business processes, standard sets of data, and standard IT systems, thus allowing organizations to operate more efficiently with partners.

Increasingly, businesses are applying the principles of the NVO to become more competitive. However, start-ups are at a distinct advantage here because they can configure as an NVO from the outset.

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MODULE 3

Organizational Readiness

Introduction

The previous two modules defined and explored the value of information and communication technologies (ICT) and the networked virtual organization (NVO) in a broad sense. This module goes a little deeper and discusses what it means to be organizationally ready, and why companies desiring strong market presence and market share need to move quickly to implement IT for strategic advantage. You will learn what organizational readiness means and discover what the relationship is between information technology (IT) governance, business planning, and project success.

You will also assess your own organizational readiness for success and develop an organizational readiness plan.

By the end of this module, you should be able to do the following:

- Define the characteristics that make an organization ready to embark on Internet and IT initiatives.
- Explain how to move your organization closer to organizational readiness.
- Describe the four keys to IT governance.
- Describe the importance of planning for organizational readiness.
- Explain the steps to plan for organizational readiness.
- Explain why the IT governance process during planning is vital to the success of IT initiatives.
- Use organizational readiness planning tools to assess your state of organizational readiness (Net Readiness Scorecard).
- Identify organizational readiness improvements for your organization.

What Is Organizational Readiness?

Organizational readiness refers to the level at which an organization has optimized key attributes required to successfully implement Internet-enabled business strategies and initiatives.

Without first addressing its general readiness to implement Internet-enabled strategies and initiatives, the IT initiatives of an organization can fail.

Organizational readiness is built on four pillars, as noted in Figure 3-1, that can enhance the ability of an organization to successfully implement Internet-enabled strategies and initiatives:

- Leadership
- Governance
- Competencies
- Technology

Figure 3-1 Four Pillars of Organizational Readiness

Organizational readiness is a journey, not a destination. Through continuous improvement, your organization can more easily deploy and use Internet-enabled business processes that are focused, accountable, and measurable.

Together, the four pillars can help drive organizational success. If the foundation of one pillar is not as strong as the others, the organization can falter in its path to longer-term success.

Leadership: The First Pillar of Organizational Readiness

What does it mean to be a leader? Why is it important for organizational leaders to be not just IT aware, but IT savvy when it comes to application of the overall business strategy? Historically, the most successful organizations have had strong leadership teams who believed in the power of IT. They understand how a movement to Web 2.0 applications, application mash-ups, and web-based processes has created new opportunities for innovation, productivity, and efficiency—all keys to competitive differentiation, as noted in Module 2, "Management Strategies." The decision to extend internal and external processes to the web must be made at the executive level.

Strong leadership sets the company vision, goals, and objectives. A strong team understands and communicates the value of using ICT solutions in a strategic manner. Firms that use ICT solutions strategically are better able to understand what and how to change more quickly to best meet changing market requirements; how to attract and motivate good people; and how to build a strong organizational culture across geographically dispersed facilities. Strong

leadership is the backbone of an organization. Without it, the other pillars of organizational readiness, even if executed well, will not be enough to succeed in a rapidly changing, dynamic market.

Strong leadership teams typically exhibit the following characteristics:

- Actively promote change throughout the organization.
- Engage and empower the organization to use the Internet as a tool.
- View information technology as a strategic asset rather than a cost center.
- Encourage and reward measured risk-taking in the organization.

It is not enough to have strong leadership, no matter how visionary it might be, if the team is technology adverse or even just technology neutral. Technology—specifically Internet-based technology—is the key to being a highly successful company in the twenty-first century. A strong leadership team must embrace technology and understand its unique role as a competitive differentiator against existing as well as emerging competitors. A strong leadership team that is also IT savvy is the one-two punch that drives a firm to great success.

Characteristics That Define IT-Savvy Leadership

- Views ICT as strategic transformation tools that can be used to get things done better, faster, and more effectively.
- Sets expectations and promotes change throughout the organization, highlighting accomplishments and successes.
- Ensures that decisions and power are distributed evenly in the organization, online tools are shared, and all employees, including top management, are held accountable for results.
- Engages and empowers the organization to use the Internet as a tool.
- Creates an open environment for the sharing of information and expertise.
- Promotes an Internet culture by encouraging both experimentation and initiatives that best utilize the web.
- Accepts a certain amount of risk to gain a competitive advantage. This leadership encourages employees to be comfortable with change and movement.

Governance: The Second Pillar of Organizational Readiness

Governance is the operating structure of a company. Governance includes company authority, roles, responsibilities, and accountabilities. It defines the overarching operating model of the company and is typically established by the leadership team. In essence, corporate governance is the glue that holds together and defines the nature of the organization.

Governance defines the overall operating model of the company. Corporate operations encompass IT and its role as a business enabler. In addition to defining the operational structure and model of the company, governance addresses the following:

- Organizing, funding, and executing IT initiatives
- Executing defined IT initiatives in business and customer-centric ways
- Defining and establishing decision metrics for measuring IT implementation successes
- Defining and establishing decision metrics that measure the overall impact of each IT initiative individually, as well as its impact collectively on the firm
- Establishing a closed loop process that provides feedback on the initiative to identify components of success, components needing adjustment, components that become a core competency, and components that could be optimized via outsourcing or out-tasking

Companies defined as having high organizational readiness have governance models that focus on setting new business and interpersonal dynamics both inside and outside the organization. They rely less on Industrial Era business models of established hierarchies and bureaucratic procedures and more on communication and collaboration across the organization. Generally speaking, strong governance follows solid leadership.

ICT-Centric Governance Characteristics

Several proven governance models meet brick-and-mortar business needs. These models are typically institutional in nature, meaning they are designed to be rigid and generally inflexible. Companies seeking to take advantage of the Internet and its numerous positive impacts on business must adjust their organizational governance models to better match the dynamic nature of the Internet. The most successful Internet-ready organizations will have identified, established, and implemented flexible governance models.

An Internet-ready governance model emphasizes the following:

- The focus on near-term business results and tangible returns on IT investments
- Active promotion of web-based applications and standard tools
- Active elimination of time-consuming, error-prone traditional applications and manual processes even though they might be more familiar

The desire of a firm to establish itself as Internet ready will be defined within the leadership team. It is critically important to engage multiple levels of the company in a collaborative process when considering moving to becoming an Internet-ready company. Make sure business decisions are made by the business owners and its leadership; engage the IT department as a strategic consultant to support the decision-making process and define the technology roadmap required to meet readiness in the most expedient, cost-effective manner.

Competencies: The Third Pillar of Organizational Readiness

Organization competencies are the collective skills within a firm that determine how it responds to or addresses changing market needs to achieve its purpose. The skills are distributed throughout the organization, its divisions, its departments, and its employees. Competencies, then, can be equated to the collective talent of firm personnel, its decision-making processes, and the effectiveness of its feedback loop.

Competencies can be divided into four primary skill sets: strategic skills, operational skills, managerial skills, and technical skills.

- **Strategic skills** address the ability of the company to plan, adapt, and execute. Strategic skills include a strong vision to support the need of a firm for agility to anticipate market changes and drive the necessary internal changes ahead of its competitors.
- **Operational skills** focus on the overall operations of the company. These skills include the ability to define authority, roles, responsibilities, and accountabilities across the organization. Operational skills, then, are the macro view of the firm.
- **Managerial skills** are the micro view of the firm. These competencies provide the metrics that track success, provide concise directions to project owners and customers, and drive and support corporate culture changes.
- **Technical skills** address the requirements of the firm to understand technical foundations and tools and apply them to solve business problems. Technical competencies require the understanding of existing technologies and how they can or will map to emerging technologies to smoothly integrate with and support an Internet-ready business.

Collectively, a firm that has strong skills across each of the competencies would be considered an Internet-savvy organization. For example, an Internet-savvy firm handles increased complexity in the business environment with grace and ease. It has interrelated, fast-moving activities that readily adapt to changes in the market. In addition, an Internet-savvy firm has two characteristics:

- It is knowledgeable and skilled on standard technology platforms, tools, and applications. Due to this knowledge and implementation, this company is highly responsive to changing market demands and can implement operational changes quickly.
- It understands the value of interrelatedness and interoperability of different tools and applications as they relate to customer facing, self-service, and partnering to achieve company goals and objectives.

A business with strong competencies across the four primary skill sets can achieve organizational readiness relatively quickly. Characteristics of firms with strong competencies, and the business value that the strength provides include the following:

- Being highly responsive to customer needs and executing new programs to meet those needs quickly. These firms also develop strong partnerships with competitors and complementary organizations to help achieve their goals.
- Responding immediately to challenges such as globalization and reduced barriers to entry. Coherence, particularly in business cultures where experimentation and failure is advocated and supported, is critical for promoting successful Internet business initiatives.
- Being capable of managing multiple relationships simultaneously. These firms know how and when to dissolve and form relationships or partnerships to respond to the customer-facing needs.
- Making calculated investments in developing core competencies to create competitive advantage and customer value.
- Encouraging the sharing of information, increasing the power of individuals and groups across the organization.
- Having employees who are capable of building networks of relationships that can adjust to market changes quickly without disrupting the business.

The Five Cs of Core Competencies

A firm builds its core competencies over time and through iterations of activities that have been tested and proven to be successful. Core competencies center on five areas: complexity, concurrency, coherence, connectivity, and coordination. Ultimately, each of the objectives of these areas is to meet rapidly evolving customer demands ahead of the competition. A useful way to think about core competencies, then, is that they are actionable in some way. Each of the competency areas is explained next:

- **Complexity:** Part of becoming an ICT-ready organization is addressing the inherent complexity of working within a virtual world. The Internet replaces physical constraints with the constraint of complexity. Doing business in virtual space can become even more complex because of the limited ability for humans to manage increasingly complex, interrelated, and fast-moving activities.
- **Concurrency:** Conducting business across the Internet accelerates the speed of business. Information flows, business activities, and transactions occur on-demand and in near-real time. To excel in this climate, organizations must feel comfortable with multitasking at every level.
- **Coherence:** Coherence defines the integrity of the organization. The firm might be extremely dynamic and willing to change, but it must have a foundation and boundaries established and be clearly defined to its constituents so that it does not become chaotic. External boundaries include legal and government regulatory compliance. The leadership and the governance teams establish the internal boundaries.

- **Connectivity:** Connectivity is a requirement for becoming an ICT-ready organization. Connectivity establishes the ability for employees to collaborate, increasing the power and self-sufficiency of each person and enforcing a company-wide value of sharing knowledge. Standards-based IT connectivity also enables ready communication up and down the supply chain and with customers.
- **Coordination:** This is enabled and enhanced through connectivity. Coordination is required between your firm and established partners with well-known brand names. They gain the power of your Internet knowledge and processes, and you gain the support of their name recognition. A connected, coordinated partnership is mutually beneficial when the objectives and responsibilities of each party are explicitly defined.

Technology: The Fourth Pillar of Organizational Readiness

It is not enough for a company to implement technology as a business enabler. This type of implementation can be viewed as technology for the sake of technology and is counterproductive to any long-term strategies that the company is pursuing. Technology, just like business strategy or product development, must be highly calculated, weighing a technology investment against the value it provides the firm. A sound technology strategy includes an implementation roadmap, measurable metrics, and vigilant execution.

Success with IT begins with a robust enterprise-wide IT architecture based on industry standards. A standards-based platform enables easier external integration and faster migration to new systems over time, while being able to sweat existing assets to maximize the return on investment (ROI). IT managers must be able to implement web-based applications rapidly, without having to make repeated improvements in the computing infrastructure.

The technology pillar of organizational readiness helps organizations acquire key technology capabilities needed for success, such as security, standardization, flexibility, adaptability, scalability, and reliability. This degree of functionality enables interoperability and makes it easier for employees to readily collaborate and develop new capabilities.

An Internet-ready organization has the technology infrastructure (network services, hardware, and software) and skill competencies in place to develop, scale, and support these Internet initiatives.

Nearly all companies can claim that they possess the elements of IT: skills, applications, and infrastructure; however, it is the degree to which these elements are current, integrated, and web enabled that defines a company as being organizationally ready to implement a web-based business.

IT-Ready Elements

Three essential Internet-ready technology elements exist:

- **Skills:** The organization is strong across all technology domains, including security and IT operations. The IT department collectively has certifications for the critical components of the infrastructure, including applications, and keeps the certifications up to date. In addition, the IT department partners closely with the organization and with the companies selected to outsource and out-task noncore activities.
- **Applications:** The Internet-enabled solutions of the organization adapt to rapid change and are scalable and customizable for the needs of the company, its customers, its suppliers, and its partners. Application choices and application development are selected based on a holistic perspective to ensure optimal information flow and data sharing across all aspects of the firm.
- **Infrastructure:** The organization establishes and abides by a standard IT infrastructure. Corporate policies for security, wireless access and wireless devices, infrastructure devices, administrative privileges, and so on are developed and defined at the highest level within the governance pillar and in tight partnership with the technology pillar members. Backend systems are continually maintained and upgraded to meet future organizational requirements. Employees and customers can access all critical information.

Strong technology characteristics allow the organization to do the following:

- Build itself around an architecture that is robust and comprehensive, without being constrained by proprietary implementations. Establish organization-wide standards against which all employees must comply to ensure interoperability, with minimal customization, with partners up and down the supply chain as well as customers and prospective customers.
- Train personnel on technology standards, and ensure the certifications are kept current. Develop or purchase only flexible applications that run on standard platforms.
- Standardize IT architecture, which enables new applications to emerge easily, cheaply, and quickly.

What Makes Internet-Enabled Organizations Successful?

A firm can spend a substantial amount of time and resources planning and strategizing its Internet-enabled business strategies. Primary and secondary research can be conducted and reviewed, models built, and teams set up. However, at the end of the day, success or failure hinges on organizational readiness. Organizational readiness is a continuous process, not a one-time strategy process as illustrated in the circular graphic in Figure 3-2.

In this section, you will learn about the importance of organizational readiness for success and its impact on the performance of your organization with IT.

Figure 3-2 Formula for Success with IT

Formula for Success with IT

As discussed, a strong leadership team is fundamental to the ability of a firm to execute on an organizational readiness strategy. You learned the characteristics of strong leadership and necessary skills to be a strong leader. Strong, successful leaders understand the need to develop the organization, its culture, and its infrastructure. The leaders are the team that coordinates activities and initiatives across all the other pillars of organizational readiness. As the organization develops and executes its strategies, it needs to do four things:

- Ensure that IT strategies and initiatives are linked to organizational goals and objectives.
- Monitor and measure that the activities and initiatives the firm engages in, in the pursuit and execution of organization readiness, are in compliance with established governance.
- Evaluate and establish that the company has the competencies across all its departments and divisions to execute quickly and efficiently.
- Make ongoing improvements to organizational readiness to enhance its ability to execute IT initiatives.

What makes one organization ready for success with IT while another never seems to be ready in spite of ongoing IT initiatives? A successful organization demonstrates one set of characteristics, called *enablers*, whereas the unsuccessful one flounders with characteristics called *barriers*. The following table illustrates enabler and barrier characteristics.

Enablers to Success with IT	Barriers to Success with IT
Strong execution	Inadequate leadership mind share
Metrics driven	Build-it-and-they-will-come strategy
Focused on immediacy	Inadequate execution and network infrastructure
"Visioning" philosophy	Partially automated responses
Customer-focused and technology enabled	Islands of websites
Scalable applications and standard network architecture	Following the competition
Driven by company vision	One-time effort mentality

(Adapted from Amir Hartman, John Sifonis, and John Kador. *Net Ready: Strategies for Success in the E-conomy*. New York: McGraw-Hill, 2000.)

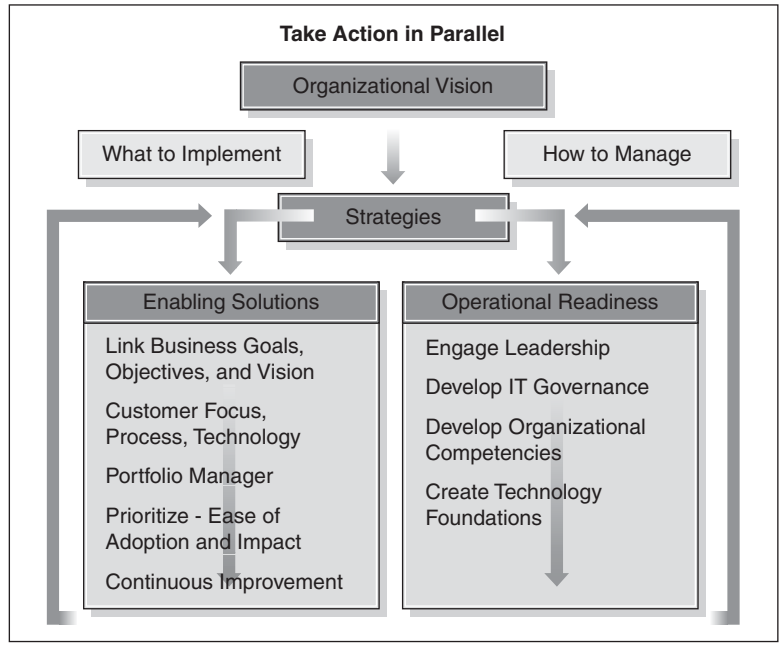
When you expand on these enablers and barriers, you can see how each point can positively or negatively impact the success of a company with IT. When examined collectively, you can readily identify the strength or harm that the total solution impact for success or failure with IT can have on the organizational readiness of a firm:

- **Strong execution:** An organization must have the ability to identify, execute, and deliver.
- **Inadequate leadership mind share:** This is failure of top management to link business strategies and IT strategies to achieve core goals and objectives of the organization.
- **Metrics driven:** Internet-enabled capabilities are linked to organizational goals and objectives and are measured and evaluated on a continuing basis.
- **Build it and they will come:** This is the illusion that customers, employees, and partners will naturally use web-enabled applications without incentives, training, and a solid management effort.
- **Being focused on immediacy:** Internet-enabled applications should be acquired or developed and deployed within 3 to 6 months. Large complex projects should be organized into smaller projects based on customer priorities and delivered in phases.
- **Inadequate execution and network architecture:** This is failure to build a technology foundation that links all the departments and divisions, as well as integrates with the supply chain. This type of infrastructure creates islands of isolation and limits future growth opportunities.
- **A "visioning" philosophy:** Successful organizations recognize the need for continuous self-examination, development, and modification.
- **Partially automated responses:** The failure to understand and redesign business processes completely creates delays and errors due to the use of manual processes.
- **Being customer focused and technology enabled:** Firms must offer a product or service that has clear value to a customer—the *customer value proposition*—and focus on creating new value through innovation.
- **Islands of websites:** This involves creating pockets of automation, frequently redundant and without integration between the sites.
- **Scalable applications/standard network architecture:** Companies need to create technology foundations that optimize applications and are interoperable.
- **Following the competition:** Companies that follow the competition do not innovate new products and services. Instead, they copy what their competitors are doing.
- **Being driven by vision:** Companies that articulate and act on a clear vision for the use of IT deliver greater customer value. In addition, vision-driven companies are capable of transforming their processes for greater efficiency and productivity.

- **One-time effort mentality:** These companies deploy new systems and capabilities once without an effective IT roadmap designed against the overall company strategy. These firms fail to monitor and improve the applications used or the network infrastructure over time, leading to rapid obsolesces.

What can a firm do to ensure it does not develop islands of isolation with its IT implementations as it aims to achieve organizational readiness? For a company to be successful in its efforts, it must focus on coordinating parallel efforts. As illustrated in Figure 3-3, success starts with the IT strategy being driven through the organization by the overall company vision. The vision determines what needs to be implemented and how it will be managed. Strategic roadmaps, metrics, and milestones are developed for executing enabling solutions and operational readiness. Continuous communication and feedback loops ensure that the company is executing for success with IT solutions built on defined strategies that map directly to the corporate vision. As a loop implies, this methodology is not a singularly executed process, but an ongoing one that requires vigilant attention. Vigilant attention to technology allows a firm to quickly take advantage of emerging opportunities.

Figure 3-3 Parallel Actions for Successful IT Implementations



Value of Organization Readiness

What is the value to firms in determining its readiness to execute an Internet-based business strategy? Most businesses already have a website, can electronically interoperate with their supply chain, and have built their leadership team and employee base. Technology is inherently pervasive to these firms, so that fact alone should make them nearly Internet ready.

However, that is not completely accurate. As discussed, there are enablers and barriers to organizational readiness. Time spent up front in the planning and preparation stages will reap great returns on the backend, allowing these companies to move at increasing speeds to meet changing customer requirements.

Companies that build their foundation solidly will be able to grow, change, and evolve at the same rate as their customers and markets. A quick recap of the value that each organizational readiness pillar provides illustrates the strength of the individual pillar and the collective strength of the entire framework:

- **Leadership**
  - Determines the way a firm addresses a market need or achieves its purpose
  - Encourages the sharing of information, increasing power across the firm
- **Governance**
  - Involves organizing, funding, and executing an Internet-based business
  - Ensures that decisions and power are distributed evenly in the organization
- **Competencies**
  - Identifies what and how to change, attract/keep good people, and build an effective culture
  - Ensures that business owners make business decisions with IT acting in a consulting capacity
- **Technology**
  - Enables easier integration and faster migration to new systems
  - Ensures that the organization builds itself around a robust, standard, and comprehensive architecture

Conclusion

This section looked at how the four pillars of organizational readiness—leadership, governance, competencies, and technology—help organizations build a successful Internet-enabled business. Organizational readiness is purely a measure against which firms can determine if they are capable of taking advantage of the Internet for success. This section can assist companies in determining where they are strong and where they need to exert some effort to become better prepared to take advantage of the Internet for business success.

Successful organizations demonstrate the enablers of Internet-ready success, whereas those that have failed display the barriers to Internet-ready success.

IT Governance and Planning

Previously, this module talked about governance as one of the four pillars to organizational readiness. Governance, as a pillar to organizational readiness, spans the entire organization. This section drills down specifically on governance as it relates to IT. You will learn why IT

governance is essential to your organization. IT governance helps you manage the transactions, information, and knowledge necessary to initiate and sustain your new Internet initiatives. This section covers the following topics:

- Four keys to IT governance
- Importance of IT governance planning

IT Governance: What Is It?

IT governance could be a subset of the overall governance team for a firm, or, if the firm is a small to medium-sized company, be the same group of leaders. The governance team is a board or senior management responsibility specifically related to IT that ensures five things:

- IT is aligned with the business strategy. In other words, IT delivers the functionality and services in-line with the current and planned needs of the organization, so that the organization can accomplish what it aims to do.
- Implementing IT and new technologies facilitate the organization to do new things that were not previously possible.
- Because of the improved efficiencies, IT provides increased customer satisfaction, partner satisfaction, and loyalty.
- IT-related services and functionality are delivered at the maximum economical value, in the most efficient manner. In other words, resources are used responsibly.
- Most risks related to IT are known and managed, and IT resources are secured.

(The IT Governance Institute and PricewaterhouseCoopers International Survey Unit, internal report on survey results.)

The Role of IT and IT Governance

Strategies for Implementing a Successful IT Program

Previously, you learned the importance of strong leadership within the organization to establish company goals and strategies. The IT governance team, as a subset of the overall leadership team, must carry the leadership strengths with it as it focuses on IT governance and aligning IT with business strategy. After you have established strong communications and a successful partnership between the business and IT leaders, you can evaluate your organization to see how prepared the organization is, as a whole. Writer and consultant Eric J. Adams suggests seven leadership strategies for successful IT programs:

1. Align IT to business strategy.
2. Make IT governance a priority.
3. Use metrics, but do not let them dictate strategy.
4. Commit to unified, standard information architecture.

5. Create a shared business and technology leadership vision.
6. Develop IT organizational skills beyond technology.
7. Know when and how to partner. (Adams 2003)

Companies of all sizes are searching for new ways to successfully deploy complex, mission-critical, and often costly IT initiatives. These seven strategies will enhance the success of those initiatives.

How to Manage Funding for IT Governance

Researching IT options and measuring results prevents organizations from overspending or underspending on their Internet initiatives. One of the biggest myths about IT is that the more you spend, the more value you reap from IT.

The likely reason for this myth to have developed is that large IT projects more often than not fail. Projects fail for numerous reasons. The most common reasons for IT project failure are these:

- Insufficient leadership
- Unclear goals and objectives
- Changing or evolving requirements
- Long development times
- Unproven technology

IT governance issues raise multifaceted questions for organizations when they focus on new IT initiatives. The issues are amplified when the initiatives are aimed at Internet-enablement:

- How do you build a company that is capable of changing as quickly as the marketplace it serves?
- How do you enhance customer satisfaction without overburdening employees?
- How do you build a nimble company and still be able to leverage existing IT implementations?

IT plays some role in answering these questions. The scope of that role varies by organization.

IT Governance and Planning

IT Governance Risk

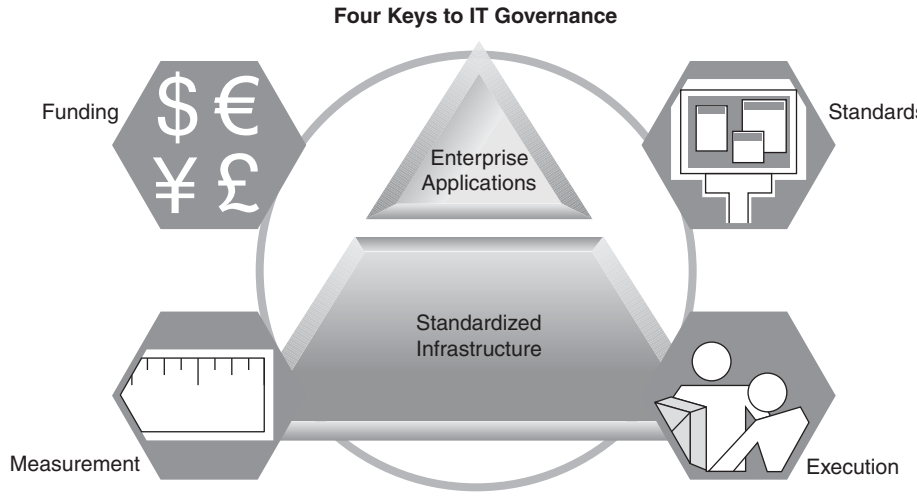
IT implementations are not risk free. Potential barriers are associated with IT Internet-enabling implementations. Along with calculating and enjoying the benefits of Internet initiatives, your organization needs to manage the risks associated with implementing new technologies. The most common risks associated with IT initiatives can be mitigated with a proper planning and implementation rollout. Companies run into problems when they seek to do massive infrastructure overhauls all at once. As discussed previously, smaller, manageable, measurable projects

are the best way for a firm to ensure its successful in IT deployment strategies. Recall that the aim was to achieve an ROI within a year for each project undertaken.

Figure 3-4 shows the four keys to IT governance. The IT governance body needs to address and therefore be able to mitigate these items. The keys are as follows:

- **Funding:** Determine how IT will obtain an appropriate amount of money to pay for the skilled people and IT systems it is requesting. In addition, the governing body needs to ensure that the proposed IT strategy aligns with the business strategy.
- **Standards:** Establish how IT defines and enforces technical standards throughout the entire company with each IT initiative without driving costs up and negatively impacting reliability to the user community.
- **Execution:** Define how IT manages the entire project life cycle, from idea origination to development to production to retirement.
- **Measurement:** Establish the metrics used to ensure that IT implementations are successful in terms of an ROI, total cost of ownership, achieved business objectives, and improved customer satisfaction.

Figure 3-4 Four Keys to IT Governance



Funding

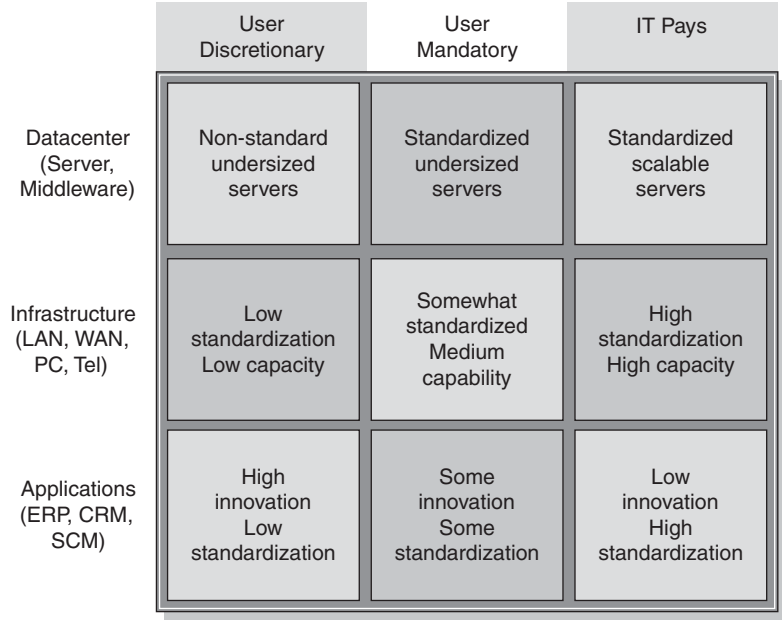
This section examines each of the four keys to IT governance more closely, starting with funding. Just as your personal cash flow impacts your consumption opportunities and behaviors, company funding impacts the opportunities and behaviors of a firm. IT spending must balance cost efficiencies and innovation with supporting business strategies. Although many think it would be great if most of the company cash flow went into IT, that is just not the reality for any firm. IT, just like you, has a budget that it must work within. This is why the IT governance body needs to ensure that all the IT initiatives undertaken ultimately support the overall business strategy.

Three Funding Models

Every company uses three basic funding models: user discretionary, user mandatory, and IT pays. These models are overlaid onto the three major components that comprise company IT systems: data centers, shared infrastructure, and enterprise applications. This three-by-three matrix is shown in Figure 3-5.

If a firm implements only a user discretionary model, the users determine how much they want to spend on a particular part of IT. This model makes the users happy because they can buy the tools they need to support their specific job function. However, the drawbacks to a pure user discretionary funding model are many, including the loss of technology standardization across the company, nominal investments in shared infrastructure, and the loss of technology investment alignment with business strategy.

Figure 3-5 IT Funding Models



The user mandatory funding model is substantially better for aligning IT investment with business strategy; however, the users might not be given the best tools for their job function. The user mandatory funding model, also known as a "charge-back" or "technology tax" model, has the IT group making all technology purchases and then charging users or departments for its operation. IT becomes highly visible within the business in this model. The benefit of using a user mandatory model is that the IT systems become more standardized. The drawback to this model is that the standardization is not comprehensive, slowing down emerging technology implementations, and users are limited in their tool selections.

The IT pays funding model is similar to the user mandatory model in that IT controls a single budget and determines how it will be spent across the three components comprising the

company IT systems: data center, infrastructure, and applications. The difference between user mandatory and IT pays is that the IT organization focuses exclusively on the IT systems. The benefit of this model is that it supports a highly standardized IT organization. The drawback to this model is that it chokes out innovation.

Clearly, no single funding model satisfies all the IT organizational readiness requirements. This is where the role of IT governance for funding comes in to the picture. The most effective approach to IT funding integrates all three funding models, taking advantage of the benefits of each model, while concurrently mitigating the drawbacks. For example, the users are well positioned to express requirements for their application needs that best support their job function. At the other extreme, users typically have little understanding of the complex datacenter hardware and software, so IT needs to be the main decision maker on those technologies.

In the middle, with end-user hardware (PCs, telephones, and networks), there should be some joint planning and decision making. All three of the IT funding models, then, are blended to maximize benefits. In addition, the IT governance board, in its role as aligning IT and business strategy, defines the standards that must be adhered to, to ensure that the three funding models blend smoothly and completely.

Standards

IT standards, or the lack of IT standards, has proven to be one of the keys to leveraging technology to a competitive advantage. Numerous studies have shown that 20 percent of the total cost of an IT system is in hardware. The remaining 80 percent is in the operating costs, including managing, maintaining, and supporting a device over the lifetime of the equipment. One way to reduce the operating expenditure is to ensure standardization.

Following are the benefits of standardized IT systems:

- **A more reliable infrastructure:** All devices are functioning in a similar manner.
- **Improved cost savings:** Maintenance and monitoring can be conducted in a clustered manner. For example, all routers from Company A can be configured in the same manner or patched at the same time.
- **Improved security:** Edge device administration is easier, faster, and consistent.
- **Better performance:** Traffic is handled in the same manner across the entire infrastructure; packets do not need to be translated at inflection points.
- **Higher availability:** Similar to better performance, the network traffic is not slowed down at inflection points, allowing greater throughput and availability.
- **Faster deployment:** IT staff is trained and certified on standard products, making IT implementations go faster and smoother due to familiarity.
- **Better defined priorities for processes:** Network traffic for critical business processes can be prioritized in a consistent manner across a standardized network. For example, customer relationship management (CRM) traffic takes a higher priority over e-mail because it impacts the customer.

The level or degree of standardization required for an organization will change depending on the stability of the technology. For example, LAN switching has been in the market for several decades and is considered highly stable. On the other hand, wireless technology is subject to numerous changes being driven by the IEEE and Internet Engineering Task Force (IETF) standards bodies. Therefore, wireless technology would be considered an emerging technology and not as easy to implement based on standards. You need to strike a balance between innovation and standardization. If your organization enforces standardization too aggressively, it can miss out on important market opportunities enabled only through emerging technologies.

How does IT and the IT governance team know when to insist on implementing standards-based technology and when to be more flexible to take advantage of emerging technologies? The table that follows provides a good guideline for technology implementations to ensure that your company is utilizing the best technology to meet its business strategies.

Stability of the Technology	What to Do	Example
When technology is rapidly changing…	Set standards on a protocol or category.	• Use IP for your network. • Buy Intel-Windows PCs.
As changes in the technology start slowing down…	Enforce stricter standardization requirements.	• Standardize on Company A routers. • Buy only Company B notebook computers.
As technology stabilizes…	Apply standardization across the organization.	• Use this configuration file. • Install this version of the operating system with these settings turned on.

Execution

You have learned the different funding options and the benefits of blending the three options. You have also seen the benefits of IT standardization and how to keep the IT initiatives moving forward, even when the technology itself is not standardized yet. The next responsibility of the IT governance team is execution.

A successful implementation of the new IT structure involves setting and aligning your business and IT priorities based on strategic goals, managing the cost of new technologies, and measuring the business value and the success of the new technology to the organization.

Your timelines will determine how quickly the IT department needs to implement each aspect of the new IT structure. Depending on your requirements and IT competencies, some activities will take longer than others. Setting up funding, standards, deadlines, and a project plan, and examining the stages of the life cycle of IT technology already deployed will accelerate the IT initiatives and Internet readiness of your organization.

As the IT team is building its implementation plans, it is important to employ the factors that will enable rapid deployment and avoid factors that will act as barriers. Remember, the goal is rapid implementations for small, manageable initiatives to achieve the optimal impact for the business.

Factors That Enable Rapid Deployment	Factors That Act as Barriers to Deployment
Buying existing software packages	Building your own programs
Adapting the package to suit your needs	Customizing massively
Adding basic features only	Having multiple vendors
Having small, focused teams that can drive change	Adding people after you have started
Defining a roadmap with milestones and firm deadlines	Having too many decision makers
Setting and adhering to success metrics	Changing success metrics
Communicating to all	Not communicating user impacts or changes

Importance of Communication

Given the rapid pace of business today, especially in the economy, organizations need to implement their new IT structures as well as new business practices simultaneously. Cultivating an IT-confident organization requires constant communication from start to finish on every project.

It is also critically important to be in constant communication with the user community, especially on projects that will directly impact their day-to-day routines. For example, if IT is considering a wholesale change-out of an application, the users impacted by the change need to be made aware of the plans prior to the change taking place. Users who are kept informed are more supportive of change than those who have change pushed at them. An informed user tends to approach change with an open mind and be more readily accepting of the changes being made.

Measurement

Why is it important for IT governance to establish a measurement program?

Measurements assess whether the IT initiatives align with business strategies, ensure that the funding allocated was appropriate based on organizational priorities, and demonstrate that your investment produced the positive results you expected.

For each IT initiative, key performance indicators (KPI) must be defined. KPIs are measurable indicators that can be used to report the progress of the project or the new result against its predefined goals. It is extremely important that realistic, concrete metrics are used in the planning stage. Changing metrics after a project has begun or at its completion obviates the

ability to measure project success or where along the implementation process the project could be improved for a more rapid deployment in the next iteration.

Static metrics highlight the strengths and weaknesses of each project plan, providing the continuous feedback mechanism necessary to make incremental improvements. Following are some examples of project metrics:

- **Time to delivery:** This includes each milestone along the defined roadmap.
- **Project budget:** This identifies hidden costs and where they typically show up.
- **Application performance:** This identifies the overall impact on the infrastructure that a specific application has; it also identifies application dependencies.
- **User adoption:** This identifies the benefit of the initiative to the overall company.
- **Cost savings:** This determines a portion of the value of the IT investment to the company; other components of value measurement are revenue generation and improved customer satisfaction.

Importance of IT Governance Planning

Organizations invest a lot of time, money, and resources into networks, IT infrastructures, applications, and maintaining the whole system. For a company seeking to move to Internet-enablement, IT readiness and IT governance planning is essential to ensure that the investments align with and support the overall business strategies.

As business processes increasingly integrate with IT, it is vital that IT projects succeed and deliver value back to the firm quickly. In many organizations, the limiting factor in successful implementation of IT is not technology or funding, but the maturity of the internal processes of the IT organizations.

Therefore, IT governance planning has become important to businesses for these reasons:

- IT is becoming increasingly more critical to operations.
- IT initiatives must link to the business strategies.
- Organizations are spending increasing portions of their budget on IT.
- Organizations need to ensure a return on their IT investment.

Other challenges, such as the availability of adequate and standardized infrastructure and the ability of IT to balance its investments across the applications, shared infrastructure, and datacenter areas, are a direct consequence of the funding model used.

Conclusion

Proper IT planning and governance will enable a more effective use of ICT and move toward a global, networked economy. As organizations push Internet initiatives forward, they must navigate between business strategies and using the proper technologies to implement them. A strong relationship between the business and IT leaders drives the success of the new Internet initiatives.

Moving Toward Organizational Readiness

To improve organizational readiness, your organization must look for ways to strengthen each of the pillars of organizational readiness: leadership, governance, competencies, and technology.

Improvements in these four areas will allow an organization to deploy a web-enabled business strategy more successfully. In this section there are four guides that will help you determine if your firm is ready to implement Internet-enabled solutions. These guides will also give you some ideas of the ways to move your firm toward each pillar of organizational readiness. In addition, you will learn:

- The questions to ask to help assess the current state of your organization
- The challenges, guidelines, and best practices of different organizations as they have put the four pillars in place

The Leadership Guide

This guide contains the following:

- Questions to help determine how Internet savvy the leaders of your organization are
- Guidelines for success
- The role of leaders and culture
- Leadership issues and challenges

Moving Toward Leadership Readiness

The first step in moving toward Internet and IT leadership organizational readiness is to ask these questions to determine how Internet savvy the leaders of your organization are currently. Write the answers to the questions that follow. If you cannot confidently answer these questions with "yes," think about ways your leaders could help make the change.

- Is senior management involved in the IT strategies of the organization?
- Are the IT strategies of the organization focused on value creation and productivity?
- Is the vision for the use of the Internet and IT well communicated within the organization?
- Is senior management promoting the use of web-based applications internally and externally?
- Is generating competitive advantage via the Internet and IT a top priority of senior management?

- Are the Internet and IT initiatives integrated with the business strategy of the organization?
- Does the organization have an IT strategy and roadmap in the twelve to eighteen-month timeframe, and is it communicated up and down the organization?
- Does the organization have an e-culture (web-enabled business mindset)?
- Does the organization have a culture of information sharing?

The Guidelines for Success

Following are some guidelines to help your organization move toward leadership readiness*:

- **Solve business process problems first:** Make sure that the business issues are integrated with the technology. Do not fix the technology first.
- **Drive an e-business vision in 12 to 18 months:** Plan for deliverables with rapid execution in 3 to 6 months. If projects are too large and complex to be implemented quickly, redefine project deliverables in shorter phases, delivering a working application with measurable benefits at each phase.
- **Communicate that vision up and down the organization:** Spread the news. Use your intranet to spread the vision to everyone in the organization.
- **Pay attention to opportunities and threats:** Always look at what the competition is doing. This will help the organization to survive.
- **Make generating competitive advantage your top priority:** Act now. Do not wait for the business environment to change.
- **Take personal responsibility to participate in e-business efforts:** It is critical that senior management is involved with e-business efforts. Stay involved.
- **Educate and empower employees to drive e-business:** Spend the money to effectively empower and train your employees.
- **Create a culture of sharing information:** Use the network to enable and change business processes when required.
- **Plan for change:** Identify implementation and adoption strategies early, and build a change management plan to ensure project success.

The Role of Leaders and Culture

Another element of moving toward leadership readiness is recognizing how the role of leaders and culture can improve performance.

* (Adapted from Hartman, Amir, John Sifonis, and John Kador. 2000. *Net Ready*: New York: McGraw-Hill.)

Three main criteria need to exist to develop a culture that is likely to enhance the long-term performance of an organization:

- The culture must be strategically relevant.
- The organization needs to be strong.
- The culture must have a fundamental ability to adapt to changing circumstances.

Three managerial tools can be used to help leaders develop, manage, and change their culture for better performance[†]:

- **Recruitment and selection:** Hire employees who fit the culture.
- **Social tools and training:** These create strong bonds between employees.
- **The reward system:** Culture is the informal reward system of an organization.

After leaders decide to use culture as a business tool, they must regularly review their own behavior to understand the signals they are sending to employees.

Leadership and culture also have significant financial effects:

- Increased net sales growth
- More product/stock referrals
- Increased brand momentum
- Greater employee commitment
- Agility and technology adoption

Issues and Challenges

To reach Internet readiness, leaders must face many issues and challenges:

- **Lack of executive sponsorship:** Sponsorship is critical to developing an e-culture and driving the strategy with an organization-wide focus.
- **Lack of focus:** Without such focus, organizations risk chaos from a massive number of disjoined projects.
- **Lack of information and acceptance:** The e-culture/e-business mindset is not evangelized by leaders or accepted throughout the organization.
- **No team in place to drive strategy:** Leaders must have a vested interest to become an Internet business.
- **Internet initiatives not integrated with business strategy:** Leaders must integrate Internet initiatives. They promote risk taking to stimulate an e-business culture throughout the organization.

Can you think of other challenges that your leaders currently face or will face as the organization is becoming more Internet savvy? Write the challenges or issues on the next page.

[†] (Adapted from Chatman, Jennifer A. and Sandra E. Cha. 2002. "Culture of Growth." *Mastering Leadership*, Part Four: 2–3.)

The Governance Guide

Now that you have considered how to move closer to leadership readiness, you will review moving toward governance readiness.

This guide contains the following:

- Questions to ask to help determine if the IT governance of your organization is ready for Internet-enabled solutions
- The governance and operations framework
- Governance issues and challenges
- A list of governance best practice items
- IT governance funding options

Moving Toward IT Governance Readiness

How do you align your organization to plan, implement, and use new Internet-enabled processes?

Ask these questions to help assess the level of IT governance in your organization.

Write the answers to the following questions. Governance can help provide answers to these difficult questions:

- What are the roles and responsibilities of the business and IT members of the organization on Internet-enabling projects?
- Is it clear who has decision-making authority on initiatives?
- Are the limits of accountability clearly defined?
- How are Internet-enabling initiatives funded?
- Has the organization allocated sufficient funding for ongoing maintenance?
- Does the organization have an established method for assessing and selecting Internet initiatives and for allocating resources?
- How does the organization incent Internet-enabling activities?
- Does the organization have established metrics for measuring the impact of its Internet initiatives?
- What drives the Internet initiatives (IT, marketing, customers, competitors, and so on) of the organization?

The Governance and Operations Framework

Governance defines the structure and the tools of an organization, not the processes. Organizations that are integrating e-business into their traditional activities use the governance and operations framework.

The framework consists of four core sets of disciplines[‡]:

- **Governance model:** This defines the purpose of the structure of the body that manages responsibilities for e-business. It is similar to a board of directors, which sets policies that the CEO must carry out.
- **Decision processes:** These define the decision-making and funding means for ongoing planning and management. They include decision mechanisms, funding models, and escalation or appeals processes.
- **Policies and standards:** These involve guidelines for implementation of recommendations and performance monitoring. They consist of standardization and enforcement.
- **Goals and metrics:** These define the business performance objectives and measures to guide Internet and IT administration polices and investment decisions.

Issues and Challenges

Following are some of the issues and challenges that organizations have to consider in moving toward IT governance readiness:

- Are roles, responsibilities, and accountability clearly defined?
- Is an administrative process in place for initiatives?
- Is there a method for assessing and selecting Internet strategies?
- How are e-business initiatives funded?
- What is driving the Internet initiatives (IT, marketing, customers, competitors, and so on)?
- Is a method established for allocating resources for Internet initiatives?
- Are serious and established metrics available for measuring the impact of the Internet initiatives?
- Is an effective organization in place to deliver the Internet initiatives?

Write the answers to these questions. What other challenges can you think of?

[‡](Adapted from Hartman, Amir, John Sifonis, and John Kador. 2000. *Net Ready: Strategies for Success in the E-conomy*. New York: McGraw-Hill.)

Governance Best Practices

Before you look at a specific example, read these governance best practices:

- Establish cross-functional teams. E-business initiatives must focus on the customer. This means breaking down the barriers of traditional teamwork.
- Demand near-term results. Projects should take three to six months. Focus first on the projects that have the highest impact and are the easiest to implement.
- Actively promote the use of Internet-enabled applications. Train users to adopt the new way of doing things.
- Make e-business a business-driven line activity. A business executive (not the IT department in an organization) should have ultimate decision-making responsibility.
- Make funding decisions for Internet solutions resemble all business funding decisions. Treat all e-business funding decisions by blending business judgment with ROI.
- Establish a cross-functional governance council with e-business, technology, and evangelical components. Led by a business executive, the council markets Internet-readiness throughout the organization.
- Make IT take on a free market fulfillment role. Allow IT to play the role of an e-business enabler.

Think about your organization and write whether you think your organization is following these best practices.

IT Governance Funding Options

As a refresher, these are the three ways to fund datacenters, infrastructure, and applications:

1. **IT pays for it all:** If all three parts of IT are paid for by IT, it is considered a pure cost center, and there is little visibility or choice on IT expenditure by the business. This is great for standardization and cost containment, but it can yield little innovation. The IT organization also does not develop a "customer-service" orientation, because increasing demand from users just results in greater cost (for IT).
2. **User mandatory:** In this model, all three parts of IT are charged back. This model was popular in the 1980s and early 1990s and was developed as a way to make IT respond better to the business. If IT has to charge for the services it provides, users will insist on quality and low cost. This model makes it difficult for IT to prioritize investments across different business units because it is not directly aligned with the business success measures.
3. **User discretionary:** In this model, the users determine all three parts of IT. The issue with this model is that all the control is in the hands of the users, and it is impossible to enforce organizational standards. This model leads to less efficient IT systems and often confusion on how to integrate disparate systems.

The best funding model includes a combination of the three funding options. Cisco has successfully implemented new IT programs doing just that.

	User Discretionary	User Mandatory	IT Pays All Costs
Datacenter (servers, middleware)	Nonstandard, undersized servers	Standardized, undersized servers	Standardized, scalable servers
Infrastructure (LAN, WAN, PC, Tele)	Low standardization, low capacity	Somewhat standardized, medium capability	Highly standardized, high capability
Applications (ERP, CRM, SCM)	High innovation, low standardization	Some innovation, some standardization	Low innovation, high standardization

Governance: A Best Practice Example Insert Case Study

PNB Paribas

Most companies are extremely aware of the need to ensure the accuracy of their financial records and the soundness of their infrastructure, says Robert Coghlan, head of corporate governance at PNB Paribas, one of the largest French multinational banks. Coghlan says good governance stems from four factors:

- Instilling a culture of integrity
- Integrating governance into business processes
- Creating measurement tools and metrics
- Leveraging technology to make it all happen

The Competencies Guide

You will now look at moving toward readiness in the competencies of your organization.

This guide contains the following:

- Questions to ask to help determine if your organization has achieved competencies readiness.
- Ways to improve performance and outcomes.
- Guidelines for success.

Write the answers to the questions in the space provided.

Moving Toward Competencies Readiness

Ask these questions to assess the competencies of your organization:

- Is the organization capable of dealing with rapid and ongoing change?
- Can the organization adapt and drive change quickly across the organization?
- Does the organization have the implementation competencies to execute strongly and quickly (three months or less)?
- Does the organization have the business, process, and technical competencies to support the Internet-enabled initiatives?
- Does the organization have the operations capabilities required to support its Internet and IT strategies?
- Does the organization have experience managing multiple relationships (both internal and external)?
- Can the organization form and dissolve relationships/partnerships quickly?

Improving Performance and Outcomes

How does the performance of an organization benefit from being competencies net ready?

Competencies can help in the following areas:

- **Relationships:** Managing multiple relationships is key. The organization has multiple strategic relationships at all times and can both enter and dissolve them effectively. The company is sought after for business opportunities, and it has strong relationships with partners.
- **Skills:** Expertise and cross training are crucial in technologies, in business, and in IT skills. The organization has skills in e-business implementations and can sell services both internally and externally.
- **Applications:** Continuous application development keeps the organization ahead of the curve. The organization commits to iterative projects to enhance e-business products and services. The organization exhibits ruthless execution in developing and implementing e-business solutions.
- **Competition:** Competitors can become a source for new growth. The organization continually evaluates what the competition is doing with their websites and their e-business initiatives. The organization has the internal structures for sharing key knowledge and has the ability to use this knowledge quickly.

The Guidelines for Success

Competencies net readiness requires the following of the organization[#]:

- **Have experience in managing multiple relationships:** Know how to build, manage, and sometimes dissolve relationships.
- **Be capable of dealing with rapid and ongoing change:** You must have the ability to respond, create, and manage change.
- **Drive change quickly across the organization:** Every corner of the organization must be able to abandon business practices for something new.
- **Identify and prioritize e-business opportunities:** Most companies will take too long analyzing how to perfect the execution.
- **Be able to execute strongly and quickly:** Make meaningful changes in three months or less.
- **Be confident of having the operations capabilities and technical competencies to support Internet initiatives:** Make sure you have employees with the specific skill sets to achieve these competencies.
- **Know when to stop projects:** Build capabilities to stop projects and execute them elsewhere.

Competencies: A Best Practice Example

The General Electric (GE) Energy Initiative

GE brings together a vast array of global talent to develop new products and technology. For example, the company has experts in two areas:

- **Jet engines:** These experts develop composites that allow for lighter, stronger blades in jet engines.
- **The rail business:** These experts know how to make gearing systems that operate at peak efficiency.

The company can bring the talent together at various locations that serve all of GE businesses.

The Technology Guide

Now that you have looked at how to move to strengthen your Internet competencies, you can look at moving toward readiness in technology.

[#](Adapted from Hartman, Amir, John Sifonis, and John Kador. 2000. *Net Ready: Strategies for Success in the E-conomy*. New York: McGraw-Hill.)

This guide contains the following:

- Questions to help determine if your organization is technologically ready for Internet-enabled business solutions
- The way technology benefits performance and outcomes
- Technology issues and challenges
- A list of technology best practices

Moving Toward Technology Readiness

The first step in moving toward technology readiness is to ask these questions to determine if your technology infrastructure is ready for Internet-enabled solutions. Think about what technology your organization currently has. In the space provided, write your answers.

- Does the organization have IT standards?_____
- Does the organization prefer to buy the technology instead of building it itself? ____
- Does the organization have the technological infrastructure (network services, hardware, software, security) required to develop and grow? _____
- Does the organization insist on simplicity, standardization, and flexibility in every corner of the e-business environment? _____
- Are the talents of the people across the organization best utilized? _____
- Are the solutions of the organization flexible enough to accommodate change?_____
- Are the solutions customizable to customer needs? _____

Performance and Outcomes

How does the performance of an organization benefit from technology readiness?

- With robust and comprehensive corporate-wide architectures, organizations can easily and frequently deploy applications without having to justify the cost of incremental investments in infrastructure for every value-added initiative.
- Leaders who have such an infrastructure in place are in a much better position to launch initiatives rapidly and to exploit emerging opportunities.

Organizations that have prospered during the boom market of the late 1990s and that have survived and grown stronger during the recent downturn have used the Internet and IT to do the following:

- Increase efficiency by putting information online and automating processes
- Reduce costs by using the Internet to remove a layer of administrative costs

- Increase sales by gaining new markets in places where the organization cannot establish a physical presence
- Increase adaptability and resiliency by doing the following:
  - Distributing knowledge and core functions within businesses to those closest to the action
  - Adapting to changing business conditions
  - Forming virtual teams, such as alliances and partnerships

Think about some other benefits that your organization can gain from technology, and write them in the space provided.

Issues and Challenges

What are some of the technology issues and challenges to consider when determining technology readiness?

- Will this solution be flexible enough to accommodate change?
- Does the organization have the technical competencies to support Internet initiatives?
- Is this solution customizable to the needs of the organization and the customer?
- Does the organization have the technological infrastructure (network services, hardware, software) required to develop and scale?
- Does the organization have the sufficient funding for ongoing website maintenance?
- Does the organization have the operations capabilities required to support its Internet strategy?

These are some of the issues and challenges that your organization should think about as it moves closer to technology readiness.

Best Practice List

Following are some of the technology principles that technology-ready organizations must be proficient in:

- **Ability to build and drive standards across the organization.** This includes applications, network, and security.
- **Demonstrated scalability.** Make sure that the existing infrastructure is ready and can be scaled up or down to meet emerging requirements.
- **Business-driven technological strategy.** Create a business-smart technology organizational as well as a technologically smart business organization.
- **Insistence on simplicity.** Resist the forces of complex, nonstandard, and proprietary rigid applications. Make someone in the organization (for example, the chief information officer [CIO]) enforce simplicity.
- **Human resources that are aligned with business goals.** Ensure that the talents of employees are best utilized.

Think about what your organization is doing, and determine whether these best practices are being followed. Write your answers in the space provided.

_____

_____

_____

_____

Conclusion

With the help of the guides, you should now be able to look at your organization and ask the correct types of questions and apply best practice recommendations to move your organization closer to Internet readiness.

You should now be more aware of two things:

- The questions to ask to assess the current state of the organization, and whether the four key pillars are in place
- The challenges, guidelines, and best practices in each of the four pillars, and how to apply them to your own firm

Organizational Readiness Planning

Planning: The First Step to Improvement

In this section, you will learn the importance of planning for organizational readiness and the basic steps you need to take to prepare your organization for this journey.

Discover how to do the following:

- Evaluate the strengths and weaknesses of your organization objectively.
- Build core competencies for improving organizational readiness.
- Develop a readiness plan, and review and revise it quarterly.

Why Plan for Organizational Readiness?

Organizations must expand to keep up with the ever-changing and fast-moving economy. Yet many organizations disregard planning and immediately start using the new technologies that are available. They let the technology determine the strategy, and this leads to failure.

Organizational readiness refers to the level at which an organization has optimized key attributes required to successfully implement Internet-enabled business strategies and initiatives.

Organizational readiness planning helps organizations do the following:

1. Create a more effective organizational culture.
2. Adapt quickly and easily to ongoing changes.
3. Identify areas of improvement.
4. Overcome barriers to organizational success.

Improving Organizational Readiness

Examine your organization, and find out how ready it is to implement new Internet business initiatives.

After your organization has assessed its readiness gaps and their importance, it needs to prepare an organizational readiness plan. Your focus should be on strong implementation, accountability, and measurable near-term results.

Make this plan a part of your existing organization planning process. Embed this plan in what your organization already does.

Follow these steps to build your plan:

Step One: Evaluate Your Organization

An organization with strong organizational readiness typically has strong leadership, effective governance, and an innovative approach to the use of new technologies. The effective organization can move from strategy to planning to implementation more quickly and with greater focus and innovation.

Consider several questions:

- Is your organization capable of dealing with rapid and ongoing change?
- Can it adapt and drive change quickly across the organization?
- Does it have the implementation competencies to execute meaningful Internet initiatives in three months or less?
- Does it have the technical competencies and resource talents to support Internet initiatives?
- Can it form and dissolve partnerships and relationships quickly to build and manage suppliers and partners?

Step Two: Build Core Competencies for Organizational Readiness

Organizations that have strong readiness competencies are responsive to customer needs and have the agility to execute and move quickly. More than a sum of their skills, these organizations have a culture, or at least influential departments that are more capable of reaping the benefits of web-enabling business processes.

This culture is more inclined to combine people, process, and technology to solve problems and address opportunities. This organization is more capable of responding to new complexities such as globalization, shorter product life cycles, and the entrance of new competitors due to barriers to entry. Recall the earlier discussion on the five Cs of core competencies:

- **Complexity:** Multiple factors determine the success of your organization.
- **Concurrency:** All your projects and goals are occurring at the same time.

- **Coherence:** Organization leaders and employees contribute to the move to organizational readiness.
- **Connectivity:** Leaders, employees, partners, and organization allies share important information with each other honestly and in real time.
- **Coordination:** Your organization establishes mutually beneficial relationships with other organizations in your industry.

Step Three: Develop an Organizational Readiness Plan

For your organization to develop a plan, you must first determine if it can develop the ability to do the following:

- **Manage multiple relationships effectively:** Successful organizations can build, manage, and dissolve relationships easily.
- **Adapt easily to rapid and ongoing change:** The economy changes rapidly, and advantages are temporary. The ability to manage change is imperative.
- **Drive change quickly across the organization:** The entire organization must be willing to abandon current business practices in favor of something new.
- **Identify and prioritize business opportunities:** Act on favorable opportunities quickly. Spending too much time in analysis and decision making can lead to lost opportunities.
- **Execute strongly and quickly:** Make meaningful changes in three months or less. Break larger projects down into segments you can execute within three months. Abandon perfection, and focus on satisfactory progress to promote speed.
- **Support initiatives:** Support Internet initiatives with a talented, innovative technical staff.

Conclusion

IT-savvy organizations have a culture that is capable of responding to new challenges and opportunities. These organizations will have the agility to execute and move quickly.

Readiness Assessment and Plan Development

After evaluating your organization and understanding the role and importance of IT governance, it is necessary to assess the state of readiness for your organization and create an Organizational Readiness Improvement Plan.

In this section, you will learn how to use the Net Readiness Scorecard to help assess the organizational readiness of your firm and create a plan to improve organizational readiness.

Why Assess Your Organizational Readiness?

Organizational readiness refers to the level at which a company or an organization has optimized the attributes required to successfully implement Internet-enabled strategies and initiatives. To prepare for the move to the Internet, an organization needs to do the following:

- Discover its strengths, weaknesses, and areas of disagreement.
- Identify potential barriers to success, and develop initiatives to resolve them.
- Assess progress within a structured timeline.
- Measure progress, and continuously improve processes.

Figure 3-6 alludes to the need for you to conduct an in-depth evaluation of the organizational strengths and weaknesses. A comprehensive assessment allows you to focus your time and resources on improving weaknesses. When you understand what you need to do, you can begin to improve your organizational readiness quickly and efficiently.

Figure 3-6 Assessing Strengths and Weaknesses

Characteristics of Organizational Competencies

First, consider organizational traits:

- The organization is knowledgeable and skilled on standard platforms, tools, and applications. It is responsive and can implement ruthlessly and quickly.
- The organization is able to manage multiple relationships. It also knows how and when to start and end partnerships to respond to customer needs.
- The organization understands the capabilities required for organizational readiness, including focusing on customer needs, offering self-service functions, developing strong partnerships, and increasing technology competencies.
- The organization can handle increasing complexity. It has interrelated and fast-moving activities that adapt to changes in customer-buying patterns, markets, and competition more quickly than most organizations.
- The people can do multiple tasks and can build networks of relationships that can shift without going into chaos.
- The organization encourages the sharing of information, which increases power across the organization.

Tools for Assessing Organizational Readiness

What Is the Net Readiness Scorecard?

- The Net Readiness Survey (NRS) is an analysis tool designed to assess an organization's ability to migrate to an Internet business model. The result of the survey tool is a scorecard containing a series of statements that relate to the four critical success factors: Leadership, Governance, Organization Competencies, and Technology.
- The NRS provides recommendations in the four areas of organizational readiness based on individual or organizational inputs. These recommendations are based on the perceptions of the respondents rather than "facts." You should evaluate and adapt the recommendations to meet the specific needs and priorities of your organization. Consider these along with other actions that you can take to enhance your organizational readiness.

Why complete a series of NRSs?

If taken across an organization, the NRS can do the following:

- Provide a broad strategic insight into company culture, such as where and how it shifts from "business as usual" to make way for new business practices.
- Produce an accurate picture of the organizational readiness.
- Provide a means of communication across the functional departments and between various levels of an organization.

You should encourage your entire management team to take the NRS.

Net Readiness Survey

Choose an answer for each question that follows:	Answer
The strategic plans of the organization include an e-business strategy.	
The current e-business activities of the organization are well integrated with its business strategy.	
The organization has created a 12- to 18-month roadmap of e-business projects.	
Decision-making authority has been clearly assigned for all e-business initiatives.	
The organization has developed its own e-business culture.	

How to Use the Scorecard to Assess Your Organization's Readiness

The NRS addresses how your organization rates its preparedness in each of the four pillars:

- Leadership
- Governance
- Competencies
- Technology

To find out what strengths and weaknesses your organization has, fill out the diagnostic NRS, and then record your scores here:

Leadership:_____

Governance: _____

Competencies: _____

Technology: _____

The results will help you develop a comprehensive Organizational Readiness Plan.

Evaluating Your Scores

When you have completed the scorecard online, you will get a Net Readiness Scorecard overall score, a Best of Breed (BoB) number, and a scorecard graph that shows you where your organization is relative to the industry average.

This is an example of a Net Readiness Scorecard with the gap results.

iQ Net Readiness Scorecard Results

Critical Success Factors	Your Average	Best of Breed
Leadership	3.0	4.4
Governance/operational	2.9	3.9
Organizational competencies	2.4	4.1
Technology	2.6	4.2

In this example, the average score for the governance pillar for the organization is 2.9. The BoB score is 3.9. The gap score is 3.9 – 2.9 = 1.

You can generate your own gap score that shows the difference between the score of your organization and the BoB score by subtracting your average score from the BoB score. A low gap score indicates strength within that pillar, a higher gap score indicates weakness, and the highest gap scores indicate areas of disagreement.

Net Readiness Scorecard: What Do I Do with the Results?

Determine Strengths, Weaknesses, and Disagreements

Based on the gap scores of each pillar, you can determine some of the strengths and weaknesses in the organization. If a pillar has a particularly high gap score, try to determine what the weaknesses are.

Generate a List of Possible Solutions

After evaluating the scores and determining the strengths, weaknesses, and areas of disagreement, you should consider how to address each of those elements.

Referring to your NRS scores recorded earlier for each organizational readiness pillar, what do you think are some of the strengths, weaknesses, or disagreements of your firm? On this and the following page, write some ideas on how to address these strengths, weaknesses, and disagreements. Consider some of the following questions when thinking about your specific company:

- Where are the issues of the organization?
- How is the organization at implementation?
- What is the culture of the organization?
- How does the organization use technology?
- What are the barriers for the organization?
- What are some projects/solutions that the organization should implement?
- How can the organization measure success?

If taken across an organization, the NRS can provide a broad strategic insight into company culture, such as where and how it will be necessary to shift from old business practices to make way for new Internet-enabled practices.

Encouraging the entire management team to use the NRS will produce an accurate picture of the organizational readiness. In addition, it can provide a means of communication across functional departments and between the various levels of an organization.

Review the steps for assessing your organizational readiness.

1. Take the NRS.
2. Evaluate the scores of your organization against industry BoB scores, and use the scores to identify areas of strength, weakness, and disagreement.
3. Generate a list of strengths, weaknesses, and disagreements.
4. Create an initial list of possible solutions.

Organizational Readiness Improvement Plan

Now you can put together your own comprehensive Readiness Improvement Plan.

Sample Organizational Readiness Improvement Plan

iQ Net Readiness Scorecard Recommendations	Specific Actions	Responsibility and Time Frame
Internet initiatives are extended to enterprise partners (for example, distribution partners, suppliers, and end customers) to expand the reach of current applications.	• Provide training and tools to partners and suppliers. • Develop a proactive plan to migrate supplier communications and trade to the web. • Create business cases for extended partners.	• Procurement and purchasing team leaders • Colead from IT • 4 months
Define measurable metrics for each Internet initiative.	• Define best practices from BoB players. • Insert in the prioritization process a metrics definition activity. • Create a list of standard metrics for all initiatives.	• Strategic planning together with program and each project manager • Budgeting and control • 2 weeks metrics, 1 month process

Sample Organizational Readiness Improvement Plan

iQ Net Readiness Scorecard Recommendations	Specific Actions	Responsibility and Time Frame
Create a standard process to evaluate and select Internet initiatives that align with the business strategy.	• Develop methodology and process for systematic analysis. (Adapt the Cisco IBSG[1] methodology.) • Assess alternative financial evaluations that encourage investment in a web enablement. • Create a company-wide suggestion box for Internet initiatives.	• Strategic planning and CFO[2] • Corporate communications • 1 month

[1] IBSG = Internet Business Solutions Group
[2] CFO = chief financial officer

Conclusion

Organizational readiness assessment and planning help your organization identify its weaknesses and help you address them effectively.

Using the NRS and the Organizational Readiness Plan templates, you have all the tools you need to focus your organization on new Internet initiatives.

Conclusion

In this module, you have learned the process of planning for organizational readiness and how to use some of the tools to determine how close your organization is to being "net ready." You have learned about the readiness characteristics of successful organizations. Improving organizational readiness takes work and time, but the rewards are great.

You should now be able to do the following:

- Describe the importance of organizational readiness and its impact on organizational performance and success with ICT.
- Define the characteristics that make an organization ready to embark on Internet and IT initiatives.

- Explain how to move your organization closer to organizational readiness through assessing its current state and learning about the challenges, guidelines, and best practices of the four pillars of organizational readiness.
- Describe the importance of planning for organizational readiness.
- Explain the steps to plan for organizational readiness.
- Explain why taking into account the IT governance process during planning is vital to the success of IT initiatives.
- Utilize NRS planning tools to assess your state of organizational readiness.
- Identify organizational readiness improvements.

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MODULE 4

ICT Solutions

The previous modules discussed the foundation necessary for understanding the development of business in the age of the Internet. As you have seen, a successful business must apply information technology to engage with its customers and its suppliers to accurately position its products and services and to accelerate its delivery capabilities.

To this point, the modules have talked in terms of the benefits of Internet-enabled information technology, but they have been somewhat vague about exactly what that technology is. This module begins to explore the specific ways in which this technology can be applied to business processes to achieve the benefits that have been discussed.

More importantly, this module provides you with some tools to use when comparing different solutions and shows you how to map solutions to business process tasks and activities.

In this module, you will learn about Internet-enabled solutions. You will examine workforce optimization, customer facing, and supply chain solutions. You will also learn how to map business processes so that you can decide on appropriate Internet-enabled technologies and establish some basis for evaluating the impact of those technologies.

Understanding Internet-Enabled Solutions

What is a solution? *Solution* has become a common business term and has even become a description of what some businesses do: solution provider. However, the word has become overused and has largely lost its meaning when applied to the construction of business processes. In a classical business sense, a solution is defined as the means to solve a problem or address an unmet need. Technology solutions typically seek to improve productivity, innovation, efficiency, and process effectiveness.

In this section, you will learn the following:

- What an Internet-enabled solution is and why it is important
- Why business information and communication technologies (ICT) are critical to business process reengineering and organizational success
- How process maps help organizations understand workflow and formulate successful solutions

ICT solutions describe a class of Internet-enabled technologies that can be applied to business processes. An ICT is the combination of people, process, and technology that addresses a problem or need. The use of ICT solutions addresses organization needs to improve

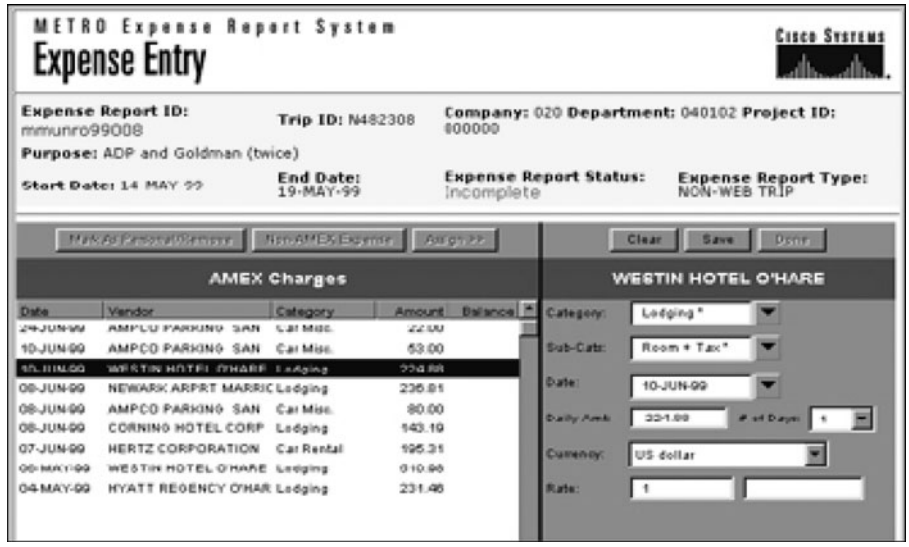
communications, streamline transactions, and enable business processes to be performed anywhere, anytime.

Of course, this begs the question of what constitutes an ICT solution: What are its essential characteristics? As noted earlier, the Internet provides an open, standard global communications platform enabling people, businesses, and governments to interact in ways never possible before. Industry standard technologies supporting open communications, authoring, and data exchange now make it possible to extend business processes both internally and externally. An Internet-enabled solution utilizes web-based applications or other Internet-related technology to provide successful, scalable, and cost-effective solutions.

Web-based applications enable organizations to reduce or eliminate transaction costs and lower administrative tasks by simplifying or automating tasks, such as through self-service applications.

As Figure 4-1 demonstrates, such applications can be as simple as an expense-tracking tool. However, when such applications are enabled by connections to other business systems such as customer relationship management (CRM), they become a powerful way of tying together telemetry from various sources to achieve deeper insights into business dynamics. For example, such telemetry could inform the business on the expense required to maintain particular customer accounts.

Figure 4-1 Example of an Expense Tracking Tool



Using the communications capability that is implicit in the Internet to integrate different systems, also known as *process integration*, enables an organization to properly prioritize and streamline processes.

Another Internet-enabled form of integration, *network integration* promotes open communication and real-time data access across an organization. An organization might integrate its separate networks so that it can track a lead from marketing, through sales, and through post-sales, which promotes account growth. As a result, employees at each step in that chain of processes can access the data they need to make the best informed decisions for the organization. Network integration for marketing is illustrated in Figure 4-2.

Figure 4-2 Example of Network Integration for Marketing

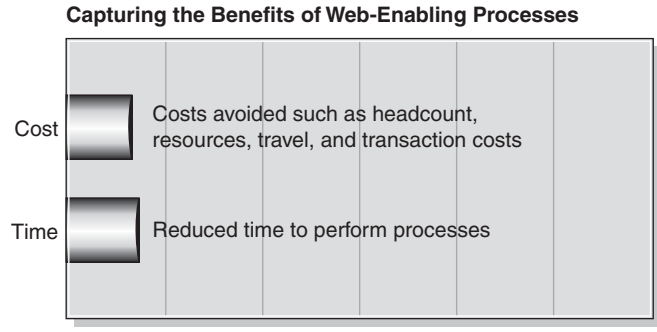
ICT solutions, although describing a common set of expectations, are implemented under different labels within the industry. Cisco, for example, uses a well-defined methodology to measure the efficiencies gained from transforming organizational processes through the use of *Internet capabilities*, the term the company uses for web-enabling its processes.

The methodology measures efficiency gains from implementing web-based applications. Benefits are measured in two categories:

- **Cost avoidance** refers to costs such as full-time employees, materials, travel, and transaction costs—that are avoided, not incurred, or reduced.
- **Time efficiencies** refer to the decreased process performance time, such as reduced time for a manager to complete an employee performance review.

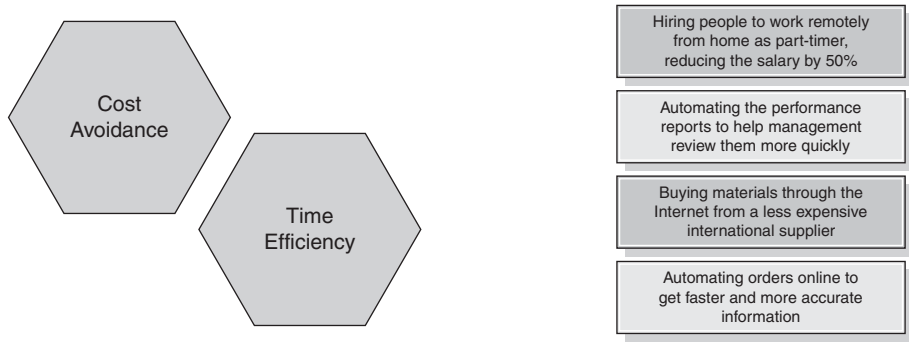
Figure 4-3 shows the impact of web-enabling business applications. These measures are not complete. This methodology does not evaluate effectiveness gains or nonfinancial measures such as customer satisfaction; however, they are equally important to future success.

Figure 4-3 Efficiency Gains from Web-enabled Applications



In the following diagram, Figure 4-4, several actions are listed that a business could take to capture the benefits of web-enabling its business processes. See if you can identify whether they help avoid cost or reduce the time necessary to accomplish a task.

Figure 4-4 Actions that Drive Cost Avoidance or Time Efficiencies



To this point, the discussion has been rather abstract in focusing on business processes and the tasks that they are composed of. In fact, understanding business processes in the context of the business objectives is fundamental to good business management; and the topic of designing efficient business processes has consumed a great deal of business management theory in the past century. Exploring this subject in any depth is well outside the scope of this textbook. Yet, the subject is important enough that you need to spend a little time learning the basics.

The first question that occurs is this: What exactly is a business process? A *business process* is a set of linked activities that create value by transforming inputs into more valuable outputs. Business processes involve communication and integration of information and can be performed by people, IT systems, or both.

Business processes within a value chain involve two types of processes:

- **Operational processes** that create the primary value for the core business of an organization, such as purchasing, development, manufacturing, marketing, and sales.
- **Supporting processes** that support the core processes, such as accounting, payroll, human resources (HR) management, recruitment, and technical support.

A business process can be decomposed into several subprocesses that can contribute to achieving the goal of the business process. The analysis of business processes typically includes the mapping of processes and subprocesses down to the activity level.

Mapping business processes for the purpose of understanding and improving them is an essential function for any company. It is especially critical that the IT department understands the core business processes of the company and how systems and applications map to those processes. This will become clearer as you learn the notion of business process reengineering.

Business process reengineering (BPR), or just reengineering, has acquired a particularly bad reputation within the business community. Reengineering disasters abound and have been well documented. For example, in the 1990s, U.S. West spent nearly $300 million to reengineer its plant engineering processes. This project was largely unsuccessful and led to significant problems with service quality. Nevertheless, reengineering business processes is absolutely essential if a company is going to respond appropriately to changing market conditions. Developing a culture of change that allows for rapid reengineering should be a primary objective of company leadership.

So, what is BPR? It involves people, organizational, strategic, and technological dimensions with the goal of making processes more efficient, effective, and adaptable. Unlike continuous process improvement, which is focused on small, incremental changes delivered over time, BPR seeks transformational change. Hammer and Champy described BPR as follows:

"… the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service, and speed."[1]

BPR is concerned with the improvement of workflow, processes, and transactions both within an organization and between organizations. As such, organizations need to consider BPR in three areas:

- Creation of value and competitive differentiation
- Effectiveness of products and services delivered
- Efficiency or cost of products and services delivered

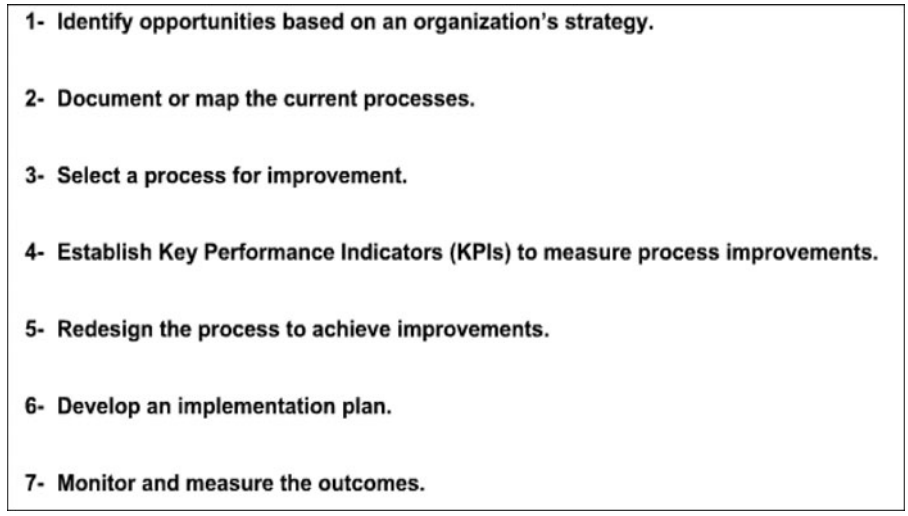
As noted earlier, to achieve the benefits of BPR, the use of technology is critical. The advent of the Internet and web-based processes enables greater adaptability, better use of assets, new organization structures and roles, and new patterns of communication and collaboration within and across organizational boundaries. Wide area networking, shared databases, workflow management systems, decision support systems, wireless communications, and laptop computers are significant contributors to improved process efficiency.

Technology-enabled BPR can centralize information, minimize and simplify process steps, and reduce wait time. External integration and self-help applications can create a "virtual" workforce that extends from suppliers to customers, increasing the overall efficiency and value.

1. (Hammer, Michael and James Champy (1993), *Reengineering the Corporation: A Manifesto for Business Revolution, Harper Business*)

BPR, then, seems an easy concept to understand: simplify an existing business process, and then reap the rewards of greater efficiency. Of course, the devil is in the details and, as it turns out, the details can be formidable. BPR is a rather involved process of process documentation, process evaluation, process development, and process implementation. In formalistic terms, this is reduced to a seven-step exercise, highlighted in Figure 4-5.

Figure 4-5 Seven Steps to Business Process Reengineering



Where BPR has failed, it has largely been as a consequence of the second step: documentation of existing processes. Although opportunities for improvement are relatively easy to find, figuring out exactly how something is currently being done so that improvements can be applied while maintaining existing operations is hard. In the U.S. West example noted earlier, the primary failure of the BPR project was that when the new process was implemented, it was done in a way that ignored several important existing activities. When the old process was flash-cut over the new one, several important activities were dropped rather than being integrated into the new process, and chaos ensued.

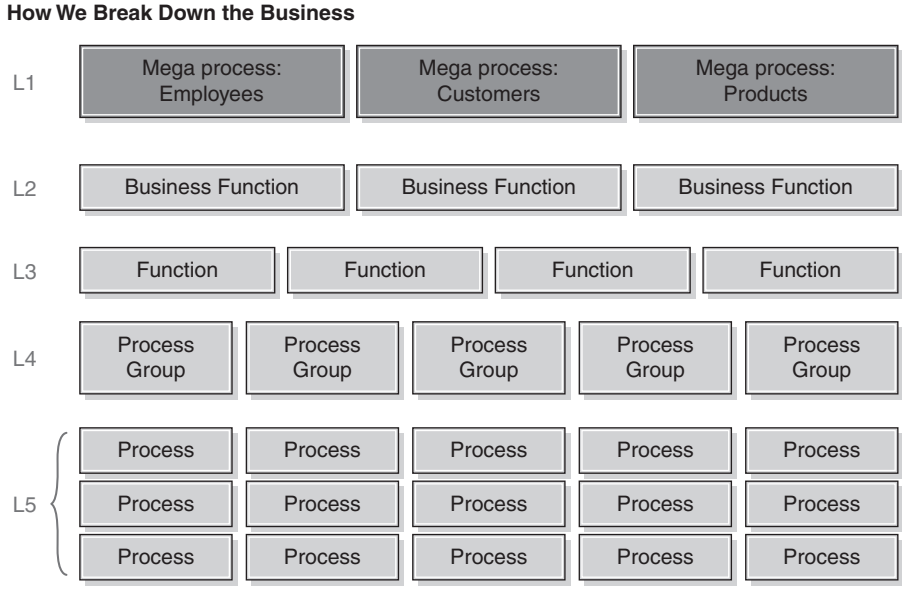
Documentation of an existing process begins with process mapping. *Process mapping* refers to the graphical depiction of activities that define what an organization does, who does it, how it is done (process), how and where it integrates with other processes within the organization, and how the process outcome is measured.

For example, ISO 9001, a standard maintained by the International Organization for Standardization (ISO), requires a business to follow a process approach when managing its business. The use of process maps can help a business document and improve its processes and achieve certification.

Therefore, documenting a process, whether for improvement or for certification, is good. But how does this exercise start? A process map is the first step. It provides a visual breakdown of processes for an organization from the process input—the mega processes, employee, customer, or product—to the process output, such as a product delivery.

In providing a visualization of a process or set of processes, a process map utilizes several process levels. Figure 4-6 shows the five levels of a process map. A typical task includes the following five levels:

Figure 4-6 Five Levels of a Process Map



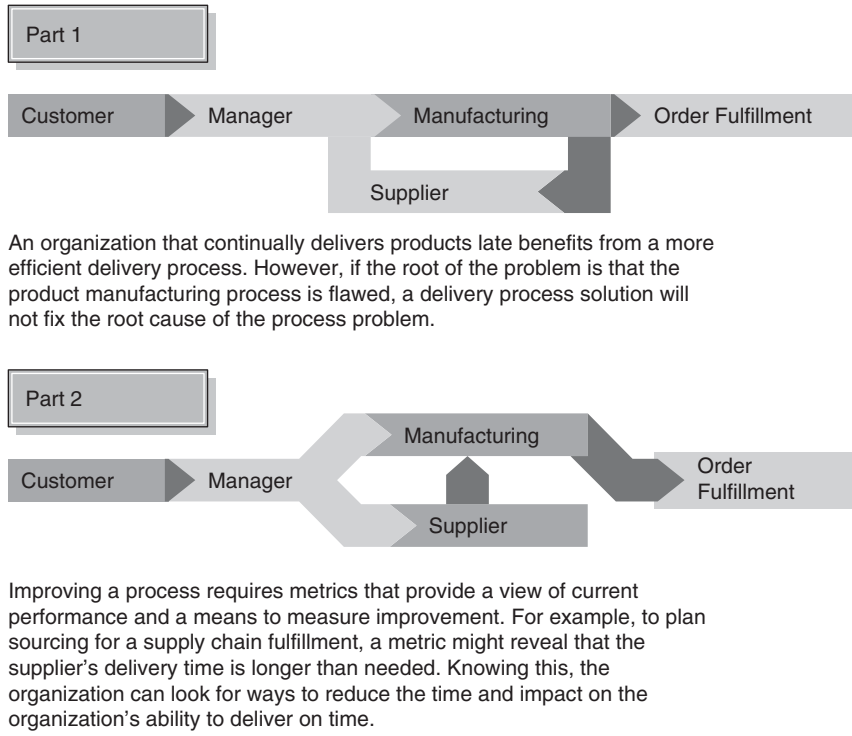
- **Mega process:** Processes that involve a key value chain component (that is, the employee, customer, or product). If an employee requests help installing a computer program, the mega process involved is the employee.
- **Business function:** The place in the organization where fulfillment of the task originates; the IT business function manages the technology-related help desk for the organization.
- **Function:** The action or function necessary to complete the task. In the IT business function infrastructure, development and technology maintain existing systems, which include managing employee help requests.
- **Process groups:** A grouping of all the processes under the function level; managing the employee request is a process grouped in the internal help desk**.**
- **Processes:** All the details on each of the steps. This is where the activity will start when the process is in progress; the process, manage requests, is a single process among several within the internal help desk process group.

As can be seen, process maps are useful for identifying the following:

- High volume processes
- Key friction points causing delays, errors, or low customer satisfaction
- Opportunities to increase efficiency through process integration

Before formulating a solution, an organization needs to identify the problem or friction point caused by a broken or inefficient process. It is important to explore the root cause of the problem to simplify and narrow the scope of the solution, as the two steps illustrate in Figure 4-7.

Figure 4-7 Process Reengineering Flow



The following example shows how a fictitious company, Oasis Office Furniture, uses process mapping to identify targets for improvement.

If Oasis wants to improve business processes using ICT solutions, first it needs to understand the processes so it can identify improvement opportunities. It needs to identify the people, functions, and steps that might be causing waste, delays, and potential for errors or friction points.

One way to do this is to develop a process map. A process map will provide Oasis with a visual breakdown of how different parts of the business work. This will help it localize high-volume processes that can be improved through applications that enforce standardization, such as managing workflows or eliminating manual data entry errors.

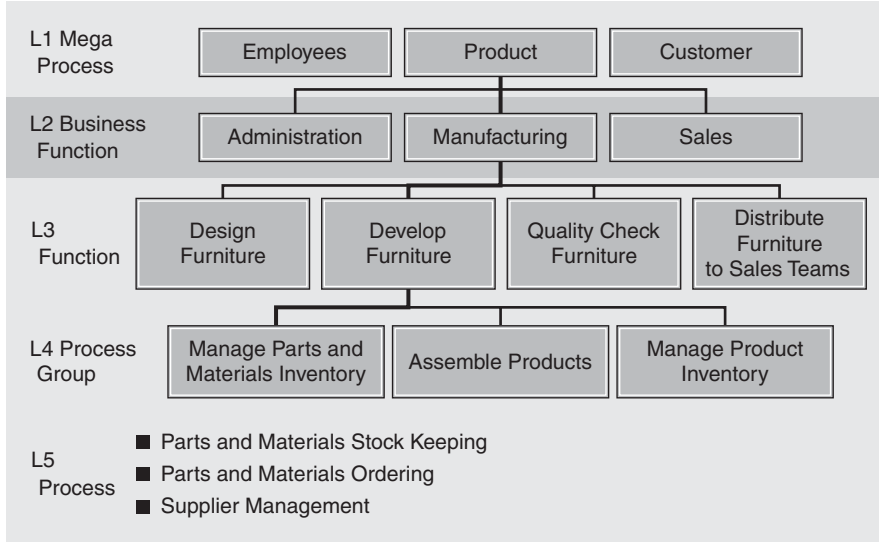
By analyzing its business at the process level. Oasis can identify the root cause of any inefficiencies and therefore develop better-targeted solutions.

The chart in Figure 4-8 illustrates a process map for the Oasis manufacturing operations.

Several functions exist within the Oasis manufacturing operations. Following are the key functions that are required to manufacture office furniture:

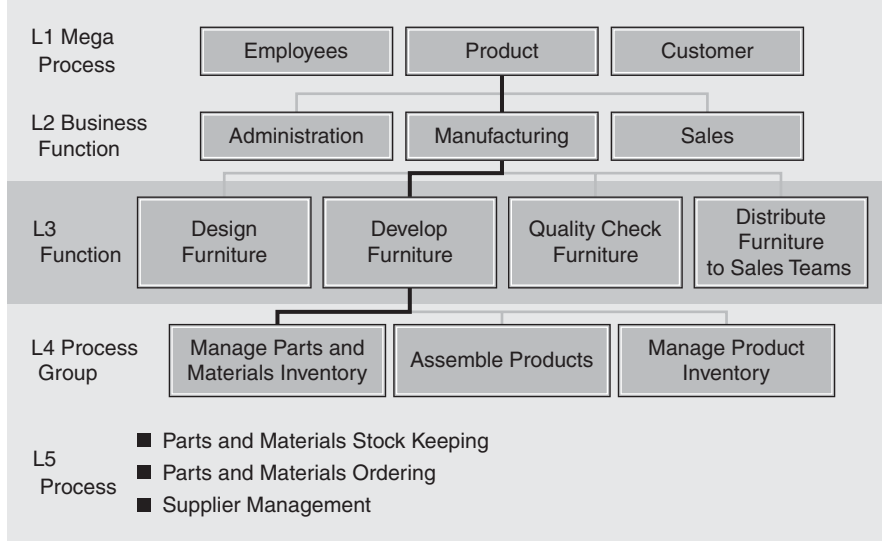
- Design furniture
- Develop furniture
- Quality-check furniture
- Distribute furniture

Figure 4-8 Oasis' Manufacturing Process Map



Oasis thinks that the Develop Furniture function might be causing delays and inefficiencies. Notice the Develop Furniture process flow in Figure 4-9.

Figure 4-9 Oasis' Development of Furniture Process Function



Within the develop function are several process groups:

- Manage parts and materials inventory
- Assemble products
- Manage product inventory

Each of these process groups is made up of several additional processes that Oasis relies on to ensure that it successfully develops office furniture products.

Oasis decides to further investigate the manage parts and materials inventory process group. Trace the path of Oasis' analysis to its Manage Parts and Materials Inventory *process group* in Figure 4-10.

The Manage Parts and Materials Inventory process group helps Oasis manage the volumes of parts and material that are used to manufacture the office furniture.

Figure 4-10 Oasis' Manage Parts and Materials Inventory Process Group

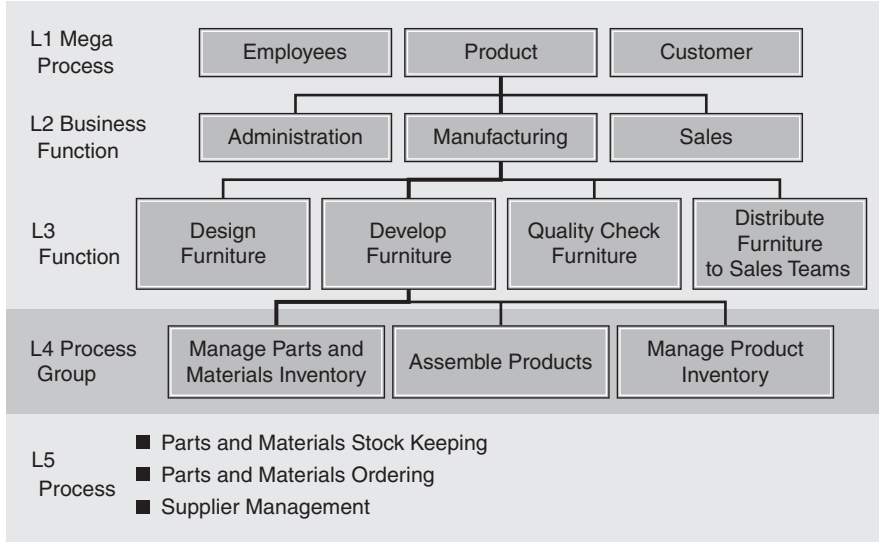
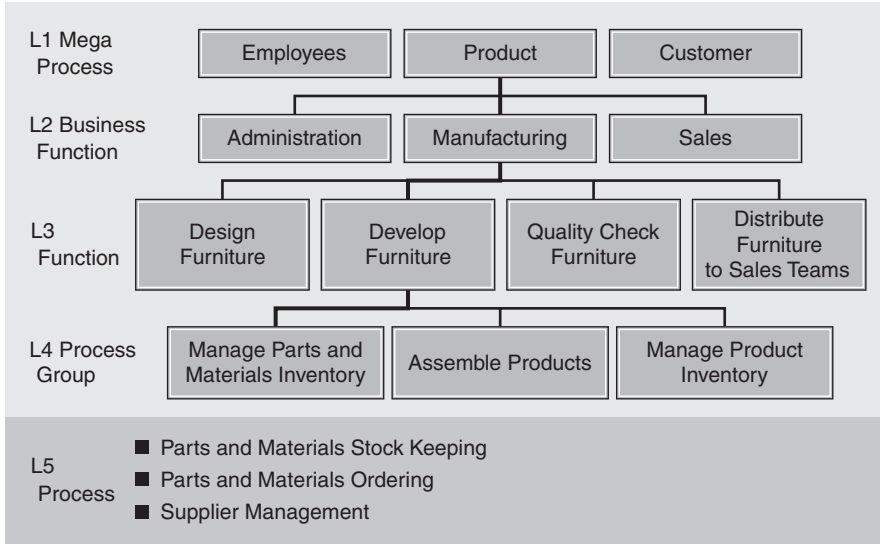


Figure 4-11 shows the Manage Parts and Materials Inventory process group consisting of three processes:

- Parts and materials stockkeeping
- Parts and materials ordering
- Supplier management

Oasis needs to understand these processes so it can better track the efficiency of its parts and material inventory management.

Figure 4-11 Oasis' Manage Parts and Materials Inventory Process Components



By reviewing the business at the process level, Oasis can identify the root cause of any inefficiencies and develop better target solutions.

Oasis has some concerns about the parts and materials ordering process. It believes it is paying inconsistent prices for the same stock.

Oasis decides that the best way to really understand the process is to map it out, as shown in Figure 4-12.

Figure 4-12 Oasis' Complete Manage Parts and Materials Inventory Process Flow

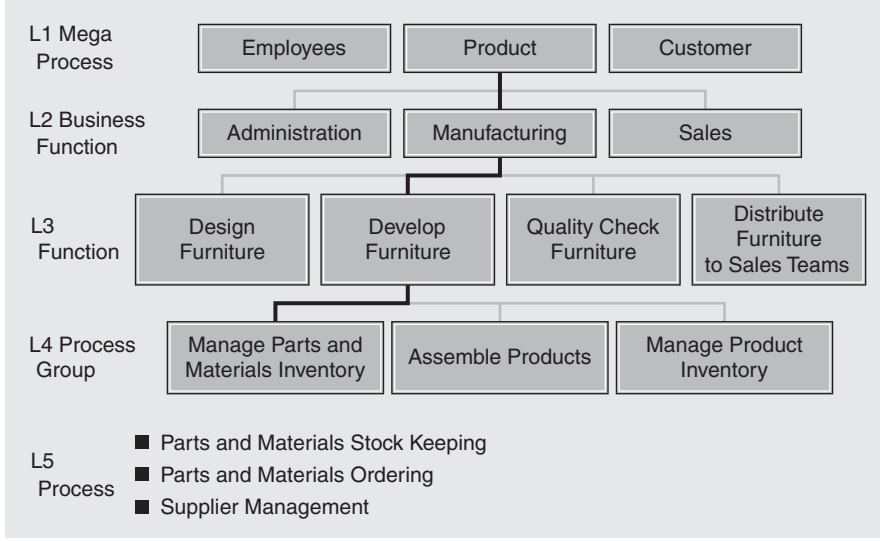


Figure 4-13 shows that due to the volume of orders and lack of price information, it appears that Oasis buyers do not have the time or the information they need to negotiate prices effectively. It also appears that the majority of purchases are from a single supplier with little price negotiation.

Figure 4-13 Oasis' Parts and Materials Ordering Process Map

Oasis could implement any of the following proposed solutions to reduce its inventory costs and overall operating costs. Each solution would have a different impact on the business:

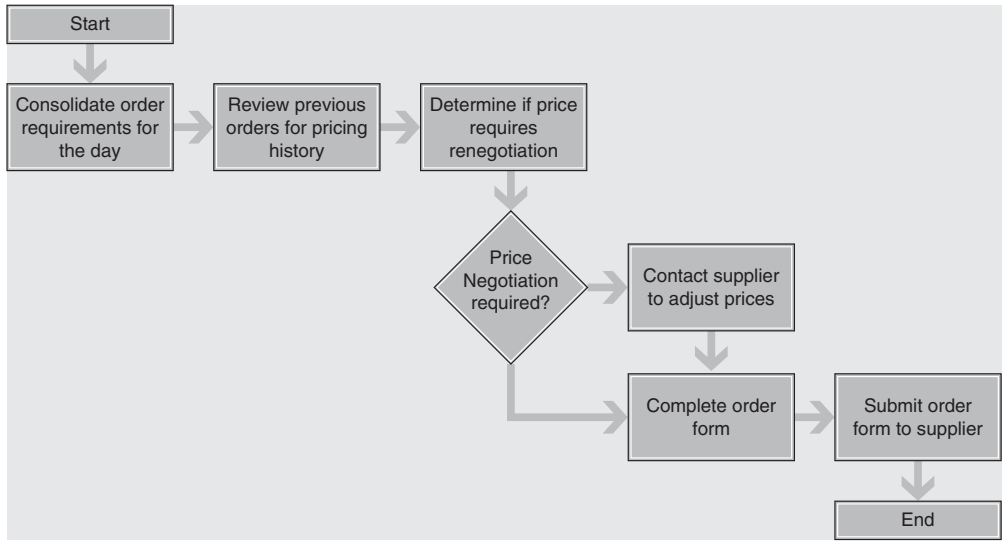
- Implement an order tracking system that allows Oasis buyers to see pricing history by part and supplier to ensure they are receiving the best pricing.
- Hire more buyers who can spend more time negotiating prices.
- Reduce the number of small orders by integrating an order system with the inventory management system to allow buyers to track inventory levels and consolidate orders.
- Hire a person who is wholly responsible for managing negotiation of prices with suppliers.

What steps should Oasis take to reduce its inventory costs and overall operating costs? Are the recommended steps operational process improvements or supporting process improvements? Which of the recommended steps are cost-avoidance gains? Could any of the steps be considered time-efficiency gains?

- Implementing an order tracking system would enable a record of pricing history. These records would help obtain good prices because Oasis would know how much it paid previously.
- Oasis could hire more buyers to allow time to negotiate prices, but this would be an ongoing extra cost.
- Consolidating the small orders into daily orders would help manage inventory levels, providing Oasis with a stronger position to negotiate prices.
- Hiring a person to be wholly responsible for managing negotiation of prices with suppliers would provide continuity for the negotiations, but it would be an ongoing extra cost.

Oasis has decided to reengineer its parts and materials ordering process by adding an order-tracking system that allows the buyers to see pricing history and consolidate their orders. An order-tracking system provides the necessary operational process improvements through the use of technology, thereby eliminating additional supporting costs.

Figure 4-14 Oasis' Reengineered Parts and Materials Ordering Process



As you can see, process mapping provides fundamental insights into the way that business activities flow and where technology can be applied to improve business efficiency and quality. Although this example is fictitious, the approach can be used by any business to identify targets of reengineering opportunity. On the following blank page, draw a map of a process within your organization. Identify those places where technology could be applied to improve the flow of the business process.

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Examining Workforce Optimization Solutions

As the previous section illustrates, process reengineering can be effectively applied to improve business processes. These improvements can lead to lower costs, higher throughput and quality, and increased revenue generation. Process improvement can be applied to those processes that a company uses to engage with customers and suppliers, or it can be applied to those processes that are strictly internal. This section shows how internal processes can benefit from Internet-enabled information and communications technology. You will see how workforce optimization solutions can be used to enhance people and process efficiency.

In this section, you will examine solutions in four areas:

- Workforce optimization
- Finance
- Human resources management
- Learning and development

For each solution, you will discover two things:

- The challenges that the solution is designed to meet
- The solution description

Examining these solutions will help you understand how organizations address various challenges and opportunities. These examples will help you understand solutions in the context of real organizations.

Workforce Optimization

The components of Workforce optimization, illustrated in Figure 4-15, are comprised of solutions that fall into two groups:

- **Communication-based solutions** that target corporate communications, HR guidelines, employee directories, development, and training
- **Transaction-based solutions** that target benefits, expense reporting, hiring, recruitment, and payroll

As noted earlier, both workforce optimization solution sets are web-based applications that address business needs. In the past, such solutions were primarily centralized applications that provided telemetry on the workforce to the company decision makers. Now, however, such systems increasingly are available directly to employees to allow them to manage their own working environment. As a consequence, workforce optimization solutions now include the following:

- Automating and reducing administrative tasks
- Enabling employees to do their jobs better by giving them access to information and tools
- Shaping the organizational culture through self-service applications
- Creating a learning environment

Figure 4-15 Workforce Optimization

Figure 4-16 points to some of the Workforce optimization challenges. But what are workforce optimization solutions? Workforce optimization solutions are applications that do the following:

- Empower the workforce to support itself.
- Automate administrative tasks with web-based applications.
- Shape the organizational culture by providing information through one common online website.
- Create a learning environment through e-learning programs.
- Develop leadership and talent through web-based applications.

Workforce optimization solutions encompass the entire organization from employee communications to closing the books in finance. Opportunities to use self-service applications span every support function within the organization, including HR, finance, IT, legal, and communications, as illustrated in Figure 4-17.

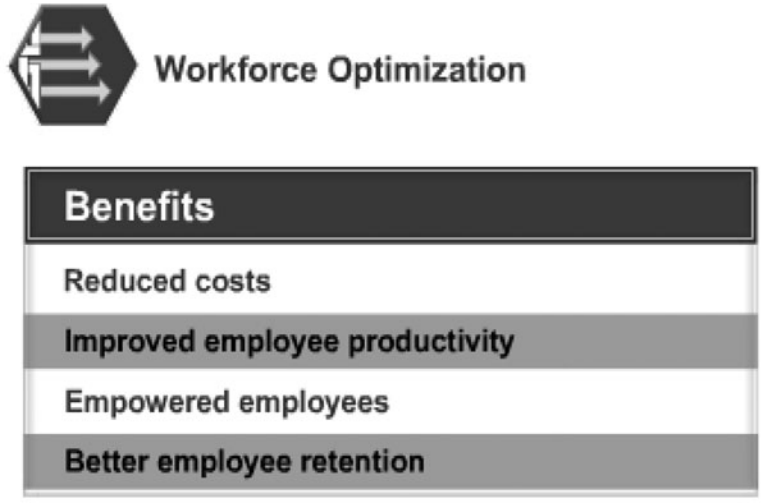
Figure 4-16 Workforce Optimization Challenges

Figure 4-17 Integrated Workforce Optimization Solutions

Noted below, and in Figure 4-18, the following are workforce optimization solution benefits:

- **Reduced costs:** Online tools simplify and automate routine administrative tasks. This efficiency reduces the unnecessary headcount while enabling employees to focus on strategic tasks.
- **Improved employee productivity:** Employees can reduce the amount of time spent on administrative tasks, gathering information, and executing transactions independently.
- **Empowered employees:** Employees control when and how they access information. This freedom enables them to take responsibility and make informed decisions.
- **Better employee retention:** Because workforce optimization shapes the organizational culture for the employee by promoting open communication, for example, it can improve employee satisfaction and retention.

Figure 4-18 Benefits of Workforce Optimization Solutions



Finance

Although workforce optimization generally yields benefits to both the organization and the employees, it has profound impacts when applied to specific functions of the organization. One of these is finance, where web-enabled solutions can provide complete and timely financial information to improve transparency and governance and guide the organization through periods of intense activity, growth, and change.

To accomplish this goal, the finance function includes several processes:

- Gathering and analyzing financial data for the organization and its industry
- Reporting on the financial health of the organization and its industry
- Handling customer invoices and payments
- Forwarding employee purchase requisitions and orders
- Covering business-related employee travel costs
- Maintaining employee stock activity

An organization requires timely financial information to understand its financial health and act to improve it; real-time financial data enables organizations to identify opportunities to pursue and troubled processes to fix.

As will no doubt be noted, finance processes can make or break an organization. We were associated with a small company once that neglected its financial tracking. One day, the CEO was forced to announce that he had no idea of the financial state of the company and, as a result, was letting half the employees go. Needless to say, this had a significant impact on the company and, for those employees who remained, the impact on performance and productivity was considerable.

Clearly, the primary function of the finance group for an organization is to provide accurate and timely financial information about the organization, including departmental financial reporting, as well as industry financial data. Financial group challenges are shown in Figure 4-19.

Successfully performing this task is vital to the success of the organization. This success can be threatened by a challenging economic and political environment, which requires a sharper focus on the following:

- Profitability and productivity across the extended organization
- Corporate or government integrity and disclosure
- External influences

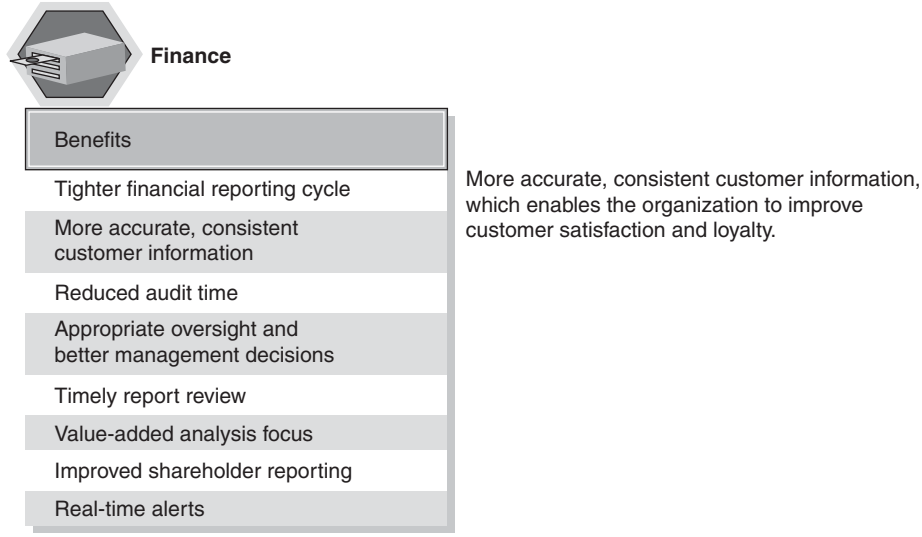
As a consequence, web-based finance solutions, also called e-finance solutions, focus on not only improving the flow of financial information, but ensuring the accuracy of such information.

As a matter of fact, increasingly, the need for accuracy is the paramount driver of the implementation of such e-finance systems. In the United States, for example, the Sarbanes-Oxley Act of 2002 mandates financial reporting accuracy for publicly traded companies. The legislation specifies severe penalties for inaccurate or false reporting of financial information. These penalties can even include jail time for the officers of a company that misreport such information. As a result, tight financial controls and systems that enable them are seeing increasing popularity in the United States.

Figure 4-19 Financial Group Challenges

Organizations implement such process and system improvements through business process reengineering, emphasis on quality, and learning how to perform processes correctly the first time. Finance solutions use IT strategies that integrate systems and tools into business processes such as utilizing a reporting tool to monitor expense against budget. Common benefits of e-finance solutions are identified in Figure 4-20.

Figure 4-20 Benefits of e-Finance Solutions



Human Resources

Another area where ICT can have a major impact on process improvement is in the area of HR management. HR strategies shape the organizational workforce and its resulting work environment to give employees flexibility in skills and experience to rapidly change and adapt to new job requirements.

HR additionally provides employee support and training from employee recruitment through employee transfer or exit. For organizations that have global operations, HR must consider the needs of employees worldwide and strive to provide consistent support to them all.

HR processes include the following:

- Payroll and benefits
- Orientation and training
- Services
- Recruiting
- Compensation
- Scheduling
- Organizational communication
- Performance management

HR continually seeks to promote strong leadership skills, a common work culture, and improved performance; on a larger scale, successful HR solutions focus on improving employee processes. HR challenges, highlighted in Figure 4-21, include consistent support for employees regardless of location, employee satisfaction, headcount and costs, HR administration, HR capabilities, round-the-clock employee support, and HR improvement.

HR solutions utilize web-based tools to simplify and automate tasks through standardized training and self-service tools. The benefits for a firm to utilize e-Human Resources tools are shown in Figure 4-22. These solutions enable employees to support themselves.

HR solutions include the following benefits:

- Increased employee retention and satisfaction through the ability to access and maintain their own personal and benefits files
- Cost avoidance and effectiveness through operating efficiencies
- Time efficiencies and more productive employee hours because employees do not need to devote as much time to administrative tasks
- A focus on roles such as strategic business partner rather than administration, because the self-service tools automate most of the administrative tasks

Major corporations have increasingly outsourced HR processes and functions in recent years. Yet, as enterprises find themselves competing for the best and brightest employees on a world market, many are recognizing that HR capabilities can be a significant recruiting incentive. Employees, after all, are looking for a relatively stable working environment where their personal needs as well as their professional needs can be addressed. HR systems that can minimize the impact of career and compensation management and that are flexible enough to provide multiple options for employees and the organization can increase employee morale and lead to improved performance and productivity.

Figure 4-21 Human Resources Challenges

Figure 4-22 Benefits of e-Human Resources Solutions

Learning and Development

One final area where web-enabled processes can increase organizational performance is learning and development. Learning and development solutions train and educate employees throughout an organization; these solutions make sure that employees can quickly learn new skills, update old skills, and assimilate vast amounts of information about new products, markets, and the competition. Learning and development solutions can affect many departments, such as IT, HR, customer service, manufacturing, engineering, and sales. Some of the challenges firms face with employee learning and development are identified in Figure 4-23.

Figure 4-23 Employee Learning and Development Challenges

E-learning solutions utilize web-based applications to empower a workforce with the skills and knowledge to keep pace with a rapidly changing market. E-learning encompasses a rich set of solutions that can be used to share information, experiences, and ideas throughout the organization—from corporate communications and marketing to technical documentation, customer support, quality control, manufacturing, engineering, public relations, and analyst relations.

Following are learning and development processes for training and education:

- Research and design
- Course creation and implementation
- Course delivery
- Management

Because learning and development solutions span so many different aspects of an organization, they face several challenges posed by the geographic spread and content variances:

- Consistent global delivery
- Efficient content creation and delivery
- An effective and timely learning experience
- Learning and development access to all employees globally
- Employee education tracking

Learning and development solutions concentrate on improving processes to overcome learning challenges. These solutions are primarily e-learning solutions that utilize IT tools to provide dynamic learning anytime and anyplace. In fact, such tools are now transcending the corporation to become businesses in their own right. Most major universities now offer e-learning options for their degree programs. Several universities, such as Capella University and Walden University, offer accredited advanced degrees in a strictly e-learning mode. Figure 4-24 highlights many of the benefits a company can obtain by implementing e-Learning employee development solutions.

Figure 4-24 Benefits of Implementing e-Learning Solutions

In this section, you learned about the basic characteristics of workforce optimizations solutions. You examined challenges, solutions, and their benefits. You also learned about Internet-enabled solutions challenges in the following areas:

- Workforce optimization
- HR management
- Finance
- Learning and development

In the following space, list the ways in which workforce optimization might be used within your organization to improve business processes. Try to list at least one possible application for each of the areas examined in this section.

Customer-Facing and Supply Chain Solutions

As noted in the previous section, process improvement can be applied to both the processes that are internal to an organization and the processes that allow an organization to engage with its suppliers, partners, and customers. This section will examine three solutions that focus on processes that extend beyond the boundaries of an organization to involve suppliers, partners, and customers:

- Customer care
- Manufacturing
- Supply chain management

For each solution, you will learn about the following:

- The challenges that the solution is designed to meet
- The solution description
- A case example of the solution and its benefits

Examining these solutions will help you understand how organizations select different solutions to address various challenges and opportunities. These examples will help you understand solutions in the context of real organizations.

Customer Care

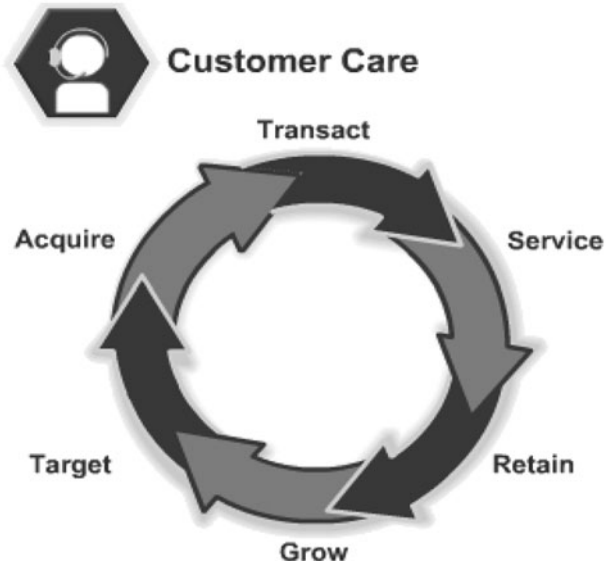
Customer care, also known as CRM, aligns business processes with customer strategy to enable companies to interact with their clients throughout the customer life cycle. CRM is increasingly becoming a source of significant differentiation between enterprises. Wal-Mart, as an example, is renowned for its focus on CRM. Its systems allow for the collection of precise telemetry on its customers, their desires, and their buying habits.

The customer life cycle, shown in Figure 4-25, begins with the marketing campaigns that attract customers and runs through to the post-sales services that promote customer retention and loyalty.

Customer care integrates all contact points with the customer through the customer life cycle, including these:

- Sales and channel management
- Marketing
- Service and support
- Commerce

Figure 4-25 Customer Care Life cycle



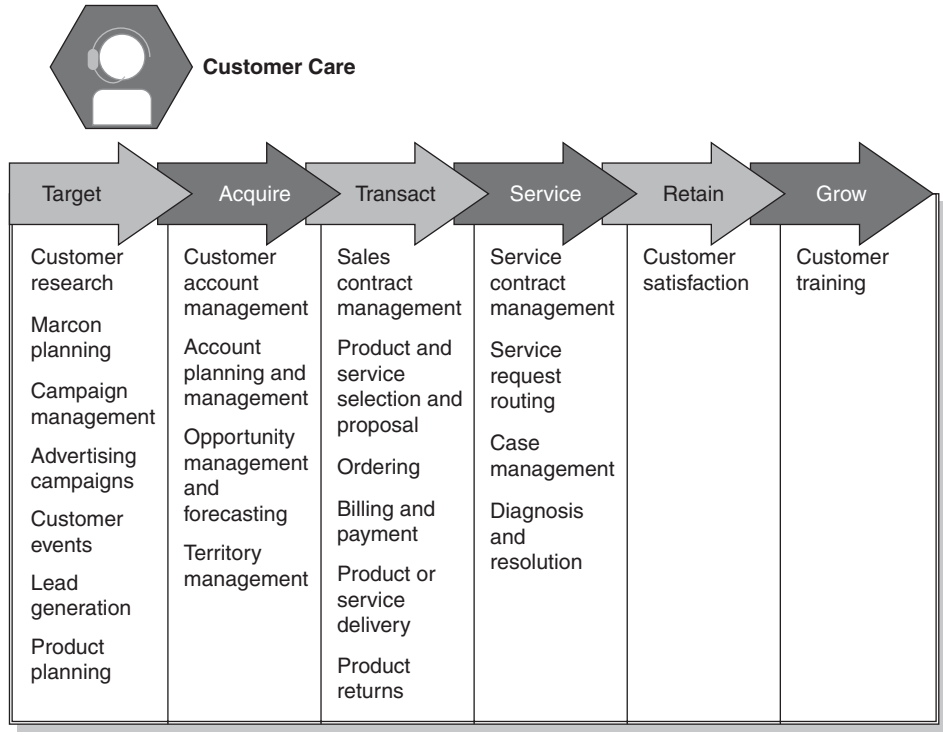
A critical step to developing Internet-enabled solutions is examining the functions as a set of processes. Figure 4-26 shows typical customer care processes that cover the following areas:

- **Target:** Personalize customer interactions to identify individual needs.
- **Acquire:** Evolve acquisition activity into an ongoing process triggered anytime during the life cycle.
- **Transact:** Enhance transactional efficiencies, focusing on value-added services.
- **Service:** Provide service when and where the customer needs it.
- **Retain:** Engage with customers to better understand and respond to their evolving needs.
- **Grow:** Help customers get maximum value from their investments.

Of these processes, two that are becoming more important in an age of global commerce are acquiring customers and retaining them. These functions are related and represent an increasing investment for companies. Acquiring customers requires that a company invest in the kinds of marketing activities that attract a consumer to examine the value proposition of the company goods or service. Retaining customers requires that the company build the necessary hooks into the transaction process that will provide an incentive for the customers to continue doing business with the company.

Retention, in particular, has become a pressing concern to companies that provide a service. Because switching service providers is relatively easy, customers are engaged at every level of the service provision process in an attempt to up-sell to additional services. Figures generated by telecommunications service providers indicate that it is easier and cheaper to retain a customer than it is to acquire a new one, so significant investments are devoted to the retention process.

Figure 4-26 Customer Care Processes



As a consequence of the importance of customer acquisition and retention, most organizations that interact with customers seek quicker, easier access to customer data, customized products and services, and reduced overhead for serving customers. Organizations seeking to attract and retain customers or supporters today face these common challenges:

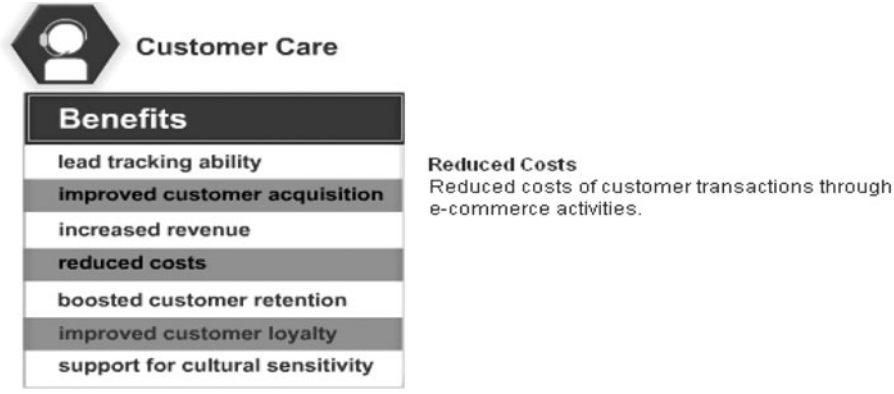
- **More products:** Customers have greater choices in brands, products, and sheer numbers of items.
- **More competitors:** The marketplace supports more competitors who utilize strategic programs and activities to increase market share.
- **More messages:** Organizations continually bombard customers with messages through all available channels.
- **More interaction options:** Customers have more choices in interaction channels—such as stores, Internet, mail order, or contact centers—and expect interaction support in preferred channels.
- **More demanding customers:** Customers express more demands and higher expectations as a result of online access to competitor offers and prices.

Customer care solutions aim to improve the efficiency and effectiveness of the interaction of an organization with its customers. Benefits include reducing costs or increasing employee productivity, and improving outcomes such as increased customer satisfaction. As with any other undertaking, the trick is to achieve a balance between efficiency and human interaction.

Most people are well acquainted with automated help lines that require them to step through several levels of menu options, only to find that they are either disconnected or shuffled off to a person who has no capability to actually solve a problem. Many companies are using the personal touch as a service differentiator by guaranteeing that a real person will answer the phone at certain hours of the business day. The challenge is to build customer care systems that automate the strictly routine activities while providing human interaction when required or desired by the customer.

In any case, customer care solutions improve efficiency and effectiveness through cross-functional business process integration and globalization initiatives. These solutions enable cross-functional data exchange in real time or on demand. Figure 4-27 notes additional benefits of Internet-enabled customer care solutions.

Figure 4-27 Benefits of Internet-enabled Customer Care



The customer care solution, when appropriately designed, can lower the cost of customer management and improve the perception of value for the customer. Examples where customer care solutions have been applied effectively can be seen in the major package delivery companies such as UPS and FedEx. Both have implemented online package tracking technology that allows customers to determine for themselves where their packages are at any given time. Customers love this technology, and having them manage their own inquiries reduces the costs associated with customer interactions.

On the following blank page, describe your customer care solutions and try to identify ways in which web-based technology can be applied to improve them.

Manufacturing

Manufacturing processes have been the focus of an immense amount of analysis over the years, starting with the time-motion studies of Taylor in AT&T, through the total quality management of Deming and the current infatuation with Six Sigma analytical approaches. The objective has been to improve the efficiency of manufacturing by reducing the resources consumed by such activities while reducing defects and variability.

Now, though, automation enabled by the Internet has the potential to address efficiency on a much more fundamental level by making manufacturing directly responsive to both the market and the changing desires of customers.

Manufacturing, of course, creates the products that organizations sell. The manufacturing process begins directly after product design and development and ends before a product is shipped. Manufacturing greatly impacts the profitability and revenues of an organization.

Following are some manufacturing processes:

- Procuring product design development information prior to product manufacture
- Acquiring raw materials necessary for product manufacture
- Maintaining product information
- Training employees for specific machinery and processes
- Manufacturing sufficient product to meet demand but not result in excessive inventory

As noted earlier in this book, manufacturing can also be a process that is completely outsourced to a partner. In fact, this is becoming common as manufacturing is streamlined to the point where it can be moved wherever the cost of labor is the cheapest. This is good news for developing countries, because the opportunity to participate in the global market becomes a real possibility. Of course, this opportunity comes at a price. Manufacturing operations must adopt the ICT solutions that allow for a tight coupling between the manufacturing operations and the companies who have outsourced them.

The quality and efficiency of the manufacturing organization impacts the entire profitability and revenues for an organization. Solutions that meet those challenges in manufacturing are crucial to the survival and success of the whole organization. Organizations that have not Internet-enabled the Manufacturing process face challenges such as those noted in Figure 4-28.

Manufacturing challenges include the following:

- Separate proprietary manufacturing and administrative systems
- Disconnected functions and information barriers in the chain of operations
- Rigidity of processes
- Lack of real-time data
- The need to produce products more quickly at a reduced cost
- The need to access product data remotely through different channels

Figure 4-28 Manufacturing Challenges

Manufacturing solutions concentrate on the processes involved in product creation rather than the products themselves. Manufacturing solutions contribute to the success of an organization by driving toward greater efficiency and effectiveness. Figure 4-29 highlights the benefits Internet-enabled manufacturing companies can obtain.

Manufacturing solutions increase effectiveness, efficiency, and profitability through two measures:

- Integrated manufacturing and administrative systems, resulting in the following:
  - Reduced lead times
  - Improved turnaround time
  - Better service
- Greater process visibility and flexibility through the chain of operations, resulting in the following:
  - Real-time integrated information access across functions.
  - The ability to make timely informed decisions that improve customer response.

However, as noted earlier, these solutions might need to be deployed both by the organization and the company to which the manufacturing activities have been outsourced. This can increase complexity considerably and must be tightly coordinated. It is why many companies that do outsource manufacturing find that, to reap the rewards of reduced manufacturing, they must first make an investment in the automation of their supplier.

Figure 4-29 Benefits of Internet-enabled Manufacturing

To illustrate this point, you will look at a fictitious example of a manufacturing process that could benefit from process improvements. Oasis Office Furniture has manufacturing processes that suffer from "silos of information." Its inventory management, production, and shipping systems are not integrated, and information has to be manually re-entered at each step along the process flow. The data re-entry wastes time and has caused errors. Because of this lack of integration, production managers cannot access information to make timely and informed decisions. The result is incorrect inventory levels, poor production scheduling, and missed delivery commitments. Figure 4-30 shows Oasis' manufacturing challenges.

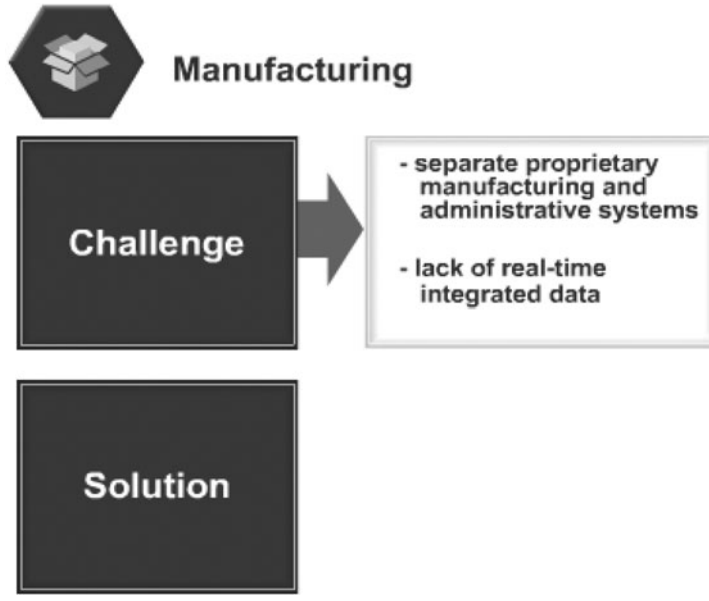
Oasis Office Furniture has two challenges:

- Separate and incompatible information systems
- Lack of real-time integrated data

Oasis Office Furniture is considering implementing an intelligent networked manufacturing (INM) solution. Based on a single, open, intelligent, standards-based platform, the infrastructure links collaborative applications that integrate information and processes spanning the entire manufacturing workflow.

The INM solution produced different benefits in different parts of the manufacturing organization. A few of these benefits are detailed next.

Figure 4-30 Oasis' Manufacturing Challenges



INM production management enables the following:

- Plant managers to access production line information to validate inventory and reduce maintenance costs
- Wireless LANs to connect assembly lines to warehouses and run video surveillance
- Managers to maintain manufacturing processes at remote or overseas locations
- E-learning applications to train employees on new equipment and processes

Production management alone has these benefits:

- Reduced maintenance costs
- Improved security
- Increased cost effectiveness

Operationally, INM could improve the manufacturing business of Oasis to do the following:

- Make better informed decisions more quickly.
- Manage increasingly complex product lines.
- Introduce new and updated products more efficiently.
- Eliminate mistakes and rework in customer orders.
- Create a more collaborative manufacturing environment.
- Respond to dynamic sales trends.
- Reduce product costs, waste, and inventory.
- Increase responsiveness to customers.
- Shorten manufacturing lead times.
- Have visibility into their work order status.
- Support their just-in-time production processes.
- Develop online purchasing and billing services.

On this and the following blank page, identify at least two ways in which manufacturing solutions can be applied to your organization to reduce costs and improve revenues.

Supply Chain Management

A final example of the power of ICT when applied to process reengineering is in the area of supply chain management (SCM). SCM is the combination of the process and information technology (IT) that integrates the suppliers of raw materials or components, the manufacturers or assemblers of the finished products, and distributors of the products or services into one cohesive process that includes the following:

- Demand forecasting
- Materials requisition
- Order processing
- Order fulfillment
- Transportation services
- Receiving and invoicing
- Payment processing

Supply chain management must continually evolve with an organization and the changing markets to optimize profitability and continued revenues. This is especially true in the global marketplace, because sources of supply can change practically overnight.

In fact, supply chain management becomes a critical source of differentiation when the organization is dealing in a commodity product. Because commodities are extremely sensitive to price and because a commodity by definition has a price close to cost, making sure that the supplier is providing materials at the lowest possible cost is essential. To ensure this, it is necessary to be able to dynamically engage with suppliers. Without the appropriate automation, this is impossible.

Supply chain management challenges, highlighted in Figure 4-31, have shifted with the increasing complexity of management processes and business models.

Following are common supply chain management challenges:

- Overcoming trade and transportation obstacles
- Improving the management of supplier, contract manufacturer, retailer, and other business associate relationships
- Enabling growth and scalability
- Improving cycle time
- Improving customer service levels
- Ensuring accurate supply chain data

Figure 4-31 Common Supply Chain Management Challenges

Of these challenges, probably the most important are improving cycle time and improving customer service levels. Cycle time is important because, with global hyper-competition, windows of exploitable opportunity are short. By the time a niche has been identified, it is highly likely that several companies are moving to occupy it. Customer service levels are important for the reasons previously discussed: to retain a customer, all aspects of a company delivery channel must be tuned to improve customer satisfaction.

Supply chain management solutions, by design, find ways to optimize the processes that comprise the supply chain. For example, an SCM solution may focus on improving the speed and capacity availability in product deployment and related supply chain processes. Figure 4-32 notes several other benefits of Internet-enabling supply chain management solutions.

Following are common benefits of supply chain management solutions:

- Increased customer satisfaction
- Positive gross margin impact
- Inventory optimization
- Manufacturing flexibility
- Shorter total product cycle times

Figure 4-32 Benefits of e-Supply Chain Management Solutions

The following examples illustrate how SCM solutions have been applied to improve the management of the company supply chain.

- **Corrugated Supplies Co.**

  Corrugated Supplies Co. (CSC) produces corrugated paper that its customers, in turn, use to create custom packaging and displays.

  The web and its networking standards have given Corrugated Supplies Co. the flexibility it needs: Of the 600 orders that CSC processes daily, roughly 85 percent of those are placed online through the company extranet. The majority of those are turned around within 24 hours. That short turnaround is important for CSC customers, because they tend to be small "sheet plants" that compete with huge and vertically integrated companies.

- **Olympic Group**

  Olympic Group was probably the first Egyptian manufacturer to produce household appliances in the 1920s. Then, from the early 1970s, it began capitalizing on emerging consumer demand for electrical appliances and affordable electrical energy prices as a result of government subsidies.

  By the late 1990s, the IT department started to develop the group products, services, supply chain procedures, customer service, and work efficiency from an IT perspective.

  Olympic Group has now generated a whole web-based database of manuals with 2D and 3D illustrations of the products, allowing employees to better manage their inventory and support customers.

On the following blank page, list several ways that SCM solutions can be applied to your organization to improve things such as service quality and customer satisfaction. If you already use such solutions, try to think about how such solutions can be improved.

Conclusion

In this module, you learned about Internet-enabled solutions and how process maps help organizations formulate successful solutions. You examined seven types of solutions, with an example of each type. More specifically, you learned the following:

- The value of Internet and IT tools in overcoming organizational challenges
- The importance of a single integrated network and real-time data to organizational health
- The ability of the Internet and IT to provide several different solutions to organizations to overcome the same obstacles

In addition, you were given an opportunity to think about ways in which you can apply these solutions to your organization. Although these exercises might have seemed simplistic, the intent was not to have you design a strategy with respect to the application of automated solutions. Rather, it was to get you thinking in terms of opportunities. Not all organizations can easily apply all solutions and, of course, investments need to be prioritized, but by addressing the application of technology from the perspective of process mapping and process analysis, you will find that even incremental applications of technology can reap significant benefits.

In fact, the virtues of incrementalized applications of technology have been discussed at length. By finding the small niches within your organization where you can experience a measurable return on investment for a small outlay, you build up your confidence to tackle larger undertakings and achieve immediate returns to the business.

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MODULE 5

Strategy Development

Introduction

The previous modules covered the foundational aspects of building a web-based information communication company, one that could be defined as a networked virtual organization (NVO). They looked at the importance of a solid management team and what it means to be organizationally ready to conduct business in the Internet era. This module explores tools and methods developed to help you evaluate your present situation, determine where you want the company to be, and discover how best to obtain that envisioned success.

This module focuses on how a web-enabled company can utilize its technology to compete effectively with other companies in its market. It looks at the concepts associated with situational analysis and how you can determine your positioning with respect to the market and your competitors. It also explores the concepts of stakeholder analysis, so that you can determine the most effective value proposition to address customer needs.

Situation Analysis and Visioning

A company without a strategic plan is like a ship without a rudder. It will be able to perform all the functions that a ship is supposed to be able to perform with one key exception: it will not be able to follow a course of action. Like the rudderless ship, a business without a business plan or strategy will float aimlessly until it sinks. So what exactly is business strategy? *Business strategy* is a specific action plan designed to achieve a goal or objective. The primary aim of a business strategy is to search for opportunities to improve the current situation of the company and reshape its future. Typically, these strategies seek to achieve superior customer value, differentiation, and sustainable success. Think of it as moving your boat from a rowboat to a nuclear-powered vessel.

In this section, you will learn how to begin the strategy development process by examining the external and internal situation of your organization and creating an e-vision statement to best leverage technology and the Internet.

By the end of this section, you will be able to do the following:

- Define a business strategy and explain its importance.
- Conduct an external and internal situation analysis and summarize them using a PEST, Five Forces, and SWOT analysis.
- Review the mission, goals, and objectives of your organization, and relate them to your Internet and IT strategies.

- Describe how Internet-enabling strategies can be applied to address the strengths of your organization, minimize its weaknesses, and address opportunities and threats.
- Create an e-vision of success.

Planning Process Overview

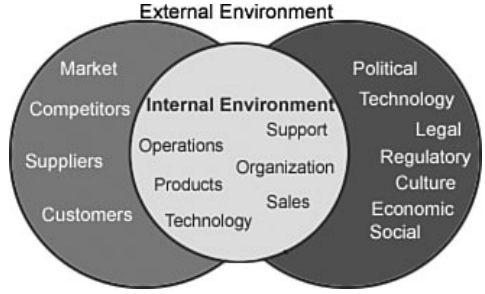
Business Strategy

Getting from Here to There

A company cannot achieve its goals if it does not have a solid grasp of where it currently sits. Self-examination must include both an external and internal review. A company must understand external elements that can influence the firm so that it can mitigate negative impacts and leverage opportunities. External elements to examine include a range of factors such as existing competitors, emerging competitors, customers, market conditions, existing and pending political and regulatory policies, and the culture in which the company is seeking to conduct business.

In addition to external factors that could influence the success of the business, business strategy must examine internal environmental factors. You learned some of the factors earlier, including strong leadership and operations. Other internal factors that need to be examined are existing networked infrastructure and its ability to support the overall Internet-based business, sales and sales models and the necessary support infrastructure, including staffing and emerging technologies. Figure 5-1 illustrates internal and external factors that can impact a business.

Figure 5-1 Internal and External Elements that Influence a Business



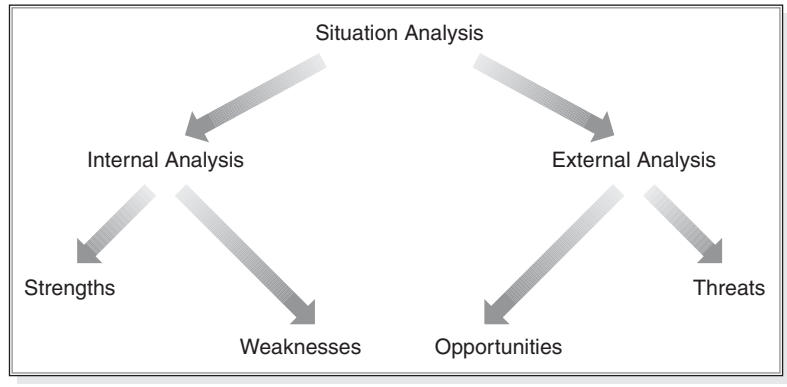
The business strategy and portfolio planning process follows three steps:

- Situation analysis and visioning
- Portfolio management
- Business case and financial concepts

Situation Analysis and Visioning

The first step in business strategy and portfolio planning is to perform a situation analysis. Situation analysis, as shown in Figure 5-2, examines the internal and external environmental factors concurrently. This step is crucial in assisting the company in identifying its strengths, weaknesses, opportunities, and threats and its ability to address them. This module will go in depth into the first step of business strategy. The remaining two steps will be covered in depth in future modules.

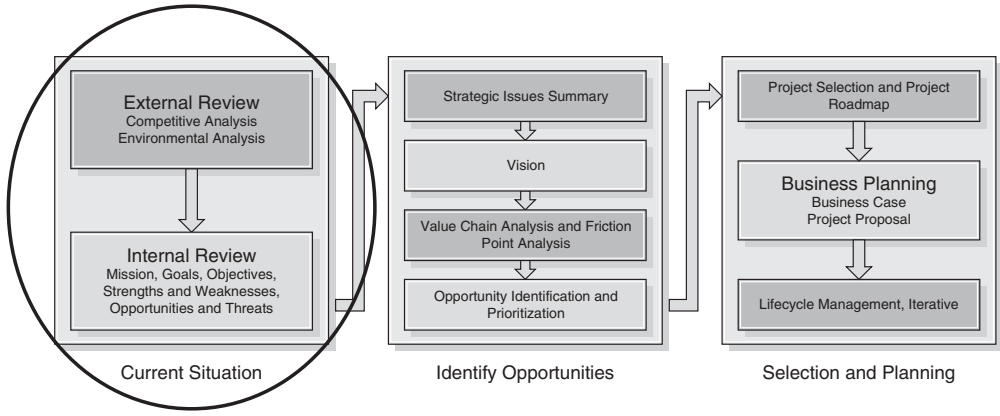
Figure 5-2 Situation Analysis



You need to remember three things about using internal and external analysis:

- Be selective. Concentrate on the top few factors that will have the greatest impact on your organization.
- Look for the long-term drivers of change, such as globalization, technical shifts, and potential shortages of key resources.
- Identify any factors that might pose an opportunity for you, but not for your competitors. This could be a good source of competitive advantage.

Figure 5-3 Situation Analysis as the First Step in Creating a Business Strategy

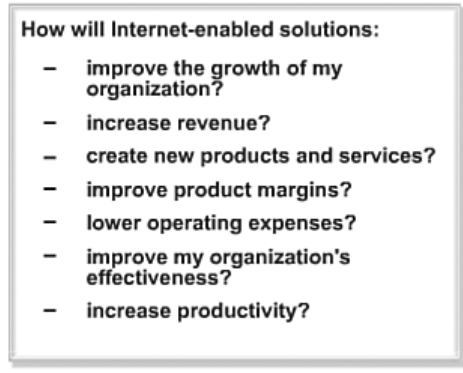


Why Create a Business Strategy?

A business strategy is the roadmap that your firm will follow to achieve its goals and objectives. A comprehensive strategy incorporates internal and external factors as it strives to achieve a sustainable competitive advantage. A company creates a strategy in an effort to define what actions it needs to take should specific scenarios take place, such as a period of scarce resources or a change in core competencies, and to address rapid changes in technology that could pose opportunities or threats. With a roadmap in hand, like the one shown in Figure 5-3, the business can respond to internal and external factors quickly and definitively, mitigating risk and exploiting opportunities to achieve sustainable competitive advantage.

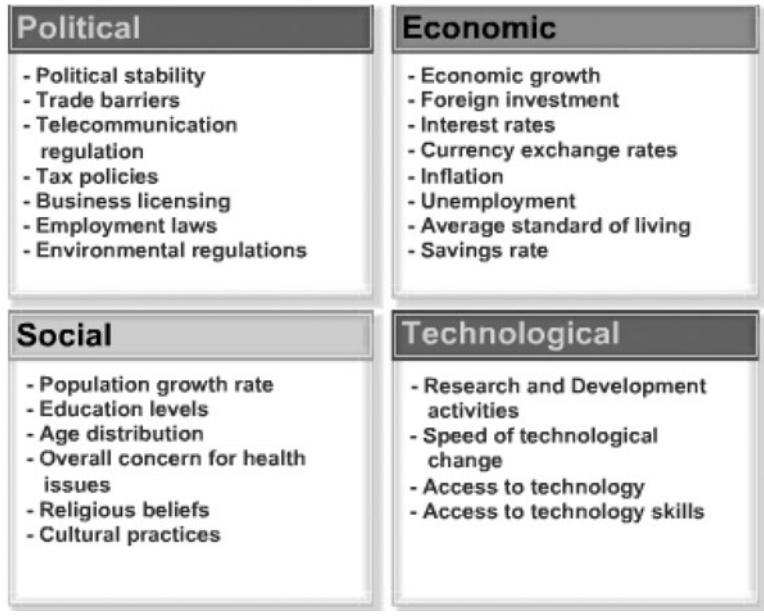
As you build your business analysis and strategy, ask yourself the following questions highlighted in Figure 5-4 to see where an Internet-enabled solution can address your business needs.

Figure 5-4 Questions to Ask Regarding Internet-enabled Solutions



- **External situation analysis:** Two types of external factors can influence a business: the macro environment and the micro environment. The *macro environment* includes those factors that could influence all businesses within a given market. For example, the overall political, economic, or social situation would influence most businesses in a given market. The technology environment would also fall within this category. These macro environmental factors: political, economic, social, and technology make up the elements of (PEST) analysis, as illustrated in the grid in Figure 5-5. These external factors are usually beyond the control of your organization and sometimes appear as threats.

Figure 5-5 Elements of PEST Analysis

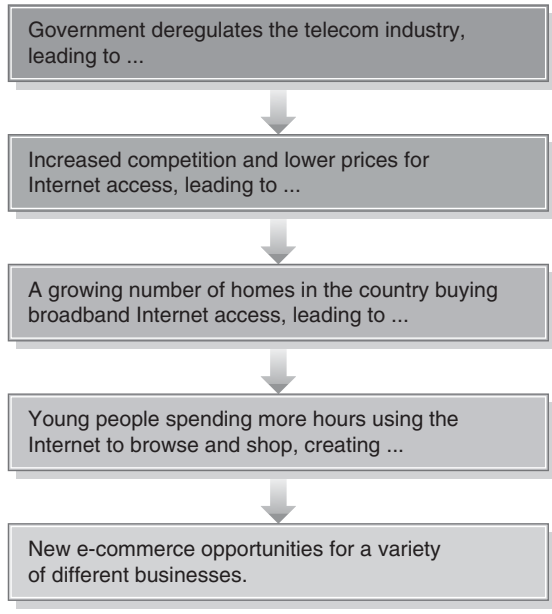


- **The PEST analysis:** The PEST analysis takes into account the following elements:
  - **Political factors:** These are government regulations and legal issues that define both the formal and informal rules under which your organization must operate.
  - **Economic factors:** These affect the purchasing power of potential customers and the business cost of capital, or the rate of return that a firm would receive if it invested its money somewhere else with similar risk.
  - **Social factors:** These are the demographic and cultural aspects of the external environment. These factors affect customer needs and the size of potential markets.
  - **Technological factors:** Technological factors can raise or lower barriers to entry, make production levels more efficient, and influence outsourcing decisions.

Not all change is bad or detrimental to a company. Changes in the external environment can create new opportunities. Many macroenvironmental factors are country specific or industry specific. You need to perform a PEST analysis for all the countries where your organization operates.

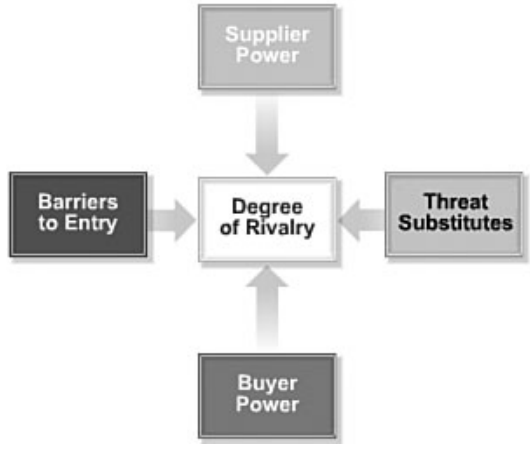
Figure 5-6 is a hypothetical example of the effects of a change in the macro environment:

Figure 5-6 Potential Impact of a Change in the Political Element of PEST



The *micro environment* includes the competitive factors that are specific to your industry. *The Five Forces Analysis* by Michael Porter becomes your review of the external micro environment. This framework, known as Porter's Five Forces and illustrated in Figure 5-7, identifies five factors that influence the profitability of an individual market (Porter, 1985). Recall from course Module 2 that the five forces consist of supplier power, threat of substitutes, buyer power, barriers to entry, and degree of competitor rivalry.

Figure 5-7 Porter's Five Forces



- **Supplier power:** Suppliers provide the raw materials, such as labor or supplies, for producers. If suppliers are powerful, they can exert more control over the producers that they supply.

  The fewer numbers of suppliers within an industry, the greater the power for those suppliers. For example, if only one mine provides a needed material to a particular industry, that mine can sell its material at a higher price.

- **Barriers to entry:** In theory, any business should be able to enter or exit a market. In reality, many factors can prevent a new business from entering an existing market. For example:

  - **Government regulation:** Governments can create monopolies (for example, power utilities). These prevent other businesses from entering the market.
  - **Patents or proprietary knowledge:** For example, Edwin Land introduced the Polaroid camera in 1947. Kodak tried to sell a similar type of camera in 1975. Polaroid sued Kodak for patent infringement and won. Kodak was prevented from entering the instant camera industry.
  - **Asset specificity:** A new business must have detailed technical knowledge and substantial capital to enter certain industries.

- **Degree of rivalry:** This is how much rivalry and competition exists between different businesses within the industry.

  For example, intense rivalry exists among motorcycle manufacturers. This rivalry is getting stronger as competitors focus on the high-end luxury market, and price and technological competition intensifies.

- **Threat of substitutes:** This occurs when a product has competition from a different industry.

  In the Alan Greenspan autobiography, *The Age of Turbulence*, Greenspan discusses the impact of aluminum cans to the beer bottling industry. Aluminum offered numerous advantages over bottles, including lighter weight and improved strength, so less product was being damaged or lost in shipping. Aluminum became the preferred packaging in the highly competitive budget beer industry. Glass bottles were used for the premium beers.

- **Buyer power:** This is the power that buyers have over the producers in an industry.

  For example, if there are numerous cell phone manufacturers but a limited number of people buying them, the buyers have more control, and the price should drop.

On the following page, briefly identify the macro- and micro external environment for your firm using PEST and Five Forces analysis.

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Match the environmental factors to the appropriate type of analysis by placing a check mark in the appropriate column.

	Macroenvironment (PEST)	Microenvironment (Competitive Forces)
Few suppliers		
Strong price competition		
Age distribution		
Research and development activities		
Many firms of the same size and capability		
Inflation		
Strong price preference		
Interest rates		
Environmental regulations		
Large number of buyers of your product		

Internal Situation Analysis

Your organization must understand its strengths and core competencies and its value in the marketplace. It also must understand where it is vulnerable to competitors and changes in the macro environment. With this knowledge, you will be able to better choose the opportunities that have the most potential for success.

An internal analysis should consider the following factors within your organization, in the context of the Internet-enabled initiative that you are planning:

- Product
- Operations
- Organization
- Technology
- Marketing and sales
- Customer service and support

The internal factors that affect the competitive position and strategy of your firm consist of business review and SWOT assessment. A business review, as explored in Module 3, "Organizational Readiness," examines the mission, current goals and objectives, and operational or core competencies of your firm. Figure 5-8 shows the elements of a business review. A business review is focused on the internal workings of the company.

Business Review

Figure 5-8 Elements of a Business Review

- The mission statement is unique to the company. It describes the aims, values, and overall plan of an organization. This statement describes why an organization exists, conveys a sense of purpose to employees, and projects an image of the organization to its customers.
- Goals are measurable objectives that the organization wants and expects to attain sometime in the future. Goals should be directed toward a vision and be consistent with the mission. For example, one goal might be to increase sales faster than the growth of the industry.
- Objectives are the specific, measurable results that are expected within a particular period, consistent with a goal and strategy. Objectives are clear targets that measure the progress of the organization toward its goals. For example, a sales objective might be to grow revenue by 20 percent per year.
- Key performance indicators (KPI) are the specific measurable indicators that will be used to report progress toward organizational goals and objectives. KPIs should measure critical success factors of the organization to enable management to measure improvements and take corrective action when needed. For example, KPIs to measure sales might include average discount by region, average sales by salesperson, or average order size.

On the following page, research and write down the mission statement, goals, and current business objectives of your organization.

What is a SWOT analysis?

A *SWOT analysis* looks at the firm relative to its competitors. It is designed to identify the strengths, weaknesses, opportunities, and threats that the company faces in its market.

SWOT stands for strengths, weaknesses, opportunities, and threats.

- **Strengths:** Capabilities that provide a competitive advantage
- **Weaknesses:** Factors in which the capabilities of competitors are superior
- **Opportunities:** Favorable circumstances for profit and growth
- **Threats:** Potential dangers or risks to the business

By understanding these four components and how they interrelate, you will be better able to apply the strengths of your organization, minimize its weaknesses, capitalize on its opportunities, and deter potentially devastating threats.

How do you perform a SWOT analysis? Categorize.

A SWOT analysis involves two steps:

1. Examine internal capabilities in key competitive areas such as financial, marketing, product, technical, and organizational. This will require input from different departments within the company to determine the core strengths and weaknesses of the firm.
2. Leveraging the same diverse team, identify potential opportunities and threats for the firm.

You should end up with a SWOT matrix that looks similar to the one shown in Figure 5-9. Each quadrant of the matrix compares two of the SWOT categories, such as strengths and opportunities, or weaknesses and threats.

When you build a SWOT matrix, your firm will be able to develop specific strategies for dealing with the issues that percolate to the surface in the situation analysis.

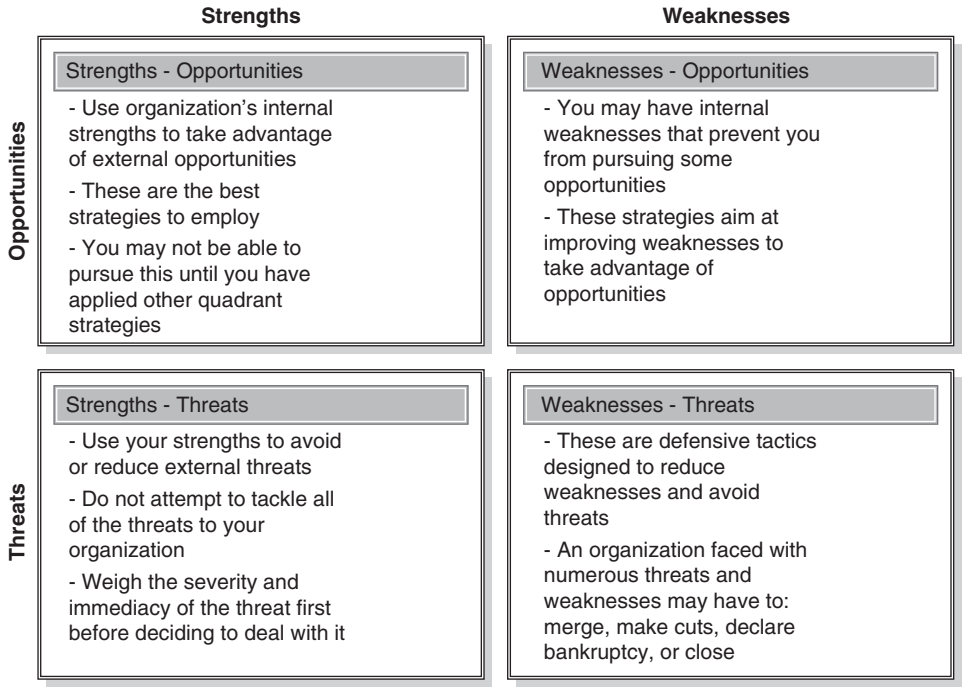
- **Sample SWOT Analysis: Threat Background for Oasis Office Furniture**

  Over the past ten years, the retailer network for Oasis Office Furniture has grown from one to five stores in the local metropolitan area. It has built a good brand and a strong reputation for personalized service, including advice on office layout and design.

  The strategy of the store has been to target small businesses. As a result of hiring experienced contractors, the staff at Oasis is highly regarded by local businesses who value their expertise and are willing to pay slightly higher prices for their recommendations.

  In the past two years, sales to local onsellers have grown from 15 to 22 percent of revenue, while sales direct to local businesses have remained flat.

Figure 5-9 SWOT Matrix



- **Problem**

  A major office furniture chain store has established two megastores within 12 kilometers of two of the major retailers for Oasis. The major chain store has a much greater selection and lower prices than Oasis retailers can offer. In addition, the larger chain offers special discounts and credits to bulk buyers.

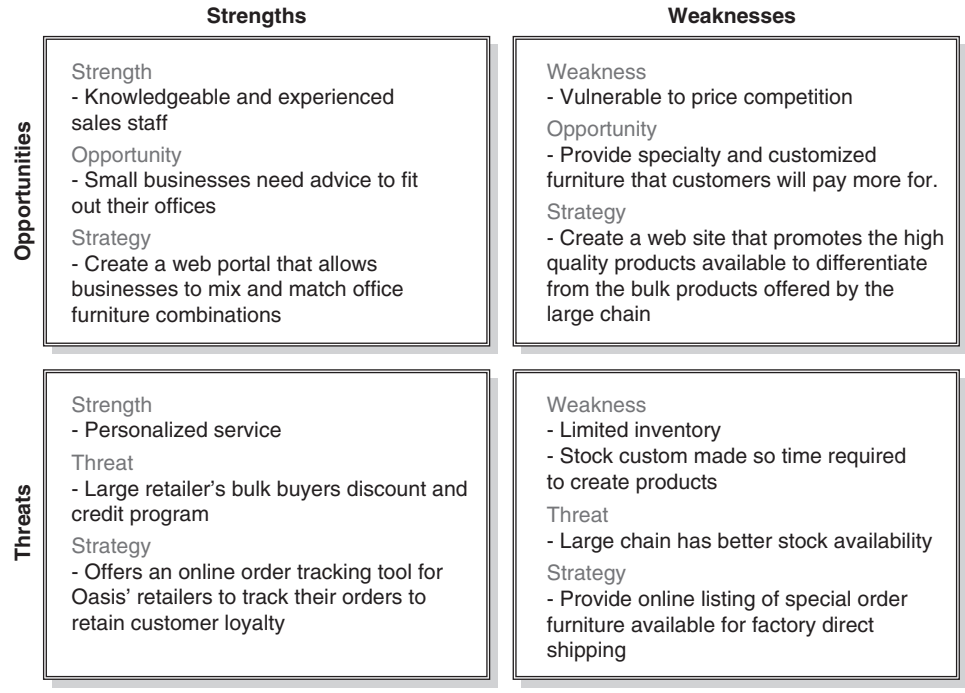
  Oasis Office Furniture is facing the threat of lost customers and revenue. It must do something different to survive.

- **Sample SWOT Analysis: Oasis Office Furniture**

  The company has performed a situation analysis using the SWOT matrix. Based on an assessment of the business strengths and weakness relative to the opportunities and threats, it has identified some strategies to create competitive advantage or minimize its weaknesses.

  The firm has summarized this information in the SWOT matrix in Figure 5-10.

Figure 5-10 Oasis' SWOT Matrix



On this and the following page, briefly conduct a business review and SWOT analysis for your firm. Note 3 to 4 items for each component of the business review and 3 to 4 items for each component of the SWOT assessment.

Visioning Statement

Conducting a situation analysis will give your organization a clearer picture of where it wants to go and how it is going to get there. The vision of an organization depicts the organization as you would like it to become in the future. A good way to align your IT strategies with your organization is to envision what success looks like. Most organizations express this in the form of a *vision statement*, which conveys the organizational goals, values, and beliefs for employees, customers, and partners. The vision statement guides the organization in reaching future goals.

Think about the slogan for building an e-Vision Statement found in Figure 5-11. Consider developing an e-vision statement for your company. An *e-vision* melds the company vision statement with its desire to become an Internet-enabled firm. Whereas vision statements express a long-term vision, the e-vision statement should only look 24 months into the future. This period is far enough away to allow you to consider innovative new approaches, but it is close enough to promote immediacy and action.

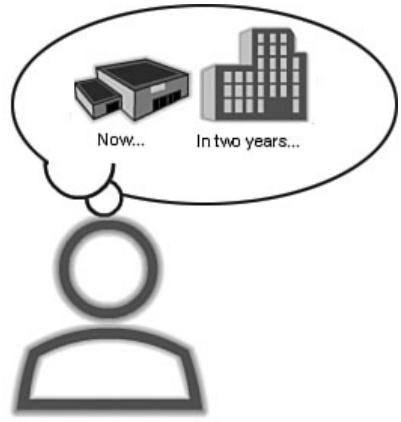
Figure 5-11 Slogan for Building an e-Vision Statement

To develop an e-vision statement, imagine that it is two years from now and you are describing your success. What factors are important to determining success of the Internet-enabled company? When asking these questions, consider the following:

- Who are the stakeholders or beneficiaries?
- What do they expect and want?
- When the vision has been achieved, what are the expected outcomes, and how are they measured?

As Figure 5-12 illustrates, start with an end-goal in mind to plan and execute the steps to successfully achieving the goal.

Figure 5-12 Envision and Plan the Company's Future



Utilizing your earlier work describing the mission statement, goals, objectives, and KPIs of your firm, incorporate that information in the development of an e-vision statement. Keep in mind that this statement is focused on the near term (24-month window) and becoming an Internet-enabled business. It will include your KPIs for defining success.

Conclusion

In this section, you learned the first of three steps in the business strategy development process: situation analysis and visioning. You learned how to evaluate the internal and external situation of your firm using PEST, Porter's Five Forces, business review, and SWOT analysis tools. You also learned how to create a vision statement and an e-vision statement based on the output of the analysis tools. In the next two modules, you will learn two additional business strategy develop steps: portfolio management, and business case and financial concepts.

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MODULE 6

Portfolio Management

To this point, you have seen the facilitative impact of information technology (IT), especially network-enabled IT, to effect massive improvements on business processes. This is all well and good, you are probably thinking, "But my IT assets are a mess! How can I even begin to apply additional technology when I might not be getting the maximum impact from the technology that I have already implemented?"

Do not feel bad: This situation is fairly typical, especially when the technology has grown up with the company or has been patched together due to mergers and acquisitions. Frequently, applications or tools are acquired for a single feature or function rather than the transformational benefits that can be had with more extensive implementations.

This is called the 10 percent rule. Generally, for any technology product, only about 10 percent of all the functionality is actually tapped. This can also be seen in consumer goods. Although few people use them this way, cell phones can store calendars, keep track of contacts, and act as calculators. This paradigm might be fine for consumer goods, but it can be destructive for businesses.

This is because, in business, it is important to inventory all assets and leverage them for maximum gain. When functionality is acquired or developed but not used, the impact acts as though a capital asset were acquired and allowed to rust in some backyard.

This section will discuss the strategies necessary to manage IT as a portfolio of tools that can be leveraged effectively. The discussion will extend to the ways in which the portfolio can be mapped to business processes to effect maximum change. In particular, it will discuss the importance of IT portfolio management, business process management, project life cycle management (PLM), change management, and adoption strategies.

As you will discover, successful organizations demonstrate these principles in three ways:

- Process management imparts organization-wide standardization of processes, to control the way the organization runs.
- PLM provides standards for project implementation.
- Change management enables organizations to implement effective changes immediately, rather than lingering indefinitely in the planning phase.

Upon completion of this module, you should be able to do the following:

- Apply the portfolio management approach to classify current initiatives.
- Summarize the benefits and use of a project roadmap.
- Recognize barriers and principles of project success.

- Describe the five steps of the define, measure, analyze, improve, and control (DMAIC) method of business process management.
- Describe the elements of PLM.
- Arrange the steps of PLM.
- Explain the change management principles.
- Arrange the steps of change management.
- Recognize adoption strategies.
- Describe the phases of the adoption process.

Portfolio Management

As noted earlier, you must manage IT as any other asset in an organization. Chiefly, this means that you must manage IT as a portfolio of tools that can be brought to bear on business process issues. In particular, managing IT to achieve maximum impact requires evaluating each IT project in the context of the degree to which it can return value to the overall organization. From the standpoint of an IT portfolio, IT has many opportunities for adoption to improve processes. However, unlike a manufacturing tool that must be acquired from a third party, most businesses have the capability to develop their own IT tools.

This makes controlling the investment in such tools difficult, and because functions in existing tools might adequately address user needs, it becomes important to formalize the process of acquisition of information technology. One way to handle this is to adopt a formalized approach to the development and deployment of IT called *IT portfolio management*.

In this section, you will discover what portfolio management is, why it is important, and how to create a portfolio of potential IT initiatives.

By the end of this section, you will be able to do the following:

- Explain the uses and value of portfolio management.
- Explain the portfolio development process.
- Define the principles for developing business performance metrics.
- Evaluate current initiatives using the iValue matrix.
- Identify new Internet and IT initiatives using value chain analysis, stakeholder analysis, and visioning.
- Evaluate current and potential new IT initiatives.
- Use the e-Portfolio Manager and the project prioritization matrix to identify and prioritize new initiatives.
- Build a project roadmap.
- Select attractive projects for further business case development.

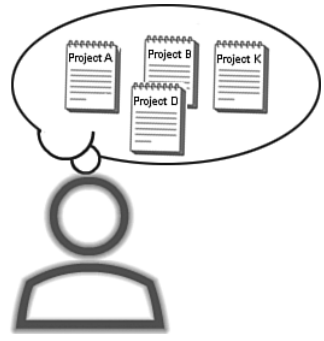
What Is Portfolio Management?

Portfolio management might sound like something you would hear from a stockbroker. In fact, this notion is not too far off the mark. A stockbroker is charged with managing the money of his clients in a way that achieves the highest return possible. Just like a stockbroker, the IT organization is charged with maximizing the return to the company from its investment in IT. The way this is done is to treat the collection of IT projects and existing systems as a portfolio of investments that must be actively managed to ensure that the investments are in the correct areas and at the appropriate amounts of investment. Active portfolio management ensures that IT systems are being optimized within the company. It also monitors IT on a holistic basis, identifying specific areas where the company should increase, decrease, or drop systems and applications as necessary.

Portfolio management is one way to do that. The premise of portfolio management is that organizations have scarce time and resources and cannot afford to try every good idea that might result in a positive outcome.

The portfolio management approach recognizes that all organizations make a series of investments to achieve their goals. *Portfolio management* is the process and methodology for managing and optimizing the IT investments of an organization, thereby reducing duplication and increasing productivity across the entire enterprise. Figure 6-1 shows the consideration required for IT portfolio management.

Figure 6-1 IT Portfolio Management Considerations



Rather than the passive approach to IT project management that many organizations take, where IT investment is allowed to grow without too much thought to the actual return generated, portfolio management requires an active approach with an emphasis on company benefits, as shown in Figure 6-2. An active approach generates many benefits:

- Organizations prioritize, allocate, and sequence resources. They also support good governance, allowing projects to be compared regularly based on performance measures.
- Selected projects are aligned with organizational objectives and have the best trade-offs of cost, benefit, and risk. Projects that are underperforming can be eliminated to free up resources for better-performing or new projects.
- Organizations focus on their priorities by working on the right project and the right number of projects, as loosely illustrated in Figure 6-3. At the end of this process, you will have a list of specific and prioritized initiatives to implement within your organization.

Figure 6-2 Active Approach to Portfolio Management

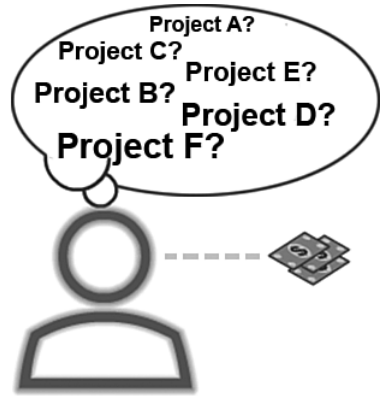
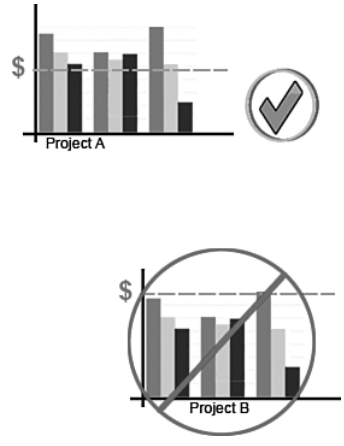


Figure 6-3 Project Prioritization as Part of Portfolio Management



Within the strategy and portfolio planning process, the portfolio management approach described here will be used to evaluate current initiatives, identify new opportunities, and prioritize and select projects for business case development and implementation. The steps to achieve this are as follows:

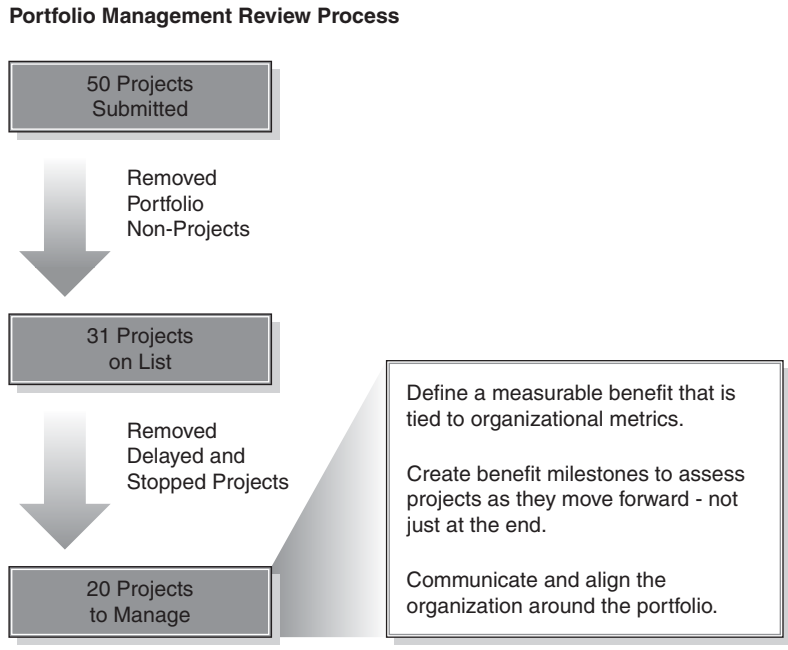
1. Determine the metrics to use.
2. Review the current initiatives.
3. Identify new opportunities.
4. Prioritize new opportunities.
5. Select your initiatives.
6. Build a roadmap.

For now, it is important to note that the portfolio management process requires a formalized approach to IT initiative inventory and evaluation. This module explores each step in depth. It is important to note, though, that portfolio management is not just an exercise applied to new investment. It is also a way to evaluate existing investments on a continuous basis. Many companies forget that IT, like any other investment, can deliver less than expected results that might require deinvesting in a particular technology.

By implementing a portfolio management review process, similar to the flow in Figure 6-4, your organization can define a measurable benefit that is tied to organizational metrics. This process allows you to create benefit milestones to assess projects as they move forward—not just at the end of the project. It also enables you to communicate and align your organization around the portfolio.

Portfolio management is an effective way to remove duplicate or unapproved projects and projects that have become delayed or stopped since the previous review. The benefits of this process are lower cost, fewer projects to manage, and improved success rates on remaining projects.

Figure 6-4 Portfolio Management Review Process

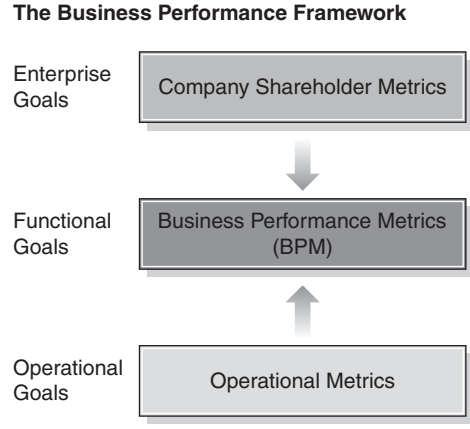


Metrics

What are metrics? *Metric* is a term that has achieved overuse in recent years. As a concept, it is actually pretty straightforward. A metric is a measurement of something. It can be either qualitative or quantitative in nature, although for the purpose of statistical analysis, it is better if it is quantitative. The problem with metric as a term is that it takes a simple concept and wraps it in technical jargon that can be hard to communicate to decision makers, who might not be as technically inclined. When using metrics, it is important that each measure should be explainable to nontechnical personnel in terms they understand.

Regardless of the metrics chosen, the portfolio management approach needs to align IT to the goals of your organization. To achieve this, you can adopt several categories of metrics. The business performance framework, illustrated in Figure 6-5, enables a firm to map project performance metrics against enterprise, functional,and operational goals.

Figure 6-5 Business Performance Framework



Company Shareholder Metrics

These are top-line measures that determine shareholder value and drive enterprise goals. For-profit businesses determine shareholder value by factors such as revenue growth, market share growth, margins, and operating expenses.

Business Performance Metrics

These are measurements of business functions that apply across the entire organization. Business performance metrics (BPM) include increased employee productivity, higher customer satisfaction, increased revenue, reduced days of inventory, and reduced employee turnover.

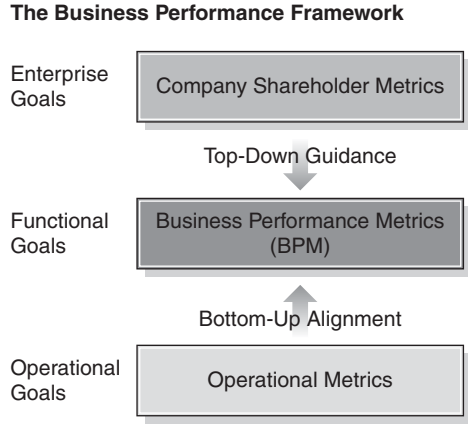
Operational Metrics

These are measurements for individual projects and specific operations as indicators of BPM success, including application hits per day, percentage utilization, percentage completion, and error rate reduction.

The Business Performance Framework

A key challenge for organizations is to bring all three levels of metrics into alignment. For example, operational metrics should measure and align with key performance indicators (KPI) to determine the success of the IT project and provide insight into factors driving business performance. Figure 6-6 shows top-down and bottom-up alignment flows.

Figure 6-6 Business Performance Framework with Alignment Flows



Top-Down Guidance

The senior management team must create specific business measurements to ensure that all activities match enterprise goals.

Bottom-Up Alignment

Business managers must define the metrics of their projects. In addition, operations should conform to the business performance metrics.

The importance of reconciling top-down guidance with bottom-up alignment cannot be overstressed. When this exercise is never really accomplished, the misalignment of expectations can be enough to cause the company to fail. When those who are paying for initiatives are not in agreement with those who are implementing them, projects can fail in spectacular ways.

KPIs are another poorly understood concept. Although a KPI ought to be well defined, as a little thought will reveal, the term incorporates a fair amount of ambiguity. What makes one metric more important than any other? It is only in the context of business goals that the concept of "key" becomes understandable.

A well-known management principle is "You cannot manage what you do not measure." Key performance indicators are critical to any business process improvement initiative. KPIs, then, become the specific measurable indicators that report progress toward organizational goals and objectives. They evaluate the critical success factors of your organization that are defined within the framework of the goals and objectives of the overall business,

enabling management to measure improvements and take action. For example, KPIs for sales might include average discount by region, average sales by salesperson, or average order size. Figure 6-7 illustrates another, yet different set of sales KPIs.

Figure 6-7 Key Performance Metrics for Sales

KPIs	Quarter Targets	Q1	Q2	Q3	Q4
Sales Revenue	$1.1m	$0.9m	$1.2m	TBD	TBD
Number of Sales	1500	1250	1489	TBD	TBC
Operational Efficiency (Cost/Revenue)	90%	82%	85%	TBD	TBD

So, to recap, metrics are important for the following reasons:

- Managers use metrics to compare the value of different projects to determine their relative priority in portfolio reviews.
- Metrics enable near real-time reaction changes.
- Metrics provide a standard reporting format across all measures, resulting in consistency of information.
- Metrics improve productivity by enabling managers to measure and manage performance.
- Standard reporting of metrics allows managers to focus on business analysis.
- At the operational level, you can use metrics to communicate progress and success.

On the following blank page, using the Business Performance Framework, write down the key metrics used in your organization to measure business performance.

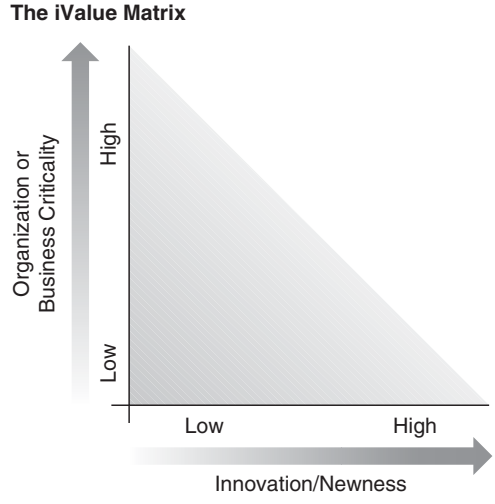
Review Current Initiatives

The next step in portfolio management is to review the current initiatives. As noted earlier, this is important because if you do not understand what you are already doing, you cannot evaluate what you want to do. One way to do this is to use the iValue matrix.

The iValue matrix is a concept that was introduced in 2000 in a book by Amir Hartman and John Sifonis: *Net Ready* (2000, McGraw-Hill), to provide a tool for use in prioritizing IT projects. As illustrated in Figure 6-8, each quadrant of the iValue matrix represents a different balance of innovation or newness and organizational criticality. Although somewhat subjective, the tool nevertheless provides a compelling way to evaluate projects in relation to each other. The two dimensions used for evaluation are organization or business criticality on the Y-axis and innovation/newness on the X-axis:

- **Organization or business criticality:** These initiatives are typically focused on productivity and profitability. They answer the question: Are the initiatives delivering cost reductions or improved efficiency?
- **Innovation/newness:** Are the initiatives new or innovative compared to others in the marketplace? Initiatives that have a high degree of innovation/newness are typically focused on competitive differentiation and growth.

Figure 6-8 iValue Matrix

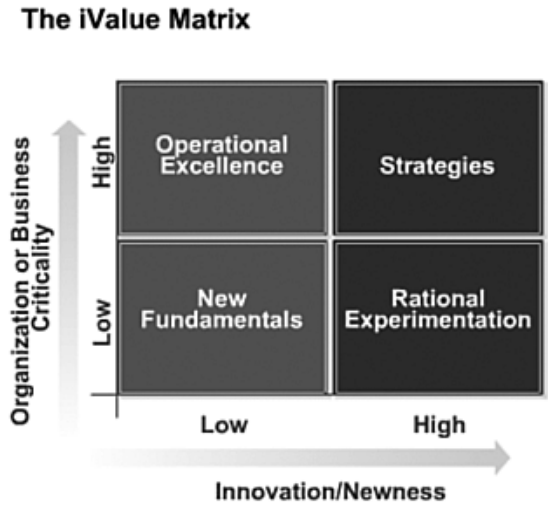


Use the iValue matrix to review your current IT initiatives to see if they are aligned with the strategic objectives of your organization. Some examples of IT initiatives applied to the iValue Matrix are illustrated in Figure 6-9. To plot your initiatives on the matrix, you need to ask the following questions:

- Are these initiatives driving sufficient value for your organization?

- What is the nature of your initiatives? Are they driving the following:
  - New value creation
  - Innovation and growth
  - Cost reduction
  - Productivity and efficiency
- Are the initiatives misaligned with your objectives? Should they be replaced?

Figure 6-9 Examples of IT Initiatives Applied to the iValue Matrix



On this and the following blank page, write an IT initiative used or that could be used in your organization. List at least one for each of the four quadrants of the iValue matrix.

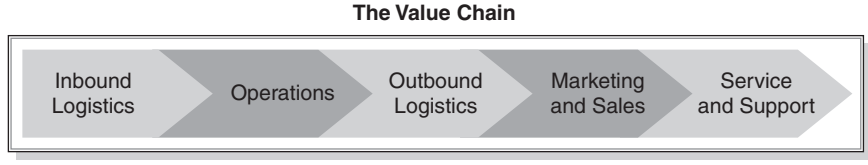
Identify New Opportunities

After prioritizing existing projects, portfolio management examines new opportunities that the existing portfolio might not be addressing, or might not be addressing effectively. As noted previously, this is usually the place where many organizations start; however, without the baseline established through an examination of existing initiatives, this step can lead to significant conflicts between existing projects and new ones. In fact, without a recognition of the importance of existing initiatives, this step can introduce organizational in-fighting and reduced morale.

In this phase, you identify opportunities for new initiatives that are aligned with the vision, goals, and objectives of your organization. Two approaches that you can use are to conduct a value chain and stakeholder analysis. An Organization value chain is shown in Figure 6-10.

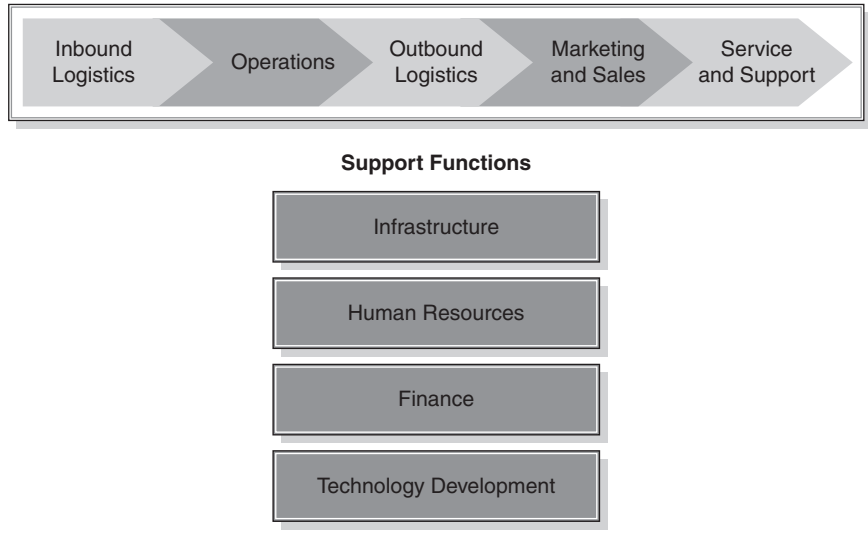
Typically, opportunities for IT projects are found when looking for friction points or unaddressed frustrations that exist in the value chain of an organization. As discussed previously, the value chain is the process by which raw materials are converted into products and services that the user or customer values enough to purchase. After you have identified stakeholder frustrations or friction points, you can look for Internet-enabled solutions to these problems.

Figure 6-10 Organization Value Chain



Value chain analysis begins with a review of the strategic objectives of the organization. What should the organization do for itself versus outsource? What are the core functions of the organization? Typically, the answer to such questions quickly reveals the key tasks on the value chain. Figure 6-11 offers some examples of core functions.

Figure 6-11 Example Core Functions to a Firm's Value Chain



Armed with the core functions, ask what opportunities and threats are implicit in the core skills. In other words, who could do these things better than your organization: outsourcers, out-taskers, competitors? What could you do better in the context of the skills that the firm already possesses? Can operations be improved?

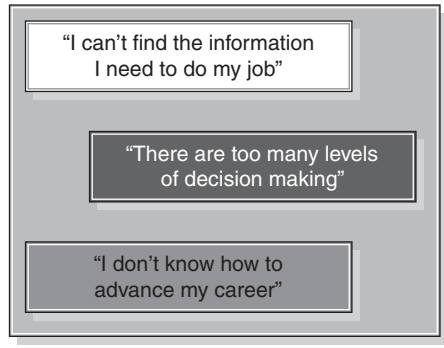
Finally, value analysis asks what opportunities or threats could be addressed by the application of Internet-enabled IT. If this is done, what would success look like? How can the metrics developed during the portfolio analysis process be applied to determine success?

Which parts of your value chain will likely have the greatest impact on the needs of your organization? For example, if the focus is on growth, you might want to look at sales, marketing, and product development. If the focus is on cost reduction, you might want to look at areas that account for a high percentage of your operating expenses.

Remember to define opportunities in terms of the key stakeholders for each task in the value chain. Otherwise, organizational resistance can quickly negate any changes that could be implemented. Sun Microsystems, as an example, uses an approach called CAP (Change Acceleration Process) to identify key stakeholders and ensure that their needs are met when applying process improvement. At the very least, take the following steps to ensure that key stakeholders are included in value analysis:

1. Identify the major stakeholders involved in a select function of the value chain. For example, for sales, it might include customers, distributors, resellers, sales managers and sales representatives, order processing, and finance.
2. Through interviews or workshops, explore the wants, needs, and expectations of the stakeholders. For each of these stakeholders, find out what makes it difficult for them to perform their job quickly and effectively. Are friction points or broken or manual processes causing errors, delays, or dissatisfaction? Figure 6-12 provides a few common stakeholder questions.
3. Take your list of problems or issues and think about how Internet or IT-enabled business processes might be used to solve the problems. List at least one or two possible solutions for each problem, with the benefits.

Figure 6-12 Examples of Some Key Stakeholder Questions



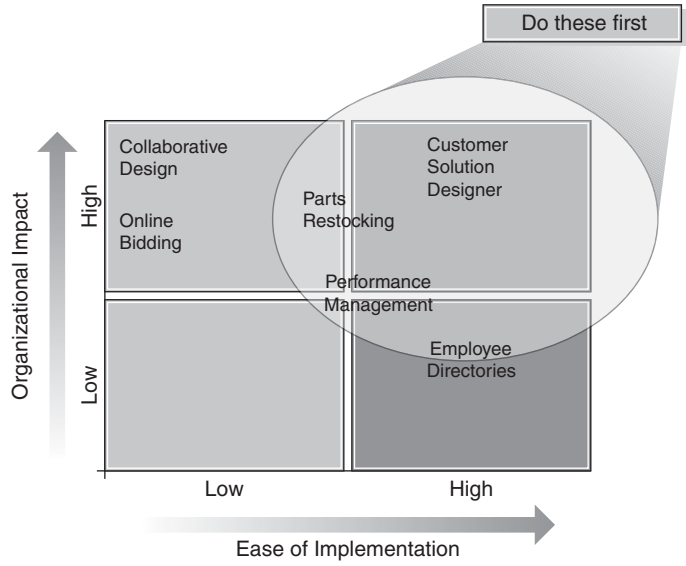
On this and the following blank page, select an area of your organization. Identify the key stakeholders, and list five or six frustrations or friction points. Pick the top two frustrations and identify possible solutions.

Prioritize Your IT Initiatives

With the completion of the value analysis, you should have a pretty good idea of the opportunities for improvement on which IT can deliver. You probably have a list of potential IT projects that you could undertake to achieve process improvement. So, how do you select the ones that will actually be done? One way that you could use to select the best projects to undertake is the Project Prioritization matrix.

The Project Prioritization matrix, shown in Figure 6-13, is similar to the iValue matrix, and with good reason: The Project Prioritization matrix (PPM) was developed by the same authors (Amir Hartman and John Sifonis) who developed the iValue matrix. The PPM allows you to see projects in relation to each other based on two dimensions: organizational impact and ease of implementation.

Figure 6-13 Project Prioritization Matrix



Organizational Impact

Organizational impact assesses the business value of the initiative to the organization. You can measure organizational impact in a variety of ways, including return on investment (ROI), customer satisfaction, cultural impact, and the cost of not implementing the initiative (lost opportunity).

Ease of Implementation

Ease of implementation (and adoption) refers to the degree of difficulty to implement the initiative and gain adoption. This dimension considers a variety of factors, including project cost, complexity, process change required, availability of skilled resources, availability of systems and data, likely rate of adoption, and training and support needs.

Your project portfolio selections are often a trade-off between these two factors. Your choices should be based on a combination of factors, including these:

- Cost and benefit
- Complexity and risk

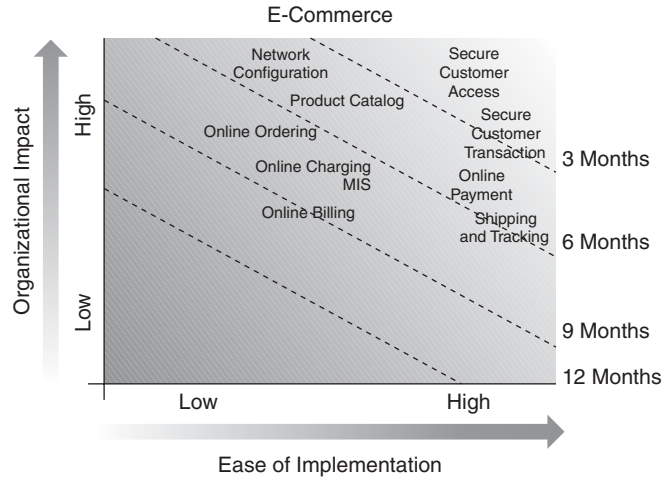
Project Selection

After completing the PPM exercise, you now have a list of potential projects, each of which will improve the delivery of value to customers and each of which is acceptable to key stakeholders. How do you decide which ones to do? Generally, projects that can be delivered quickly with measurable benefits provide faster results and lower risk. Because some important projects might also be large and complex, consider breaking these projects into phases that can be delivered rapidly. Figure 6-14 maps the smaller components of a large E-Commerce Initiative against business value and ease of implementation.

Always try to keep projects short and simple with small development and management teams. As the project length and scope increases, so does the risk of failure.

Another important point, which we addressed in our previous books on virtual business processes, is the idea of incrementalization. Incrementalization means that small projects that can deliver measurable returns will pave the way for additional similar sized projects. If each provides a benefit, the organization can often achieve true transformation without the risk and complexity of attempting to change things all at once.

Figure 6-14 Mapping Project Value Impact Against Ease of Implementation



As you select projects, keep in mind that without executive sponsorship, a project will likely fail even if all the other stakeholders are satisfied. The Sun CAP approach seeks to identify an executive sponsor early in the process of project selection.

To identify and select the IT initiatives that you can implement quickly and easily, you need to involve both business leaders and IT professionals. Your IT department or an IT consultant can help you scope and plan projects.

In addition, you need the following people:

- **Business manager:** This is someone who understands the business processes and the business requirements of the project.
- **IT manager or consultant:** This is someone who understands technology and who can help to specify the technical requirements.

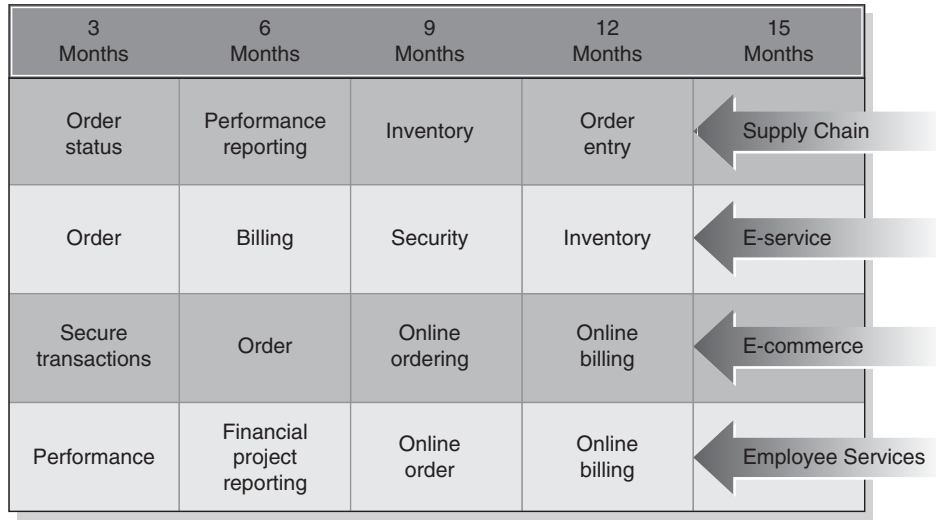
Developing business strategies for IT initiatives requires that business and IT managers work together as a team.

Build a Project Roadmap

Through collaboration between the business and IT, you can develop a project roadmap by plotting initiatives quarterly over a 15-month timeline. The example in Figure 6-15 shows that the quick wins are addressed first, followed by more complex projects. It bears noting, though, that sometimes complex projects will be undertaken first, as a basis for more transformation undertakings. When this is done, try to break down the larger projects into phases with deliverables scheduled at three-month intervals. This assures that your organization receives benefits from the initiative throughout its development, not just at the end.

Follow the larger projects with complementary projects that can be delivered in subsequent quarters. Finally, review your project roadmap quarterly to ensure that priorities have not changed. This will naturally occur when your firm follows the Project Prioritization matrix quarterly review and assessment.

Figure 6-15 Example of a Project Roadmap



Portfolio Management Example: Oasis Office

In Module 5, "Strategy Development," Oasis completed a strengths, weaknesses, opportunities, and threats (SWOT) analysis of its business. This analysis identified four possible initiatives that can create competitive advantage or minimize the weaknesses that Oasis identified within its business.

Oasis would like to take these initiatives one step further by applying them to the iValue matrix and building a project roadmap.

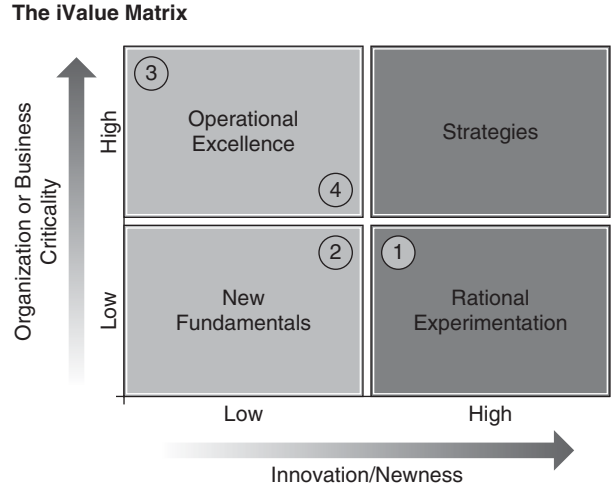
Following are the four possible initiatives identified in Module 5:

1. Create a web portal that allows businesses to mix and match office furniture combinations.
2. Create a website that promotes the high-quality products available to differentiate them from the bulk products offered by the large chain.
3. Offer an online order tracking tool for customers to track their orders to retain customer loyalty.
4. Provide an online listing of inventory available for immediate delivery.

iValue Matrix

Oasis has reviewed the suggestions and decided that the initiatives fit within the following iValue matrix quadrants shown in Figure 6-16.

Figure 6-16 Oasis' Prioritized iValue Matrix IT Initiatives



Which Projects Should Oasis Pursue?

Based on the iValue analysis, Oasis has decided that initiatives 1 and 4 align best with the strategic objectives of its business.

- **Mix–and-match web portal:** This allows businesses to mix and match office furniture combinations.
- **Online inventory availability:** This provides an online listing of special-order furniture available for factory-direct shipping.

Oasis knows that both of these are large undertakings for its business and, as such, it has decided to develop a project roadmap. The project roadmap will enable it to better identify benefits to be received through the life of the projects. The roadmap might also help identify quick wins, which can enable some of those benefits to be realized earlier.

Building a Project Roadmap

This project roadmap will give Oasis a better understanding of how these two initiatives could be implemented in smaller, manageable milestones. Oasis has looked at how these two initiatives might be implemented over time. This will also enable accurate measurement of the progress of the projects.

	2 Months	4 Months	6 Months
Mix–and-match web portal	Design portal	Upload all stock options	Roll out to customers
Online inventory availability	Design website	Promote with current and potential customers	

As you can see, armed with relatively simple tools, you can develop an IT portfolio and use it as a basis for analyzing a value chain and then building a project roadmap. Remember that this process is not a one-time exercise. It is a process that constantly evaluates the opportunities for process improvement. The danger is that projects that slip will quickly be overtaken by new opportunities and new projects. That is why having a plan for incrementalization is important to achieve continued success and measurable benefits rooted in the goals and objectives of the firm.

Business Process Management

In this section, you will examine what a business process is, why it is important, and what the key considerations are for implementing business process management in your organization.

You will investigate two things:

- The value of business process management
- The DMAIC method of business process management

Business process management has become a central focus for automation in the past couple of years. The reason for this has to do with the sophistication that IT has achieved by integrating technology into the business. A few years ago, IT management technology was concerned with the management of networked applications. It was not long before business leaders

noticed that this kind of infrastructure management could also be applied to the management of business processes. At that point, infrastructure management systems began to become aware of the business process.

Automation of business process management is only possible, of course, if business processes can be rationalized and managed in a formal way. Although you can address business process management in several ways, this section looks at it in a way that is consistent with Six Sigma process improvement approaches. This will include a review of business process management principles and will apply a Six Sigma approach called DMAIC to the analysis and improvement of such processes.

What Is Business Process Management, and Why Is It Important?

BPM provides the ability to gain visibility and control over information flows or transactions that span multiple applications and people, in one or more organizations. BPM consists of people, processes, and technology, which are combined to enhance the value of business processes throughout an extended enterprise or organization.

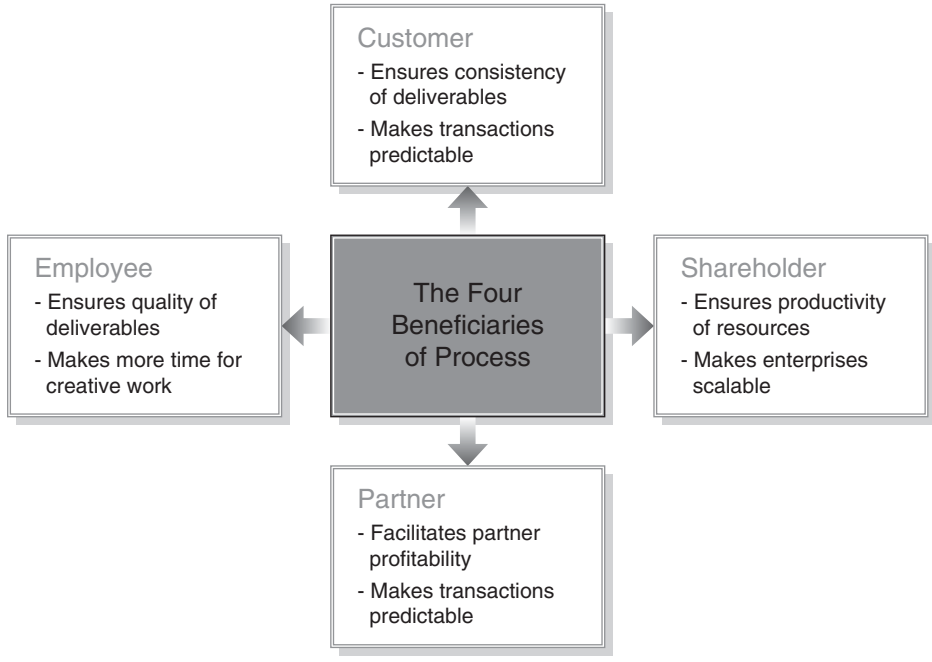
As W. Edwards Deming discovered during World War II, standardizing BPM promotes quality, improves productivity, lowers costs, and frees up resources to focus on innovation and value. It also unifies the focus of the organization, whether the focus is on creating profit, monitoring and fulfilling consumer needs, or growing the business.

BPM provides benefits for all the stakeholders of an organization, as shown in Figure 6-17. Process reengineering should always be done with the customer as the primary focus. Figure 6-18 shows the four beneficiaries of Process Management. Here the critical benefits are consistency and predictability:

- **For partners:** BPM streamlines transactions and makes them more predictable, improving partner profitability and loyalty.
- **For shareholders:** Efficient processes drive productivity for growth and lower costs, or they provide better profitability and greater leverage of existing resources.
- **For employees:** Well-designed processes help ensure efficiency and quality in the work of employees, and they free up more time for employees to pursue more creative work.

Figure 6-17 Business Process Management Benefits

Figure 6-18 Four Beneficiaries of Business Process Management



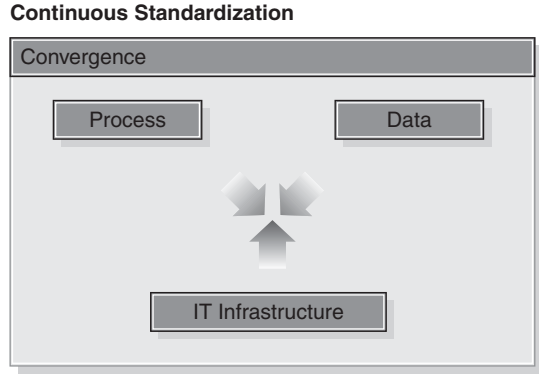
Business Process and the Network Virtual Organization

One of the key strategies of networked virtual organizations (NVO) is to continuously standardize business processes, data, and IT infrastructure both inside and outside the organization. For example, some companies might have different ways of handling customer orders depending on whether the orders came in over the web, over the phone, in the mail, or in a store.

This creates an inconsistent customer experience, which can negatively affect customer satisfaction and repeat business. That inconsistency also makes it difficult for the company to quickly gauge customer response to new items or sale prices, thus making it next to impossible to create a just-in-time inventory management system run by the company suppliers.

As can be seen in Figure 6-19, BPM provides a context in which to evaluate the impact of Internet-enabled IT projects. Does the project improve the quality of the outcome? Can you actually measure the impact in a statistically meaningful way?

Figure 6-19 BPM Context for Evaluating Internet-enabled IT Project Impacts



The focus on measuring the outcome of BPM led to the development of formalistic approaches to BPM that depend on metrics. One of these is called DMAIC.

DMAIC is an acronym that describes the five steps of BPM:

- Define
- Measure
- Analyze
- Improve
- Control

DMAIC is a term that has come into widespread adoption through the auspices of the Six Sigma statistical quality analysis approach. Organizations utilize DMAIC for BPM when a process is not performing well and the causes of the process problem and its solution are not well understood.

To improve processes, you must first evaluate and measure them by profiling any important and poorly performing processes. Processes that have established KPIs are often better candidates for improvement because they can be measured before and after the process improvement implementation.

As can be seen from Figures 6-20 and 6-21, you can think of DMAIC as a continuum of steps that flow into each other. The process is actually circular rather than linear, in the sense that after an improvement is made, it is subject to evaluation and further improvement. The DMAIC steps include the following concepts and should answer the following questions.

Figure 6-20 DMAIC Circular Continuum

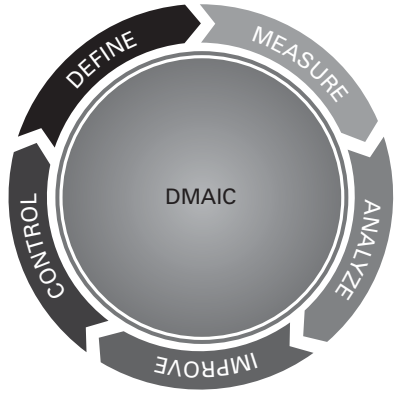
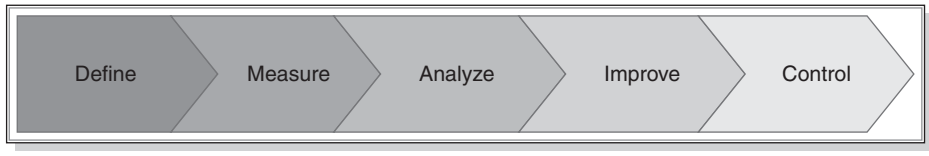


Figure 6-21 DMAIC Process Flow



Define the problem and its scope from the customer view, and evaluate the cost versus the benefit of fixing it.

- What is the problem, and is it worth fixing?
- What is the scope of the process and the problem?

Measure how the process is currently performing. Collect past and present data about the process so that you understand the problem better.

- How is the process performing right now?
- What portions of the processes require closer analysis?

Analyze the causes of missed process performance by distilling the collected data. Determine the source (the root causes) of the problem.

- What are the root causes of the problem?
- Do you know enough to formulate a solution?

Improve the process to address the identified causes. Evaluate solutions for customer and organizational impact, implement worthy solutions, and monitor results.

- What is the best way to fix the problem?
- What are the consequences of this solution for all processes?

Improve the process to address the identified causes. Evaluate solutions for customer and organization impact, implement worthy solutions, and monitor results.

- What is the best way to fix the problem?
- What are the consequences of this solution for all processes?

Control (monitor and adjust) the process to sustain the improvements. Confirm the continuing effectiveness of the solutions, and document the date for future uses.

- Is reporting in place to confirm the effectiveness of the solution?
- How can you sustain the solution?

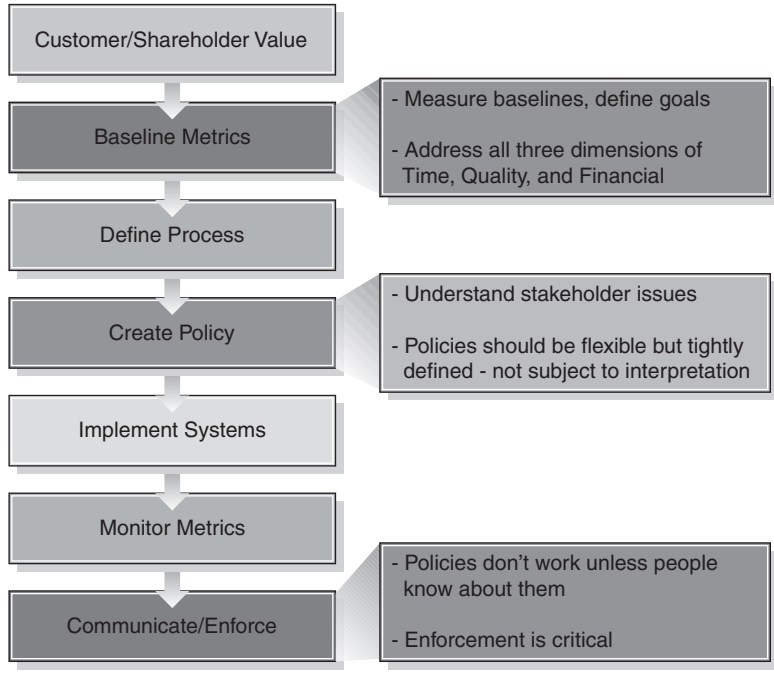
When looking for process improvement opportunities, start by defining the value for the customer and the stakeholder. Set clear goals that measure the time, quality, and financial impact before you define the process.

After defining the process, establish the policies and procedures that consider customer and stakeholder issues. Where possible, policies should be flexible to accommodate how people like to work but should be well defined and not subject to interpretation.

Finally, after implementing systems and measurement systems, inform and educate the stakeholders about the new process, its benefits to the organization, and its benefits to them. Stakeholders should also know about the policies and how they will be enforced.

BPM, using a DMAIC approach, is a powerful way to implement a process of continuous improvement, as shown in Figure 6-22. Companies like Cisco have successfully used DMAIC to radically speed up the development and improvement of technology. Of course, the entire process improvement cycle depends on being able to implement changes quickly and effectively. Although the BPM approach defines where such implementation needs to take place, it has little to say about how such implementation can be done effectively. This is the domain of the project life cycle, discussed next.

Figure 6-22 BPM Utilizing DMAIC for Continuous Process Improvement



Project Life Cycle Management

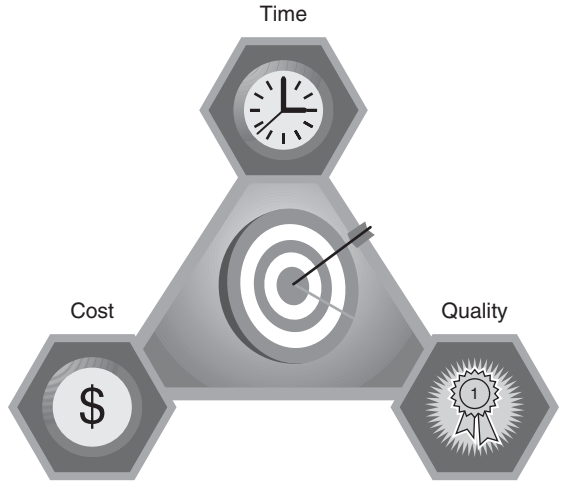
This section examines a few common barriers to successful project execution and introduces concepts that are crucial to it. You will learn about the following:

- Project management and why it matters
- Barriers and enablers of project success
- PLM elements and steps

PLM is an approach to IT project implementation that recognizes that any IT project has common steps that must be accomplished before the project can be successful. Figure 6-23 shows the three core metrics of PLM. It incorporates a formalized approach to project management that includes a significant amount of oversight. It is the extensive oversight requirement of PLM that has been criticized as being so cumbersome that it slows down implementation.

Nevertheless, as you will see, the formalization that PLM brings to the implementation process can ensure success to complex projects. In fact, the recognition of this capability has led to its adoption within the ISO 9000 standards for quality certification.

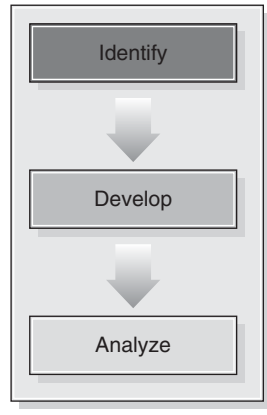
Figure 6-23 Project Life Cycle Metrics



What Is Project Management?

Project life cycle management begins and ends with project management. *Project management* is the application of knowledge, skills, tools, and techniques to promote activities to meet the project requirements. As shown in Figure 6-24, project management is a proven discipline used to deliver consistent, predictable, and repeatable results by doing the following:

Figure 6-24 Project Management Process Flow



- Identifying and following the progress of milestones and deliverables
- Developing cost estimates based on a timeline
- Analyzing the effects of change, and incorporating those results into the planning process

Success with project management should guarantee that the selected technology works, the business problem is solved, and the investment is contained. PLM resolves one of the major issues of project failure: scope creep. By clearly defining a project, its timeline, and its deliverables, you eliminate scope creep from the beginning.

As IT budgets continue to rise as a percentage of overall spending, organizations are under great pressure to manage risk and budget. In 2003, the Standish Group found that only 34 percent of the projects that were evaluated succeeded, and most failures were caused by poor project management. However, the most critical skills required for effectively managing a project are not always apparent or developed in an organization. A project management discipline is needed to develop most critical skills required for effectively managing a project.

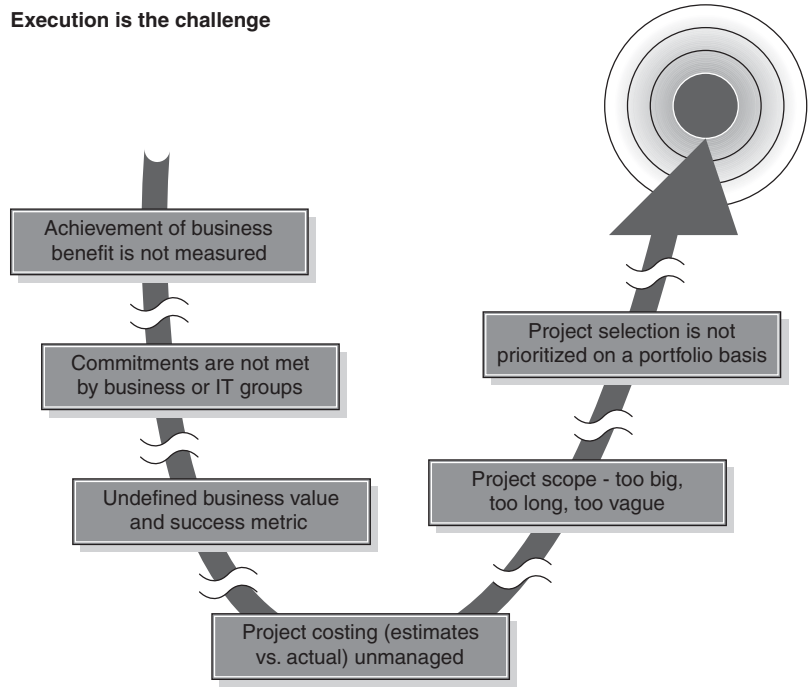
The objective of developing this discipline is to provide the end-to-end project delivery and project management processes, standards, best practices, and tools to enable the organization to achieve higher levels of performance and organizational impact.

As noted earlier, formalized project management has a relatively poor record for success. In the context of IT, this is understandable. IT evolves so quickly that, if a project is longer than about six months, technology improvements begin to erode the value delivered by the project. The expectations of executives and other stakeholders, which are set not by the project but by what the market is doing, begin to either add requirements or withdraw support. This is why project management bodies such as the Project Management Institute (PMI) are actively seeking to redefine project management processes for IT.

Barriers to Project Success

In addition to the extreme sensitivity of IT projects to the timeline, there are other barriers to success for such projects as noted below and shown in Figure 6-25. The barriers to project success rise from many sources, but the organizations themselves often create obstacles.

Figure 6-25 IT Project Execution Barriers



The most common barriers to project success are these:

- **Unclear and unmeasured business value:** Funded projects are selected without a clear business case, defined metrics, or measurement strategy. IT project portfolios are not actively reviewed and revised.
- **Poor governance processes:** Roles and responsibilities of business and IT project members and stakeholders are not well defined. Neither side is mutually accountable for project success; commitments are not met.
- **Poor communication:** Weak communication among project team members, sponsors, and stakeholders leads to conflicting goals and schedules.
- **Cost overruns:** Inadequate budgeting, poor financial controls, and lack of contingency planning result in cost overruns.
- **Time overrun:** Without executive sponsorship and leadership involvement, project management schedules are often not actively tracked.
- **Scope growth:** Projects lacking short-term deliverables and interim milestones often incur extended scope due to overdesign and poor accountability.

Of course, you should not take any of this as an indictment of IT project management. Although only about 34 percent of projects achieve true success, it is still true that IT projects are virtually impossible without some form of project management. The key is to understand, up front, that IT projects that are seeking to achieve a transformation of any part of the organization are likely to be hard to do. Rather than drop such projects, it is better to focus on those things that can promote project success within the context of sound project management.

Principles for Project Success

The good news is that you can do many things to ensure project success. Many of these principles for project success, shown in Figure 6-26 as well as noted here, directly address the barriers to success:

- **System of accountability:** Team members and sponsors must have defined roles and responsibilities and be accountable individually and collectively.
- **Good communication:** Regular communication between the project team and sponsors is crucial. Communication strategies are needed to build awareness and interest by the key stakeholders.
- **Executive sponsorship:** Executive sponsorship is crucial for securing cooperation for the project throughout the organization.

- **Executive authority:** Someone must be in the position to make decisions about the project. This person must have the ability and willingness to end the project at any stage if it fails to meet agreed milestones, budget, or performance targets.
- **Milestones:** Any project should have both short-term and long-term milestones with specific deliverables. These milestones must be actively measured and monitored.

Figure 6-26 Principles of Project Success

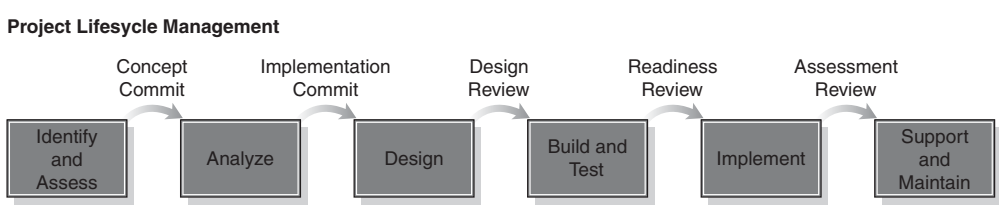
So, with project management as a basis for discussion, you can now answer the question of how this relates to the idea of project life cycle management and how project life cycle management can ensure the success of Internet-enabled IT applied to business processes.

What Is Project Life Cycle Management?

Project life cycle management provides guidelines for project implementation and ongoing maintenance. Although BPM provides oversights for the processes of an organization, project life cycle management guides the implementation of solutions in the improve phase of the DMAIC method of process management. By utilizing project life cycle management, organizations manage the implementation of the project from the conceptual phase to the maintenance phase to ensure the delivery of quality results, as illustrated in Figure 6-27. For example, project life cycle management ensures that IT initiatives will be implemented effectively with technical standards, timely delivery, and correct organization integration.

A key benefit of project life cycle management is that it ensures projects are reviewed at intermediate points, called *milestones*. These help confirm that projects remain in scope and are aligned with the objectives and standards of the organization.

Figure 6-27 Project Lifecycle Management



There is a caution here, though. As you have seen, process and review are no substitute for execution. Many organizations lose sight of the fact that formalization and management, although generating substantial activity, frequently mask the fact that nothing much is happening in the project. When the project manager begins to report missed deadlines and the number of meetings is increasing within a project, those are signs that the project life cycle is focusing on process rather than execution.

The project life cycle, though, is conceptually pretty simple. It begins with an assess and identify step, where a value chain assessment leads to the identification of opportunities for an IT project. Following this, the proposed project is analyzed in terms of its probable impact and success.

At this point, a project is given a go or no-go by key stakeholders, and the project moves to the design stage, where the solution is developed. After this, the solution is built, tested, and implemented. When the solution is in place, it moves into a support and maintain status.

At each stage of the life cycle is a point where governance is brought to bear to review the progress and provide authorization for advancement to the next step.

Although this describes the standard project life cycle, in recent years an additional step has become common. This is one associated with retirement of the project. As technology ages, its impact may lessen. Recognizing this, many companies now periodically review existing projects to determine if they should be phased out.

Change Management and Adoption Strategies

As the previous section indicates, managing an IT portfolio can be complex. One of the principal drivers of complexity is the rate of change that technology forces upon an organization. Change has been the topic of many books, not the least being books by Tom Peters about thriving on chaos, which seemed to launch the genre. However, in spite of the transformational impact of change, it can also be extremely disruptive.

Unfortunately, most IT projects, at their heart, are about change. Any new technology is likely to force people out of their comfort zone. This threatens most people and typically generates resistance, either overt or covert. Many projects have failed simply because employees, customers, or key stakeholders opposed them. Consequently, learning to manage the process of change can be critical to the success of IT projects.

In this section, you will explore the following:

- Different approaches and key principles of change management
- Steps to create a change management program
- Phases of a continual adoption planning process

What Is Change Management?

Change management is an organized, systematic application of the knowledge, tools, and resources of change that provides organizations with a key process and incentives to achieve their business strategy. As it relates to new, Internet-enabled business process, change management includes the following activities:

- Developing a business case for change
- Assessing the organizational readiness for change
- Addressing stakeholder issues, concerns, and possible resistance to change
- Developing a change management plan
- Identifying change agents, and defining their roles
- Developing a communication strategy plan
- Creating a reinforcing change process
- Managing the challenges that arise in initiating and sustaining change

Organizations cannot properly formulate the steps to successful change without understanding the key principles driving effective change management. Figure 6-28 illustrates some of the principles of change management.

Figure 6-28 Principles of Change Management

Although they are not exhaustive, the following are some of these principles:

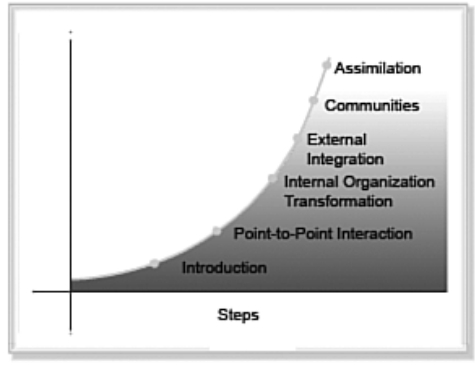
- **Leadership:** Effective change management starts at the executive level.
- **Individuals:** All employees will have personal concerns about the changes. Organizations should address these concerns formally through official organization channels to present a unified and consistent message. However, leaders at each level should prepare to allay the specific concerns of individual employees.
- **Communication:** Often people in an organization either do not understand the need for change or misunderstand it; therefore, providing clear explanations of the change and its benefits is crucial. Organizations can reinforce core messages periodically so that employees can access the correct information about the change and provide appropriate responses.
- **The unexpected:** Organizations should prepare for people to react in unexpected ways. By continually reassessing the impact of the change and the willingness of employees to adopt further changes, organizations can make the necessary adjustments to maintain successful change.
- **Cultural landscape:** Every organization is unique and promotes a different cultural landscape composed of the attitudes, values, and practices of its employees. Organizations must assess the cultural landscape and directly address any conflicts with the change. An organization should also consider how it can use its cultural landscape to promote the change, such as through incentives.

Of these, probably the most important principle is the first one: leadership. Effective change must have sponsorship from the leadership of an organization. If leaders do not explicitly and openly support a change, it is unlikely that anyone else in the organization will.

Many organizations have track records of "the next big thing." This is a dynamic where once a year the leader announces a new initiative. It involves a flurry of activity in which many teams are formed to implement the new initiative, with numerous executive speeches and workshops. Ultimately, the noise dies down and the initiative is forgotten. By the end of the year, no one remembers what it was. Such business practices can be destructive, eat up resources, and ultimately drive morale and productivity into the ground. If leaders are not willing to support a change and continue to do so, it is better not to attempt it, because it will fail.

A successful change management program will occur over several phases and several years. As such, these steps might be different depending on the organization and the scope of the change. Figure 6-29 illustrates the basic steps of a change management program.

Figure 6-29 Basic Steps of a Change Management Program



These steps are explained next:

- **Introduction:** Introduce the new technology through a static medium.
- **Point-to-point interaction:** Utilize the technology to create a basic interaction that is usually limited to two points, such as between the organization and a customer, between the organization and a supplier, or between the organization and an employee.
- **Internal organization transformation:** Redesign the organizational processes to integrate with a common IT infrastructure.
- **External integration:** Integrate the network beyond the organization to manufacturers, suppliers, or other business associates.
- **Communities:** Use technology to create e-hubs, exchanges, or communities of interests.
- **Assimilation:** Assess and adjust the technology change as necessary, remembering that the technology and the organization are inseparable.

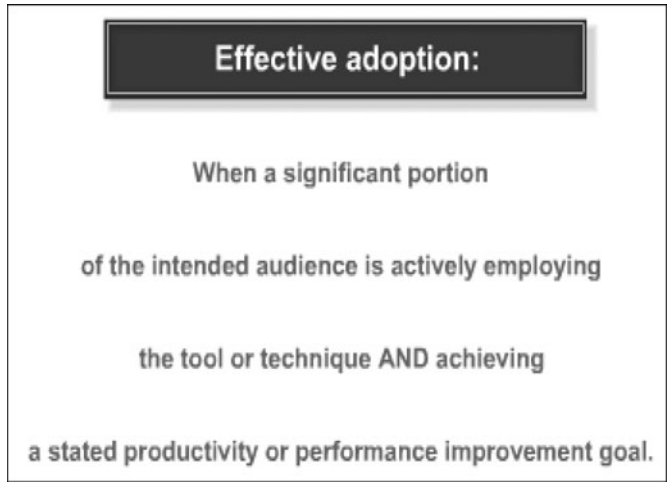
By planning change management in steps according to key principles, an organization can make adjustments in response to how well its stakeholders are embracing the changes. An organization can additionally revise its change management plan to utilize new and improved technologies.

Adoption Strategies

Although organizations might implement new technologies, applications, and processes, these things will provide no benefits to the organization unless they are widely adopted and used. Change management must ultimately concern itself with adoption of a technology. As noted previously, this starts with the leader; however, a successful adoption strategy requires not only executive support, but strong leadership and organizational priority. In all cases, a successful strategy must effectively communicate the benefits of adoption. As defined in Figure 6-30, effective adoption exists when a significant portion of the target audience is actively employing the tool or technique and achieving agreed-upon goals and measures.

Adoption strategies are an important part of change management to drive acceptance and the use of new initiatives. They typically include pilot tests, training, education, marketing, and communications.

Figure 6-30 Definition of an Effective Adoption



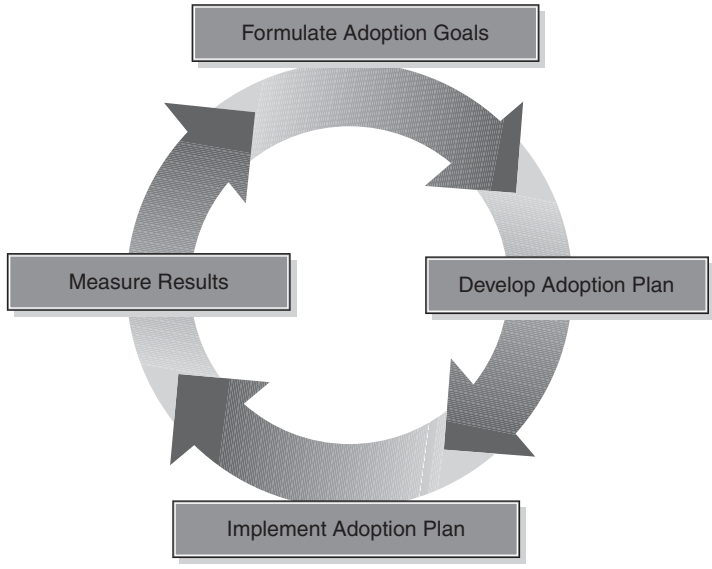
Organizations achieve effective adoption through a continuous adoption planning process that entails an unending cycle with four phases:

- **Formulating adoption goals** include determining user requirements, planning necessary resources, and creating success criteria such as, “95 percent of the target audience should be using the tools within six months.”
- **Developing an adoption plan** involves adoption pilots, training, communications, and feedback mechanisms.

- **Implementing the adoption** requires production support such as training teams and the ability to adjust according to feedback.
- **Measuring the results** utilizes the success criteria created in the formulating adoption goals phase to evaluate the effectiveness of the adoption. This phase informs the next phase for formulation of new adoption goals.

By utilizing a continuous adoption planning process, illustrated in Figure 6-31, organizations can effectively deploy their resources.

Figure 6-31 Continual Adoption Planning Process



As you can see, just as in constant improvement and project life cycle planning, change management involves a constant adoption cycle where adoption goals are set and evaluated. As adoption proceeds, the metrics used give important clues not only to the success of change, but also to problems with the technology that can be addressed in other parts of the project life cycle.

Conclusion

As you have seen in this module, process is an important part of IT implementation. Although too much process can be anathema to creativity, an effective application of process can be an important part of adopting technology, making changes to organizations, and meeting competitive threats in the marketplace. Following are important concepts you have reviewed:

- The phases of an organizational transition to a process-oriented focus
- The challenges and principles of project success
- The value, elements, and steps of project life cycle management
- The principles behind implementing and managing a successful business process for your IT initiatives
- The DMAIC method of business process management
- The importance of approaches, principles, and steps of change management
- The importance of adoption strategies, and the phases of the adoption process

Each of these concepts provides tools you can use to incrementally implement transformational Internet-enabled IT to virtualize a business and radically improve its performance.

MODULE 7

Business Case

Introduction

Up to this point, you have learned the individual components that make up the planning process. You know what value Internet-enabling the business brings, what a networked virtual organization (NVO) is, how to determine where your company is today, and how to determine where you want to take the firm in the near and long term. You have discovered a variety of tools, methods, and metrics to assess firm readiness from an internal as well as external perspective. This section explores what a business case is, discusses why it is important to create a business case for your information technology (IT) initiatives, and briefly reviews the main components of a business case. Upon completion of this module, you will be able to answer the following questions:

- What is a business case, and how is it used to create a project proposal?
- When should you create a business case and project proposal?
- What are the major components of a business case and a project proposal?

Upon completion of this module, you should be able to do the following:

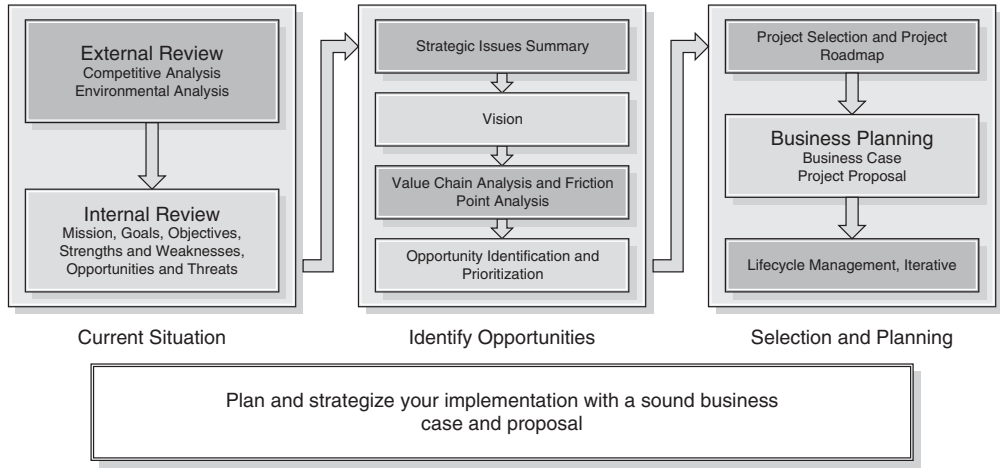
- Recognize when to create a business case.
- Identify the major components of the business case.
- Compare financial and nonfinancial justifications.
- Apply financial calculations to support a business case.

Creating a Business Case

What is a business case, and why should you create one?

A business case is an important element of business planning. Its purpose is to justify a specific investment of resources and benefits for a new initiative or project inside an existing organization relative to existing projects and other opportunities. You can think of a business case as a way to measure opportunity costs of one initiative over another. Figure 7-1 shows the process for developing a business case. Firms use business cases to weigh the costs and benefits of a project relative to the decision-making process.

Figure 7-1 Business Case Process



A business case does the following:

- Provides sound business reasons for implementing the proposed Internet-enabled project or initiative
- Illustrates where the IT project fits within the overall organization. For example, it justifies the initiative based on the mission and goals of the organization
- Explains the impact that the proposed new technologies will have on the organization
- Contains the roadmap and milestones of implementation with more detail than the overall business plan
- Defines the success metrics for the initiative
- Highlights the risks and benefits to the firm that are associated with the initiative

When Should You Create a Business Case?

A business case is developed in the selection and planning phase, after opportunities have been identified and need to be sorted out in terms of value to the firm. It is not unusual to develop business cases for multiple initiatives concurrently, for it is in this phase of deeper analysis that a company can better determine which initiative will drive greater returns on the limited resources more quickly than a competing initiative. Business cases are developed for a variety of reasons. Figure 7-2 shows a group of people who represent different departments within a company. This is one reason to develop a business case. A business case would also be created in these circumstances:

1. The initiative spans multiple departments or organizations, and the proposed plan needs to be shared or justified to others.
2. An organizational or business process change is needed.

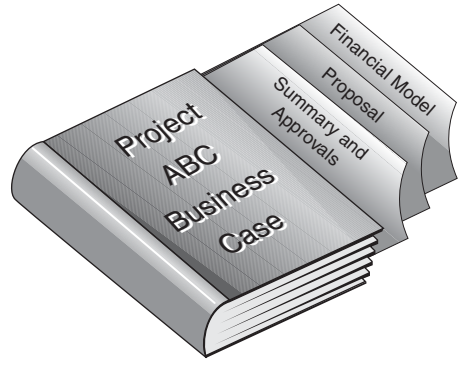
3. New or different initiatives need to be justified relative to the overall goals and objectives of the company.
4. Investment dollars and other assets are being requested for a new initiative.

Figure 7-2 When to Develop a Business Case

The Major Components of a Business Case

Business cases come in different depths depending on the size and scope of the proposal. For example, a proposed major shift in a business process, say moving to out-tasking, would require a more detailed and in-depth business case than upgrading employee desktops. You can develop a business case in numerous ways, but most business cases include some common components. The major components of building a business case are shown in Figure 7-3. Think of these components as the building blocks for creating the foundation structure for your proposed project.

Figure 7-3 Major Components of a Business Case



The following are the major components of a business case:

- **Summary and approvals:** These provide the decision maker with the basic information from your business case that is required to reach an informed decision.
- **Proposal:** This gives the decision maker detailed information supporting a business case.
- **Financial model:** This supports an investment proposal and rationale for making the investment. The purpose of the model is to try to quantify the financial impact of an investment.

The business case tool provides a framework for communicating key information regarding a proposed case. This is so both business and IT can understand the objectives, significance, costs, return on investment (ROI), impact, and timing.

What Are the Major Components of a Business Case?

The business case components should include the actions and resources to achieve the desired results of your IT initiative.

The business case document should include each of the following:

- Business issues/problem statement
- Project overview and proposed solution
- Project justification
- Project benefits and risks
- Project success measurements and metrics
- Financial analysis (cost/risk/return)
- Adoption plan
- Recommendations

To help you write a business case, use the following template. Consider it a living, breathing document. Initially, you will have only some of the information for each section that pertains to your project.

Revision History

Revision Table

This section aids in tracking who modified the business case and when the modifications were made.

The revision history for this document is as follows.

Version	Date Revised	Author	Comments/Changes Made

Executive Summary

Mission Statement and Vision

Describe the organization's mission and vision for using the Internet and IT to accomplish the business objectives and goals of the organization.

Situation Analysis

Describe the internal and external situation of the organization that is driving the need for change. You might want to add the strengths, weaknesses, opportunities, and threats (SWOT) analysis that led you to your conclusions.

Business Issue(s)/Problem Statement

Describe the business issue(s) or problems that will be addressed in the solution.

Solution

Describe the new capabilities or process change using the Internet and IT to address business issue(s) or problems that will be addressed to achieve the desired benefits.

Benefits

Describe the high-level benefits of the solution. Be sure that the benefits consist of measurable metrics.

Detailed Project Proposal

Project Overview

Describe the scope of the project, including the human and capital resources of hardware, software, and services, that are needed to deliver the solution.

Business Requirements

Describe the business processes that your project will impact. You might want to include in the appendix process maps or cross-functional flowcharts.

Executive Sponsorship

List all the executive sponsors and their titles, and describe their roles.

Executive Sponsor Name	E-Mail Address	Title	Phone Number

Key Stakeholders

List all the key stakeholders—internal and external—and their titles, and describe what portion of the project they are championing.

Key Stakeholder Name	E-Mail Address	Title/Function	Phone Number	Organization

Team Members

List all the team member names. Also include the name of the business and technical project leaders.

Team Member Name	E-Mail Address	Title	Phone Number

Project Justification

Describe the areas that your project will address, such as reducing costs, increasing productivity, improving customer care, and so on. It is important to include firm, measurable metrics, and key performance indicators (KPI) at this point in the project business plan.

Project Benefits

Describe the high-level benefits, including hard, measurable benefits (increased sales, for example) and soft, immeasurable benefits (such as increased customer loyalty).

Project Success Measurements

Describe the success measures for the project and the KPIs that will be used to measure project success.

Risks and Assumptions

Describe the risks (business process, technology, resource, vendor, or other) that could adversely affect the success of the program or application, and list key assumptions.

Project Cost Summary

Describe the business costs associated with this project, including any outstanding cost issues that were not initially listed due to limited information or analysis. If cost issues are unknown, describe the process to gather this information.

Initial Project Cost

This is the preliminary project cost, based on original estimates.

Final Project Cost

These are the final costs, including the ongoing management and maintenance of the program.

Return on Investment

Describe what the return on investment (ROI) would be for this project. Depending on the criteria used within your organization, your financial analysis might use ROI, internal rate of return (IRR), net present value (NPV), or payback period.

Sustainability Plan

Business Support Plan

Describe in detail the process plan for ongoing support for this program. After the program is implemented, describe how users will get support when they have questions or problems.

Change Management Plan

Describe in detail the process plan for change management, including what processes need to be changed and how they will be managed on an ongoing basis.

Training Plan

Describe the training program that will need to be created to teach the users how to use this program or application. Note: Coordinate internal training groups to make them aware of this project and ensure they will be able to detail everything that will need to be done, including a timeline. Include information on how future new hires will be trained.

_____

_____

_____

Communication Plan

Describe in detail the communication plan you will use to communicate to the users concerning this program and the application. Indicate the method of communication, intervals of communication, and other feedback loop components.

_____

_____

_____

Approval

_____	_____
Sponsor Signature	Print Sponsor Name
_____	_____
Project Manager Signature	Print Project Manager Name
_____	_____
Business Owner Signature	Print Business Owner Name

Appendixes

Place any information or diagrams that will not fit in the previous sections, and then reference them to the section they refer to.

Financial Concepts

Financial measures apply to all aspects of the company. Various financial measures are used as a way to determine how the company is doing overall. Other financial metrics are available, however, to estimate the potential return on individual projects and initiatives and measure the actual success after a project has been implemented. As you develop your business case and project proposals, you need to show the financial impact of the IT investments both before and after implementation. This section covers key financial concepts to help you evaluate the financial impact of your investments.

You will explore the following:

- Financial and nonfinancial justification
- The four common financial calculations used for investment impact:
  - Payback period
  - NPV
  - IRR
  - ROI
- Metrics and KPIs

Financial and Nonfinancial Justification

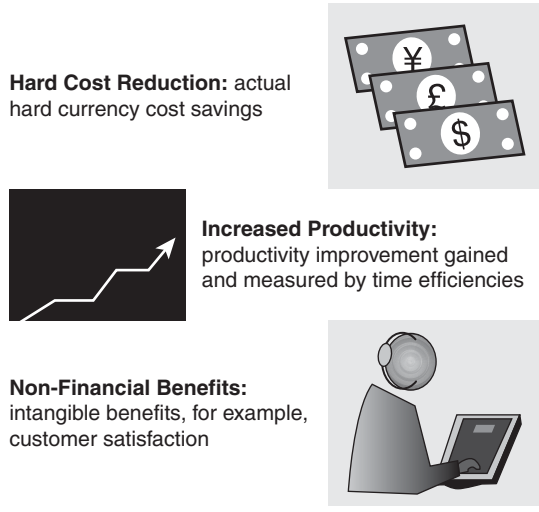
Overview

Although financial analysis is important to most business cases and IT projects, you should also take nonfinancial considerations into account when preparing a business case for change. *Nonfinancial considerations*, or *qualitative analysis*, are soft measures that firms need to include in their evaluation of business cases. Typical soft metrics address the question: How will this initiative improve a specific process or the business overall? Common soft metrics include these:

- Improved customer service
- Improved access to information
- Improved satisfaction
- Learning gained through the project

Recall from Module 2, "Management Strategies," that a business seeks to maximize revenue and reduce costs. Module 2 was looking at an organization from a macro point of view. Business cases and project assessment seek the same value proposition—maximize revenue and reduce costs—but the view is a micro level. Projects typically have three types of benefits, as shown in Figure 7-4.

Figure 7-4 Three Types of Project Benefits



Examples

An Internet-enabled business provides benefits that are unique to the NVO business model. Specific examples of each of the three benefits are noted next.

Hard Cost Reduction

- Savings on office space reduce real estate costs
- Printing costs are virtually eliminated when documents such as directory and internal communication are transmitted electronically
- Travel and hotel costs are reduced for offsite trainings when conducted via collaboration technologies such as audio conferencing
- The reduction in real estate needs results in a concurrent reduction in facilities management costs
- Cheaper, faster procurement is enabled by online procurement
- Postage and shipping costs are reduced or eliminated in the NVO

Increased Productivity

Staff can be redeployed to more value-producing activities and away from sunk command/control activities such as these:

- Travel/vacation/permit requests and authorizations
- Expense report management

Employee timesaving is gained from not having to submit the following:

- Travel/vacation/permit requests and authorizations
- Expense report submission

Employee timesaving is also gained from being able to utilize the following:

- Employee directory use
- Senior management mobility
- Web communication solutions

Having a digital signature solution is another employee and customer timesavings.

Nonfinancial Benefits

- Community leadership
- Reputation as a forward-looking organization
- Openness to innovation, including building future capability and capacity
- Project image of modernity to stakeholders, such as organization as innovator
- Citizen service accessibility for better responsiveness
- Quality of service (QoS), including reduced cost and faster services that meet citizen needs
- Greater employee responsibility

Think back to your business case exercise. On the following blank page, identify 3 to 4 concepts from that case that would be considered financial justification. Then identify 3 to 4 concepts from the case exercise that would be considered nonfinancial justification. Explain why some justifications should bear more weight in the decision process than others.

Common Financial Calculations

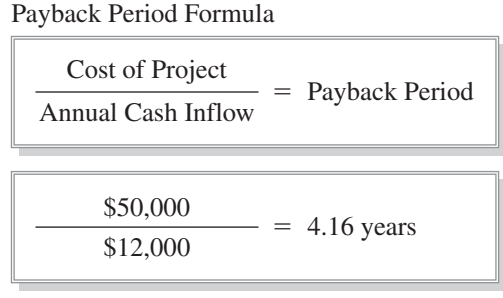
The four most commonly used financial calculations in business case analysis are payback period, NPV, IRR, and ROI. Organizations use these common calculations to measure the impact of their IT investments:

- **Payback period:** The time it will take to earn back the money spent on a project.
- **NPV:** The present-day value (in any currency) of the future net cash flow of a project determined by applying a calculated discount rate.
- **IRR:** The discount rate at which the NPV of a project equals 0. It also represents the investment yield rate produced by the project.
- **ROI:** The gain or loss of an asset based on investment or purchase price.

Payback Period

The payback period tells you how long it will take the firm to earn back the money spent on the project. It is a simple, commonly used calculation to evaluate an investment and compare it to other investments and investment opportunities. The payback period is the total cost of the project divided by the annual cash inflow for the project. The payback period tells you how long it will take to earn back the money you will spend on the project. The formula for finding the payback period is shown in Figure 7-5.

Figure 7-5 Payback Period Formula



For example, if the total cost of a project is $50,000 and you expect it to return $12,000 annually, the payback period would be $50,000 divided by $12,000, or 4.16 years.

If you expect the return from the project to vary from year to year, you can add up the expected returns for each succeeding year until you arrive at the total cost of the project.

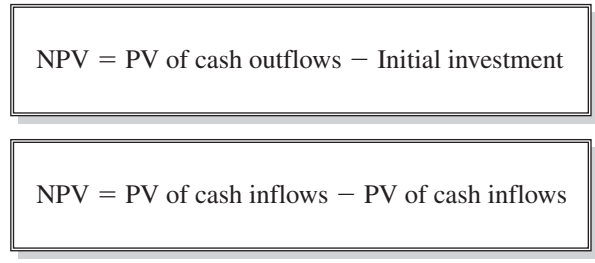
NPV

NPV, which is another common investment evaluation metric, reflects the time value of money. It determines the present-day value, in any currency, of the future net cash flow of a project by applying a calculated discount rate.

Think of it like this: The value of $1 received today is worth more than the value of $1 received at some point in the future. The value of the money you have now is not the same as it will be in the future.

You can use the NPV formula, shown in Figure 7-6, for any monetary denomination. It basically tells you what the future amount of any currency is worth today.

Figure 7-6 Formula to Calculate Net Present Value



Money is worth more today than in the future for two reasons:

- Prices and inflation increase over time.
- You could invest the dollar received today to earn interest.

It is important to know how to calculate NPV so that you can distinguish between the worth of investments that offer you returns at different times. To do this, you first need to understand the concept of discounting.

Net Present Value: Discounting

If $1 today is worth more than $1 next year, you need a method for calculating the value of future dollars in terms of dollars today. This method is called *discounting*.

For example, if you can earn 10 percent interest on money you put into an investment account, $1.00 today would be worth $1.10 in one year ($1.00 × 1.10) and $1.21 in two years ($1.10 × 1.10).

So, what would $1.00 in two years be worth to you today?

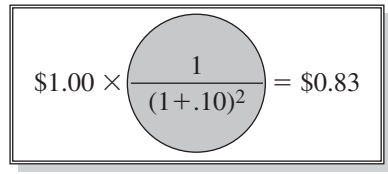
To arrive at this value, you discount from year 2 to year 1 ($1.00 / 1.1) to get $0.91, and then discount again from year 1 to today ($0.91 / 1.1) to get $0.83.

So, $1.00 in year 2 is worth $0.83 today because you can invest that $0.83 today and earn 10 percent returns for two years to get back to $1.00.

You could complete this example in one step rather than two by applying a discount factor to the $1.00 in year 2 to calculate its present value in dollars today.

The formula is shown in Figure 7-7. The circled portion of the formula represents the discount factor.

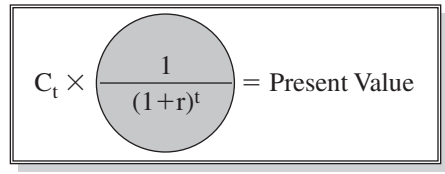
Figure 7-7 Formula to Calculate Net Present Value Discounting



The discount rate is 10 percent, and the discount factor is 0.83.

Another way to think about discounting is that it reflects the opportunity cost of money. The opportunity cost can be thought of as the potential for different interest rates. This example uses a 10 percent discount rate. However, how would the equation change if the firm could get a higher rate of interest, such as 11 percent? Figure 7-8 shows how to calculate the opportunity cost of money.

Figure 7-8 Formula to Calculate the Opportunity Cost of Money



r = discount rate
t = time
C = cash flow

Net Present Value: Calculating NPV

NPV is expressed in dollars, and to calculate it you first calculate the present value (PV) of all future cash flows from an investment, as shown in Figure 7-9. (You get this from your discounting calculation.)

From that total, you subtract the initial investment required to generate those cash flows.

Figure 7-9 Formula to Calculate Present Value

$$\text{NPV} = \text{PV of cash inflows} - \text{PV of cash inflows}$$

If the project requires both cash inflows and outflows over several periods, use the formula shown in Figure 7-10.

Figure 7-10 Formula to Calculate NPV with cash inflows and outflows

$$\text{NPV} = \text{PV of cash outflows} - \text{Initial investment}$$

Following are the general rules for using NPV in an investment evaluation:

If any project has an NPV greater than 0, you should consider it.

If NPV is less than 0, the project is not generating a return higher than the rate of discounting, and you should reject it.

If NPV equals 0, the project is generating a return at precisely the rate used to discount the future cash flows. Generally, you should reject projects with an NPV equaling 0.

IRR

The IRR is the discount rate at which the NPV of a project equals 0. It also represents the investment yield rate, known as interest rate, produced by the project. The IRR indicates the *efficiency* of an investment.

A project is a good investment if its IRR is greater than the rate of return that could be earned by alternative investments. Compare the IRR to an alternative cost of capital, including an appropriate risk premium.

The calculation for the IRR is similar to the NPV calculation except that the equation is solved for the variable r, as shown in Figure 7-11. The IRR represents the investment yield rate that the project produces.

Figure 7-11 Formula to Calculate the IRR

$$\text{Initial Investment} = \frac{\text{Net Cash Flow Year 1}}{(1+r)^1} + \frac{\text{Net Cash Flow Year 2}}{(1+r)^2} + \frac{\text{Net Cash Flow Year 3}}{(1+r)^3} + \frac{\text{Net Cash Flow Year 4}}{(1+r)^4}$$

Figure 7-12 is an example of solving for the Internal Rate of Return based on the option of receiving $0.93 today or $1 one year from now.

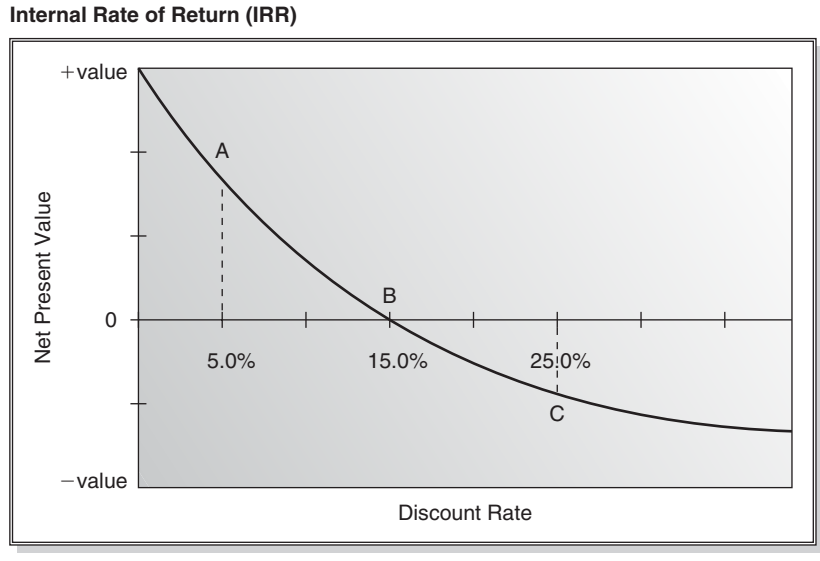
Figure 7-12 IRR Example

$$\$0.93 = \frac{S1}{(1+r)} = \$0.93 = \frac{S1}{(1+0.8)}$$

The inherent discount rate of the $0.93 today versus the $1 in one year is 8 percent.

The chart in Figure 7-13 summarizes the relationship between NPV, discount rates, and IRR. In this example,

Figure 7-13 Relationship between NPV, Discount Rates, and IRR



- **Point A** shows a positive NPV using a 5 percent discount rate and indicates a project you should accept.
- **Point B** shows an NPV of 0 at a discount rate of 15 percent (the IRR for this stream of cash flows). You should avoid this project unless it can reduce the risk of investment.
- **Point C** shows a negative NPV with a discount rate of 25 percent and indicates a project you should reject.

Comparing IRR and NPV, NPV remains the "more accurate" reflection of value to the business. IRR, as a measure of investment efficiency, might give better insights in capital-constrained situations. However, when comparing mutually exclusive projects, NPV is the appropriate measure.

ROI

The ROI calculation divides the NPV projected cash flows gained from the savings or earnings generated from the project by the initial investment. With this financial measure, you can assess the benefit of the project over the initial costs.

Take a look at the following formula in Figure 7-14.

Figure 7-14 Formula to Calculate the Return on Investment

$$\text{ROI} = \frac{\text{NPV of Cash Flows}}{\text{Initial Investment}}$$

$$\text{140 Percent} = \frac{\$700{,}000}{\$500{,}000}$$

For example, assume that the total NPV savings of an Internet-enabled IT project was $700,0000, and the initial investment was $500,000. The ROI for the project would be 140 percent of the initial investment.

Which Calculation Is Best?

Consider the advantages and disadvantages of each calculation.

The payback period is popular because of its simplicity:

- It is a simple, easy-to-understand calculation.
- It addresses how long capital is tied up.
- The focus on early payback can enhance liquidity.
- Shorter-term forecasts are likely to be more reliable than longer-term ones.

The payback period also has some disadvantages because of its simplicity:

- It ignores the timing of cash flows and therefore the time value of money.
- It is unable to distinguish between projects with the same payback period.
- The choice of any cutoff payback period is entirely arbitrary.
- It might lead to excessive investment in short-term projects.

The IRR has some advantages over the NPV:

- As a percentage measurement, managers find the IRR easier to understand.
- The discount rate does not have to be specified before the IRR can be calculated.
- The IRR can be compared to a hurdle rate, or the minimum amount of return that is required before making an investment in something.

The IRR also has some disadvantages over the NPV:

- The IRR ignores the relative size of investments.
- The IRR ignores the relative size of returns.
- The IRR does not consider the reinvestment of the positive cash flow of a project.

Metrics and Key Performance Indicators

Calculating an ROI for an IT Initiative Is Not That Different from Calculating an ROI for a Non-IT Initiative

The trick to calculating an acceptable ROI is to focus on the operational objectives that the IT initiative seeks to enhance. These operational objectives will be relevant to your industry and your organization. The best-case scenario is to use the operational objectives that are important to the organization regardless of any IT initiatives and then find the linkage between IT and those objectives.

In Module 3, "Organizational Readiness," you learned about and identified the operational objectives of your firm. In Module 6, "Portfolio Management," you learned that the performance of operational objectives is measured by KPIs.

Recall that KPIs are the specific measurable indicators used to report progress toward organizational goals and objectives. KPIs should measure the critical success factors of your organization. This enables management to measure improvements and take corrective action when needed.

For example, the following might be KPIs to measure sales:

- Average discount by region
- Average sales by salesperson
- Average order size
- Number of inventory turns in manufacturing supply chains

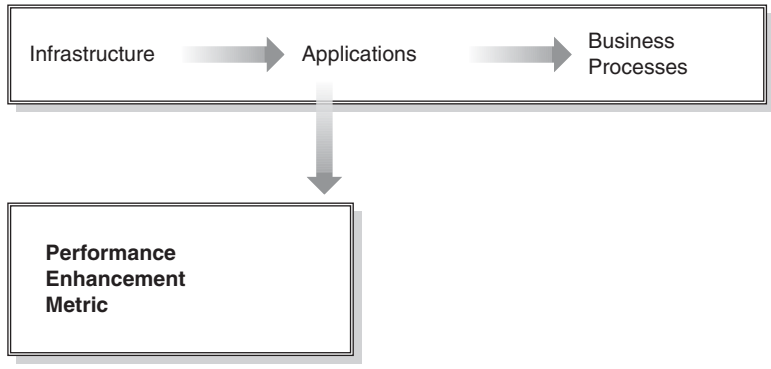
Components of an Internet-Enabled Solution

An Internet-enabled solution has three basic components:

- The business processes that an organization executes on a regular basis to perform in the marketplace
- The software applications that automate the business process
- The IT infrastructure, including the network hardware across which data is transmitted and the servers that the applications reside on

Figure 7-15 shows that by effectively automating business processes, you enhance performance. Therefore, performance enhancement metrics can be defined in association with the applications related to specific processes. The software vendors usually define the performance metrics, which are bound by specific parameters and ranges.

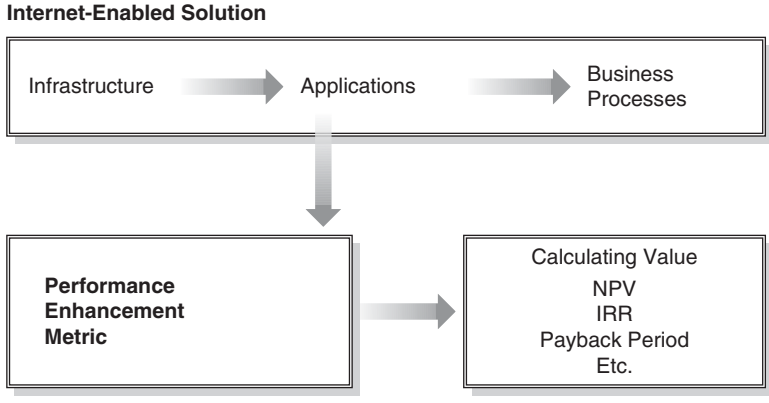
Figure 7-15 Benefit of Performance Enhancement Metric



Value Indicators

Performance metrics must be translated into value indicators that the stakeholders of the organization understand. This translation flow is shown in Figure 7-16. Funding is determined by those projects demonstrating the highest potential for generating value (increasing revenue, reducing costs, improving productivity, and improving the nonfinancial benefits).

Figure 7-16 Translating Performance Metrics into Value Indicators



Whenever you are making a case for investment, it is critical to know the value indicators that are most commonly used by the firm.

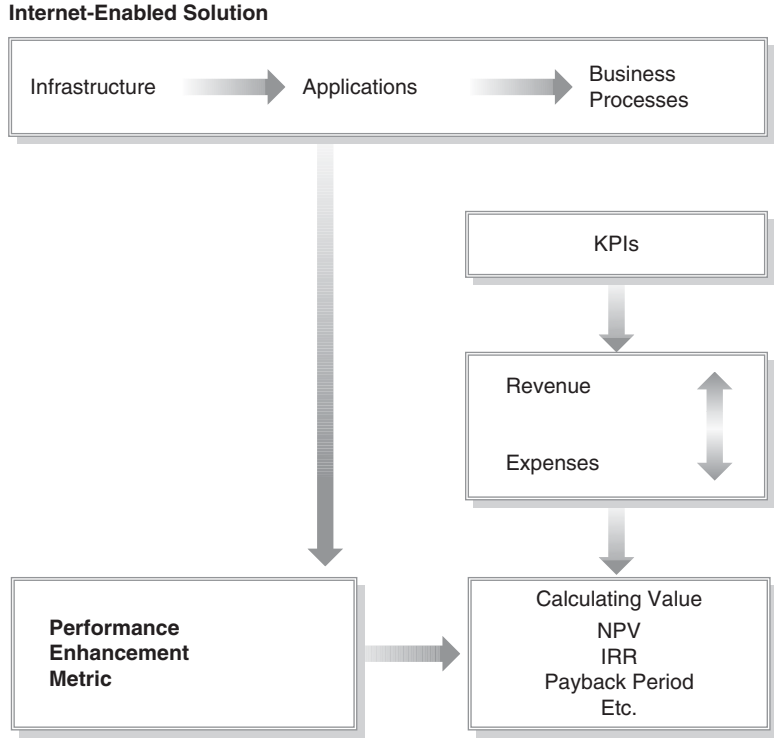
Organizations use different calculations for value indicators.

Linking KPIs

The linkage between the performance enhancement metrics and the value indicators is not direct.

Organizations use KPIs to measure the effectiveness of their operations. The trick is to tie the performance enhancement metrics to the KPIs of the organization, as noted in Figure 7-17.

Figure 7-17 KPIs Link Performance Enhancement Metrics to Value Indicators



KPIs translate into top-line growth or bottom-line improvement. Every company can readily show how KPIs either directly or indirectly translate into revenue increase or expense reduction.

Revenue increase or expense reductions are the primary components of the value calculations.

Conclusion

In this module, you learned about the financial and nonfinancial components of building a business case and why those components are important. You also explored financial concepts, including how to complete the four most common financial calculations used to justify a business case.

Following are four common financial calculations used for investment impact:

- Payback period
- NPV
- IRR
- ROI

This module also looked at the relationships between metrics and KPIs and how they link to the value indicators of the firm. As you develop your business case and project proposals, you will need to show the impact of your IT investments from a financial aspect as well as an overall value aspect.

MODULE 8

Conclusion

You have successfully completed the Business Essentials Program!

As this course concludes the discussion on the business fundamentals necessary for building and maintaining a web-enabled business, it is a good idea to briefly review the concepts that have been covered.

Module 1, "Strategic Imperatives," introduced global trends, opportunities, and strategic imperatives driving the use of the Internet and IT. As you saw, Internet-enabled IT, first widely deployed during the dot-com bubble, has now entered the mainstream of business. Those businesses that adopt such technology and the applications enabled by it will find that they have a significant edge in the marketplace. The benefits that Internet-enabled IT confers on any organization are considerable. Not only businesses, but organizations of all types are moving to deploy applications that allow better integration with suppliers, customers, and even competitors.

Module 2, "Management Strategies," explained IT-enabled business strategies and the evolution to the networked virtual organization (NVO). As you saw, this process depends on understanding the core functions that define your organization. These are generally those functions that allow you to improve your intellectual property assets or that provide a competitive edge in delivering value to your customers.

Module 3, "Organizational Readiness," explored how to assess and build organizational readiness and how to improve IT governance. It also discussed the importance of organizational readiness to improving business outcomes. The module included several toolkits that can help you build IT governance, such as concepts associated with budget management and control.

Module 4, "ICT Solutions," examined Internet-enabled solutions and internal and external business processes. This module also discussed the delivery of value and the value chain. Value chains involve operation processes and supporting processes, many of which can be effectively improved through the application of information and communications technology (ICT). Some of the processes that can be improved include workforce optimization, finance, and human resources (HR) functions.

Module 5, "Strategy Development," assessed the process of situational analysis and visioning success. In this module, you discovered the power of building a business strategy that defines how a business will interact with the market and the forces that control that market. You saw how a situation analysis, when done in a structured way, will yield important intelligence on ways to successfully engage with competitors and customers to achieve success.

Module 6, "Portfolio Management," described the project management and change management processes, including the portfolio management approach, and how they can be used to create a successful Internet-enabled business roadmap. In this module, you also discovered how the effective management of IT projects can deliver transforming IT solutions to the organization in an incremental way that reduces risk and ensures a positive return to the business.

Module 7, "Business Case," helped you apply some basic financial concepts and calculations for the creation of a business case.

Course Summary

This course should enhance your knowledge of the opportunities, tools, and approaches required to plan and implement better strategies.

Through the strategic use of the Internet and IT, you should be able to create an actionable proposal and business justification for an Internet-enabled business application that will provide measurable benefits to your organization.

Having completed this program, you should now be able to do the following:

- Identify global trends and the impact of the Internet and information technology (IT) on businesses.
- Describe how the Internet and IT can be used to address the challenges and opportunities facing your business.
- Assess your organizational readiness, and describe the importance of leadership, governance, competencies, and technology to your success.
- Examine your organization's situation, key challenges, and needs, and create an e-vision for success.
- Identify and prioritize opportunities for process improvement using the Internet and IT.
- Recognize the importance of portfolio management and change management to the success of your Internet and IT initiatives.
- Build a business case for an improvement project involving Internet-enabled solutions that can deliver measurable benefits to your organization.

So, Where to from Here?

Of course, any one of these modules could fill libraries. In fact, new books are being released every day that address each of the topics reviewed in this course in exhaustive depth. The good news is that you now have all the fundamentals you need to successfully build a web-enabled business. At its core, business is still about having a good idea and then successfully translating that idea into revenue by using it to satisfy an unmet need in the market. The technology just helps you do it better, faster, and with a better chance of success.

Think of this course as a primer on how to ask questions. If you see an area where technology could make an improvement, it is likely that you will seek expert assistance. Armed with the principles laid out in this course, you should be able to articulate your technology needs, suggest some alternatives, and then intelligently evaluate the answers you get.

The main concept central to this material is that truly transformational technology is available, and the processes and structures necessary to apply it are easy to understand and relatively easy to apply. As you seek to utilize ICT solutions to transform your organization, keep in mind that others have successfully done so. If you need it, help is available.

Good luck!

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