CHAPTER 2

Enterprise Concept: Business Modeling Analysis and Design

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Handbook of Industrial Engineering: Technology and Operations Management, Third Edition.
Edited by Gavriel Salvendy

1. DEFINING THE ENTERPRISE

In this chapter we use the term *enterprise* in its classical sense: an undertaking, especially one of some scope, complication, and risk. Thus, an enterprise could be a business corporation or partnership, a government agency, or a not-for-profit organization. The business modeling concepts described herein can be applied to any kind of enterprise.

1.1. The Enterprise as a Complex, Living System

Defining any given enterprise is a difficult endeavor because the enterprise is perceived differently by each individual or group that views it. Furthermore, each enterprise is a complex, living system that is continually changing, so today's view may be very different from yesterday's.

Often people attempt to define an enterprise by its organizational structure and the executives who occupy key positions. But this is only a small part of the picture. The enterprise actually operates as a complex system, with many parts that interact to function as a whole. In addition to organizational structure, an enterprise's system includes its economic and social environment; the customers it serves; other enterprises with which it cooperates to achieve its objectives; and the internal processes that are designed to set strategic direction, identify and satisfy the customers, and acquire and provide the resources necessary to keep the enterprise running. Thus, to define an enterprise properly one must define the system within which it operates. Ultimately, the success of an enterprise depends on the strength of its intra- and interconnections—the couplings among the organization's internal processes and between the organization and its external economic agents.

1.2. The Impact of the Global Business Environment

In recent years, technological advances in communications have paved the way for enterprises to operate effectively in a global, rather than just a local, environment. The foundation for this globalization was set by the technological advances in transportation experienced during the twentieth century. As a result, global expansion—often through mergers, acquisitions, and alliances—is now commonplace. Indeed, in some industries globalization has become a requisite for survival.

But globalization brings a whole new level of complexity to the enterprise. When an enterprise seeks to operate in a new environment, markets, competition, regulations, economies, and human resources can be very different from what an enterprise has experienced. Accommodating such differences requires understanding them and how they will affect the strategies and processes of the enterprise.

1.3. Increasing and Changing Business Risks

Another aspect of globalization is that it significantly increases the enterprise's business risks—that is, risks that threaten achievement of the enterprise's objectives. Traditionally, management of risks has been focused on the local external environment, including such areas as the nature and size of direct competition, the labor market, the cost of capital, customer and supplier relationships, and competitor innovations.

But in a global operation the business risks become greater and are not always well defined. For example, regulatory environments in foreign countries may favor local enterprises; vying for limited resources—both natural and human—may be problematic; and the foreign work ethic may not be conducive to productive operation and delivery of quality products and services. The business risks in a foreign environment need to be identified, defined, and managed if the enterprise is to be successful.

Even the business risks of local enterprises are affected by globalization. For example, new market entrants from foreign countries can provide unexpected, lower-priced competition, or product innovations originating in another country can become direct product substitutes. As a result, even local enterprises must anticipate new business risks brought on by the strategies of global organizations.

1.4. The Business Model and Its Purpose

An enterprise business model is designed to compile, integrate, and convey information about an enterprise's business and industry. Ideally, it depicts the entire system within which the enterprise operates—both internal and external to the organization. Not only does the construction of a model help enterprise management better understand the structure, nature, and direction of their business, but it provides the basis for communicating such information to employees and other interested stakeholders. The model can be the catalyst for developing a shared understanding of what the business is today and what needs to be done to move the enterprise to some desired future state.

A business model can be as detailed as the users deem necessary to fit their needs. Other factors regarding level of detail include the availability of information and the capabilities and availability of the business analysts who will ''build'' the model.

1.5. The Business Model as the IE's Context

The business model is a tool that helps the industrial engineer develop an understanding of the effectiveness of the design and management of the enterprise's business, as well as the critical performance-related issues it faces, to evaluate opportunities and manage risk better.

One of the industrial engineer's key roles is to improve the productivity of enterprise business processes. Often he or she is assigned to analyze a particular process or subprocess and make rec-

ommendations for changes that will enhance product/service quality, increase throughput, and/or reduce cycle time and cost. But in today's environment, a given process is not a stand-alone operation; rather, it is an integral part of an entire enterprise system. Changes made to one process may very well affect the performance of other processes in the system—sometimes adversely.

A comprehensive business model can provide the enterprise context within which the engineer conducts his or her process analysis. Specifically, the model displays how and where the process fits into the enterprise system, what other processes are affected by it, and what business and information systems must support it. This context helps the engineer make sure that proposed process changes will not degrade the performance of other processes and systems.

2. A COMPREHENSIVE BUSINESS MODEL FRAMEWORK

2.1. Looking at the Entire Enterprise System

The comprehensive business model paints a picture of the entire enterprise system. It depicts not only the internal operations of the enterprise, but the external forces that act upon it. Strategies, business objectives, business risks, and management controls are reflected, as well. Because of its comprehensiveness, the model helps management address key questions about the enterprise:

- Do the enterprise's strategy and the business relationships it has formed address the external forces in the industry?
- Does the design of the business processes established by the enterprise support its strategic objectives?
- Has management gained a complete perception of the business risks that could affect achievement of the strategic and business process objectives?
- Does the design of the management control framework adequately address the business risks?
- Does management monitor and measure those factors that are critical to the achievement of its significant business objectives?

An industrial engineer who is responsible for answering and resolving such questions within an enterprise clearly is in a very strategic position.

2.2. Overview of Business Model Elements and Structure

Figure 1 shows the basic framework for the comprehensive enterprise business model. Six components comprise the model:

- *External forces:* political, economic, social, and technological factors, pressures, and forces from outside the entity that threaten the attainment of the entity's business objectives
- *Markets:* the domains in which the enterprise may choose to operate

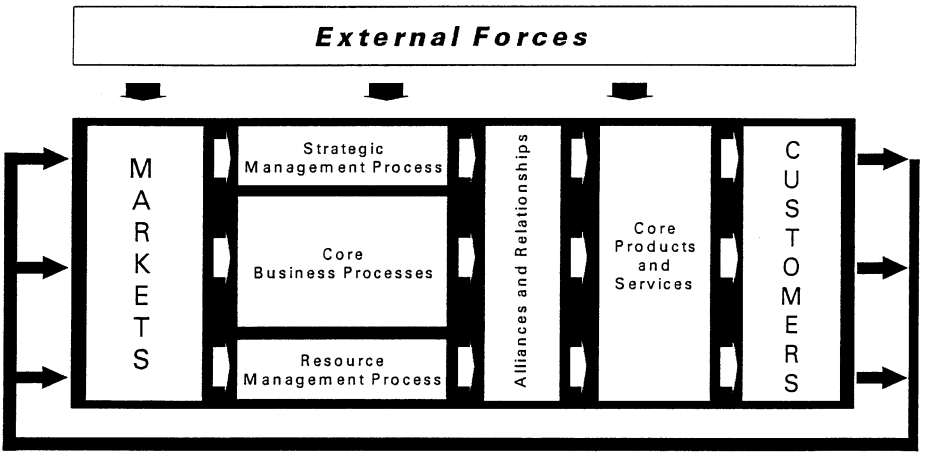

Figure 1 Enterprise Business Model Framework. (From Bell et al. 1997)

- *Business processes*, including:
  - Strategic management processes: the processes by which
    - the enterprise's mission is developed
    - business objectives are defined
    - business risks that threaten attainment of the business objectives are identified
    - business risk management processes are established
    - progress toward meeting business objectives is monitored
  - Core business processes: the processes that develop, produce, market, and distribute the enterprise's products and services.
  - Resource management processes: the processes by which resources are acquired, developed, and allocated to the core business activities
- *Alliances:* the relationships established by the enterprise to attain business objectives, expand business opportunities, and/or reduce or transfer business risk
- *Core products and services:* The value that the enterprise brings to the market
- *Customers:* the individuals and organizations who purchase the enterprise's output

Each of these components is discussed more fully later in this chapter.

2.3. The IE's Use of the Business Model

The business model can be used by the industrial engineer in a number of ways, depending on his or her placement and role in the enterprise. Following are several important potential uses. A more detailed discussion of how the industrial engineer might apply the business model is provided later in the chapter.

2.3.1. Gaining an Understanding of the Whole Business

Regardless of a person's placement and role, a good understanding of the whole business will help the individual see how he or she fits in, both operationally and strategically. This should help the person ensure that his or her objectives are consistent with and supportive of those of the enterprise, improving the potential for advancement within the organization.

2.3.2. Facilitating a Common Understanding of the Business by Others

Each person in an enterprise has an individual view of the business, and this view is often limited in scope and parochial in nature. Variations among viewpoints can cause considerable misunderstanding among individuals and groups about the purposes and direction of the enterprise. A well-documented, comprehensive business model can facilitate a common understanding of the business, both internally and externally.

2.3.3. Identifying Opportunities for Process Improvements

As noted earlier, process improvement is at the heart of the industrial engineer's purpose, regardless of where and at what level he or she is placed in the enterprise. The business model provides the framework for assessing process performance and interrelationships with other processes. Such assessment can lead directly to the identification and design of process changes that will improve the performance of the process as well as the enterprise as a whole.

2.3.4. Identifying and Mitigating Business Risks

Critical to the success of any enterprise is effective management of business risk. The business modeling process provides the basis for identifying the most significant risks, both internal and external, and developing means for mitigating those risks.

2.3.5. Developing the Basis for Process Performance Measurement

Performance measurement is fundamental to continuous improvement. Development of a comprehensive business model includes the identification or establishment of specific performance objectives for each business process. The performance objectives then provide the basis for an ongoing process performance measurement program.

2.3.6. Facilitating the Development of the Enterprise's Directional Course

The comprehensive business model can provide the basis for painting a future picture of the enterprise and determining the course of action to get there. This is done by developing a vision of what leadership wants the enterprise to be at some future point—for example, in three years. This vision is translated into a model of what the enterprise needs to look like to support the vision (the ''to be'' model). The ''to be'' model then is compared with today's ''as is'' model, and a migration plan is

developed to transform the business to the new vision. This use of the model is for the industrial engineer who is placed at the highest levels of the enterprise.

3. BUILDING THE BUSINESS MODEL

The enterprise business model depicts a complex system, and building it can be a major effort. Accordingly, the effort should be planned and managed like any complex business project. The major steps in a model-building project plan follow.

3.1. Obtain a Committed Sponsor at the Appropriate Level of the Enterprise

Developing a comprehensive business model can involve considerable information gathering and analysis. Substantial time and cost may be involved. Accordingly, there must be a sponsor for the effort, at the appropriate level of the enterprise, who will back the model design team and ensure that the necessary funding and other resources are provided. In essence, the sponsor will legitimize the effort and be responsible for making sure that the finished model meets its design objectives.

3.2. Set out the Purpose and Scope of the Model

The sponsor and others, as appropriate, clearly articulate the purposes and expected uses of the model. The purpose and use statement provides the basis for determining the scope of the model (e.g., in terms of geographic coverage, business unit coverage, and ''as is'' vs. ''to be'' views of the enterprise). The purpose, use, and scope statements then are translated into model-development time and cost objectives for the design team.

3.3. Gather and Orient the Model-Building Team

The team that will develop the enterprise business model is assembled and briefed on the purpose, scope, and framework of the model. The team members may be from various parts of the enterprise, typically including representatives from the key business processes (strategic, core, and resource management). The internal team may be supplemented by outside resources, as necessary (e.g., information specialists, process facilitators, and the like). A skilled project manager is appointed whose role is to ensure that the model-development effort is properly planned and completed on time and within budget.

3.4. Determine Information Requirements for Each Element of the Model

Each element of the model requires the development of information. In most cases the information will be readily available within the enterprise, but, particularly in the external forces area, the information may have to be developed with the assistance of outside information providers. Determining the information requirements for each element will highlight those areas that will be problematic and require special attention.

3.5. Construct the Business Model

The team gathers, compiles, and integrates the information to develop a draft of the business model. The model is depicted graphically and supported by textual material, as necessary. Reviews are conducted to ensure that the model is developed to an appropriate level of detail and that the various elements are properly integrated.

3.6. Build Consensus for the Model

Consensus for the model is built best through involvement. Such involvement can come through participating directly as a member of the design team, participating as a member of a project ''steering committee,'' or acting as a reviewer of the draft business model. The key is knowing who needs to be involved and in what ways they can participate most effectively.

4. BUSINESS MODEL CONTENT

4.1. Developing the Business Model Content

As previously mentioned, the business model is a tool that helps the industrial engineer develop an understanding of the effectiveness of the design and management of the enterprise's business, as well as the critical performance-related issues it faces, to evaluate opportunities and manage risk better. When completed, the business model is a strategic-systems decision frame that describes (a) the interlinking activities carried out within a business entity, (b) the external forces that bear upon the entity, and (c) the business relationships with persons and other organizations outside of the entity.

In the initial stage of developing the business model, pertinent background information is gathered to gain a full understanding of the industry structure, profitability, and operating environment. This industry background information and preliminary analysis then is used to determine the impact on

the enterprise's business. Each of the elements of the business model provides a summary of information that is pertinent to developing an understanding of the competitive environment and the enterprise's relative strengths and weaknesses in the marketplace.

The processes the engineer uses to assimilate the acquired knowledge will be unique for each enterprise and each engineer and therefore cannot and should not be reduced to highly structured formats, such as templates, checklists, and mathematical models.

A thorough understanding of five key business principles—strategic analysis, business process analysis, business measurement, risk management, and continuous improvement—will be necessary as the engineer seeks to acquire knowledge about the company's business and industry for the purpose of developing the full business model. These business principles and their interrelationships are depicted in Figure 2.

Throughout the model-building process, the engineer is working toward the ultimate goal of integrating the knowledge he or she obtains about the enterprise's systems dynamics and the congruence between strategy and the environment. He or she may use mental processes or more formal business simulation and systems thinking tools, or some combination of both, to structure his or her thinking about the dynamics of the enterprise's strategic systems.

4.2. Model Element 1: External Forces and Agents

External forces and agents encompass the environment in which an enterprise operates. They are the forces that shape the enterprise's competitive marketplace and provide new opportunities, as well as areas of risk to be managed.

Continuous monitoring and assessment of external forces is critical to the future of any business. The environment plays a critical role in shaping the destinies of entire industries, as well as those of individual enterprises. Perhaps the most basic tenet of strategic management is that managers must adjust their strategies to reflect the environment in which their businesses operate.

To begin understanding what makes a successful business, one must first consider the environment in which the enterprise operates and the alignment of its strategy with that environment. "Environment" covers a lot of territory—essentially everything outside the organization's control. The analysis of external forces and agents includes an assessment of both the general environment and the competitive environment. To be practical, one must focus attention on those parts of the general and competitive environments that will most affect the business. Figure 3 provides an example of a framework that can be used in assessing the general environment.

The general environment consists of factors external to the industry that may have a significant impact on the enterprise's strategies. These factors often overlap, and developments in one area may influence those in another. The general environment usually holds both opportunities for and threats to expansion.

The competitive environment, generally referred to as the "industry environment," is the situation facing an organization within its specific competitive arena. The competitive environment combines

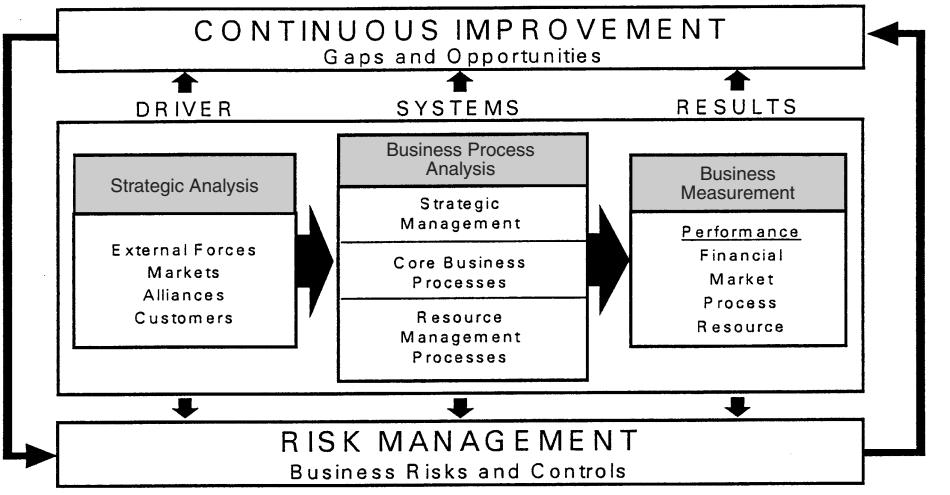

Figure 2 Business Improvement Principles. (From Bell et al. 1997)

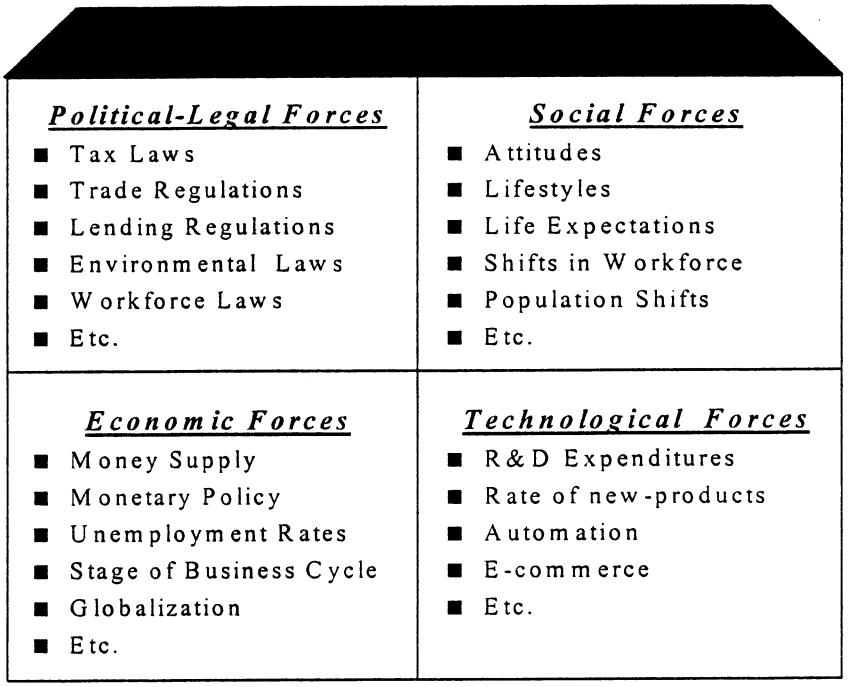

Figure 3 Dimensions in General Environment Assessment. (From Risk Management Partners, Inc.)

forces that are particularly relevant to an enterprise's strategy, including competitors (existing and potential), customers, and suppliers. The five forces model developed by Michael Porter, probably the most commonly utilized analytical tool for examining the competitive environment, broadens thinking about how forces in the competitive environment shape strategies and affect performance. Figure 4 is a graphic depiction of the five basic forces.

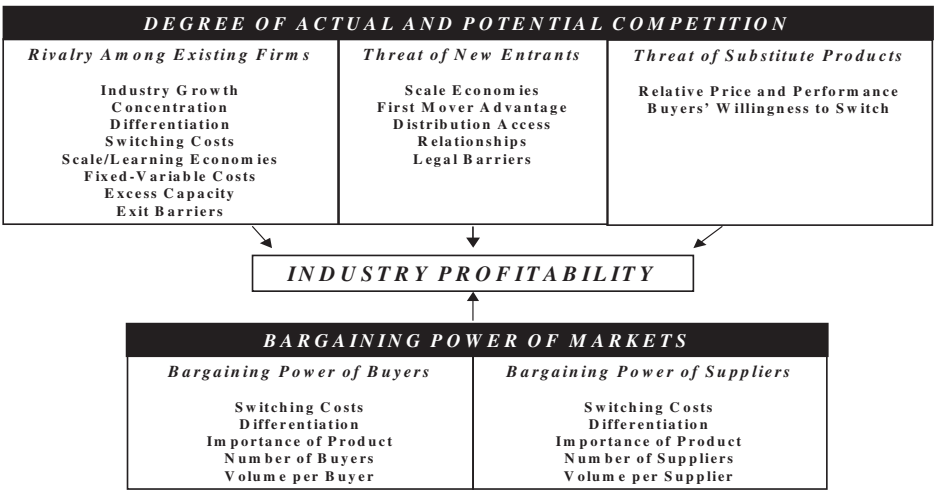

Figure 4 Five Forces Model of Competition. (Adapted from Porter 1985)

4.3. Model Element 2: Markets

Understanding the markets in which the enterprise competes is critical in developing the knowledge base for the business model. The extent to which an enterprise concentrates on a narrowly defined niche or segment of the market is referred to as *focus*. The engineer should understand the relevant advantages and disadvantages of particular levels of focus in terms of their impact on competitive advantage. For example, a differentiation strategy is often associated with focusing on a narrowly defined market niche. In contrast, a cost leadership strategy is often associated with a broadly defined target market.

Markets are not static—they emerge, grow, mature, and decline. As a market moves from one life cycle stage to another, changes occur in its strategic considerations, from innovation rates to customer price-sensitivity to intensity of competitive rivalry and beyond. The market life cycle provides a useful framework for studying markets and their impact on the enterprise's value proposition.

4.4. Model Element 3: Business Processes

In the enterprise, work gets done through a complex network of business processes. Work processes are the vehicles of business life. If properly configured and aligned and if properly coordinated by an integrated set of goals and measures, they produce a constant flow of value creation.

Process view of the business involves elements of structure, focus, measurement, ownership, and customers. A process is a set of activities designed to produce a specified output for a particular customer or market. It implies a strong emphasis on *how* work is done rather than *what* is done. Thus, a process is a structured set of work activities with clearly defined inputs and outputs. Understanding the structural elements of the process is key to understanding workflow, measuring process performance, and recommending process improvements.

4.5. Model Element 4: Alliances and Relationships

Financial pressures and time constraints continually squeeze managers who do not have the resources to fill the resource gaps through internal development. Acquisitions have not always been the most effective way to fill these resource gaps. They have proved expensive and brought not only the capabilities needed, but also many that were not desired. As a result, an increasing number of global enterprises recognize that strategic alliances can provide growth at a fraction of the cost of going it alone. In addition to sharing risks and investment, a well-structured, well-managed approach to alliance formation can support other goals, such as quality and productivity improvement. Alliances provide a way for organizations to leverage resources.

The rapid emergence of strategic collaborations as alternatives to the usual go-it-alone entrepreneurial ventures is evident everywhere, from the growing collaborative efforts of large multinationals to the continuing use of alliances to help maintain competitive advantage.

4.6. Model Element 5: Core Products and Services

Intense global competition, rapid technological change, and shifting patterns of world market opportunities compel firms to develop new products and services continually. Superior and differentiated products—those that deliver unique benefits and superior value to the customer—are the key to business success. Understanding the enterprise's core products and services and the value they bring to the customer is essential in developing a business model.

The importance and benefits of measuring new product success and failure cannot be overstated. Measuring new product performance has several benefits. Measurement (a) facilitates organizational learning and process improvements, (b) fulfills the need for consensus on new product outcomes and determinants, and (c) leads to observable benefits, such as improved cycle times, improved new product success rates, and an enhanced ability to assess changes to the new product development process.

4.7. Model Element 6: Customers

An organization cannot survive and prosper in today's world without customers. Customers allow organizations to exist, and yet customer capital is a mismanaged intangible asset. In many cases, companies are providing the wrong products and services for the markets they serve. Such organizations focus on pushing products onto the customer, rather than involving the customer in the design and development activities. Only mismanagement of customer capital can explain why U.S. companies, on average, lose half their customers every five years.

In a knowledge economy, information is more valuable than ever, and generally speaking, customers have more knowledge than the enterprise. As information and the economic power it conveys move downstream, it is vital that businesses manage customer relationships in new ways. Enterprises that learn with their customers, simultaneously teaching them and learning from them, form dependencies with them. Their people and systems—human and structural capital—mesh better than before.

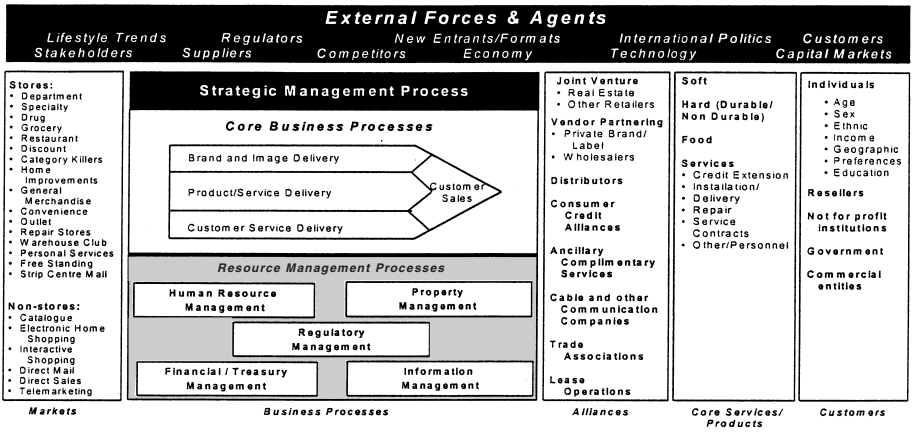

Figure 5 Example Entity-Level Model—Retail Company. (From Bell et al. 1997)

Understanding the power of the enterprise's customers, their needs and expectations, and the manner in which they are integrated into the enterprise's value proposition is critical in developing a knowledge-based business model.

4.8. Summary

Figure 5 provides an example of the major elements of a hypothetical retail company's business model. Each of the six business model elements is discussed more fully in the following sections.

5. ELEMENT 1: EXTERNAL FORCES AND AGENTS

5.1. The Multiplicity of External Forces and Their Relative Impact on the Business

The general environment consists of many factors external to the industry that may have a significant impact on the strategies of the enterprise. Systematic analysis of the factors making up the general environment can identify major trends in various industry segments. The framework shown in Figure 6 provides insight into the factors that should be understood when the enterprise engages in an analysis of its general, competitive, and internal environments.

In today's world, distance is no longer a barrier to market entry, technologies are rapidly replicated by competitors, and information and communications technologies are shaping a new economic order. To manage their business operations effectively, organizations must now view their playing field as

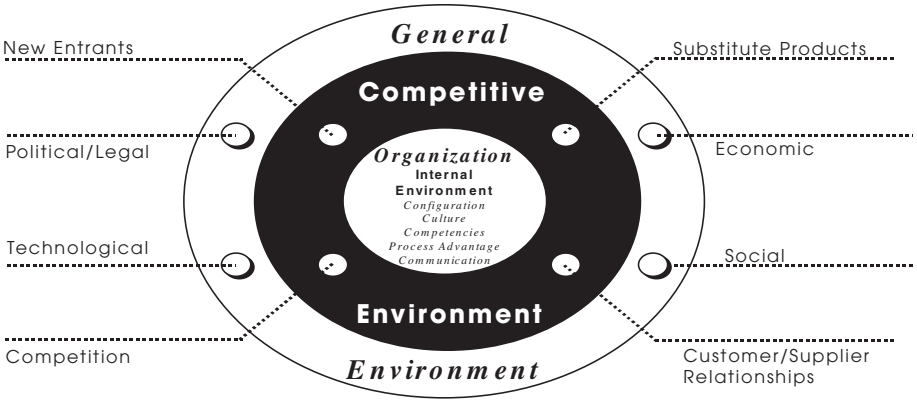

Figure 6 External/Internal Analysis—A Global Perspective. (Adapted from Bell et al. 1997)

the whole global economy. Prudent managers continually scan these environments for indications of the emergence of business opportunities and risks. They understand current trends and the relevant implications for their business.

Many trends are impacting the way business will be conducted in the future, but the New Economy is taking shape at the intersection of three very significant long-term trends that will continue to gather momentum in the decades ahead: the *globalization of business,* the *revolution in information technology*, and the *growth of knowledge work.* These trends are undermining the old order, forcing businesses to restructure and dramatically change their business models. In the following paragraphs, we discuss these trends and other significant social, demographic, political, and business reporting trends.

5.1.1. Globalization of Business

Simply put, capitalism is spreading around the world—if not full-blown capitalism, at least the introduction of market forces, freer trade, and widespread deregulation. It's happening in the former Communist countries, in the developing world of Latin American and Asia, and even in the industrialized West, with economic union in Europe and the Free Trade agreement in North America.

The number of foreign companies operating in the United States is growing rapidly, at about 2% per year. They now total more than 40,000 and account for about 7% of all corporate assets in the United States. These foreign firms bring to bear the financial and production resources of their home countries on almost any emerging market opportunity in the United States and can quickly take market share with products manufactured less expensively abroad. Foreign competition has arisen not just in large industrial enterprises—automobiles, trucks, aircraft, and computers—but even in some traditional natural monopolies, such as telecommunications and satellite broadcasting.

International trade and investment will play a much larger role in the U.S. economy in the future. Exports and imports already constitute over 25% of the economy.

Increasingly porous national borders, changing corporate cultures, and continuing labor shortages are contributing to the emergence of a global workforce. As regions develop into pockets of specific talent, more workers will relocate to them. In other cases, companies will go to workers, hiring them where they live. Technology will enable the efficient execution of tasks regardless of proximity to home office. This fluid interchange of individuals and information will bring together people of disparate backgrounds. Individuals with dual nationalities will be commonplace.

5.1.2. Revolution in Information Technology

The foundation of the New Economy is the revolutionary explosion of computer processing power. Computing power doubles every 18 months. In addition, we have seen a 22-fold increase in the speed of data transmission obtained over ordinary telephone lines during the past two decades. This wave of innovation in data communications has promoted the extraordinary build-out of the world's computer networks. Over 60 million computers are connected via the Internet. The network phenomenon is just as remarkable as the explosion in computing power. As information technology reduces the trade-off between the depth and quality of information and its access, the economics that underlie industry and organizational structures will be transformed. As more individuals and businesses connect electronically, the economics of scope will change organizational relationships, competition, and make vs. buy decisions.

Technology is likely to continue on its path of being smaller, faster, cheaper, and less visible in the everyday world. The intersection of computing and telecommunications will bring about a fundamental change in the perception of distance and time. At the same time, the traditional interface that has existed between humans and technology will rapidly disappear. Remote sensing, data collection systems, cameras, and adjuncts to sensing abilities are among the major new applications in this field.

More significantly, information technology is transforming the global business environment. Housing and autos used to drive the U.S. economy. Now information technology accounts for a quarter to a third of economic growth.

5.1.3. Growth of Knowledge Work

Increasingly, knowledge has become more valuable and more powerful than natural resources and physical facilities. Value propositions are based on information and ideas, rather than on the mere physical attributes of products. This phenomenon is true in both service businesses and in businesses that have historically focused heavily on tangible products. Knowledge is being used to enhance greatly the value of all physical products. The result is that much of our economic growth in recent years has been intangible. As value creation shifts from the mere economics of physical products to the economics of information, managing information, knowledge, and innovation will become a business imperative.

Information and knowledge have become the sources of competitive advantage. In industry after industry, success comes to those enterprises that manage knowledge and information more effectively than their competitors. Companies like Wal-Mart, Microsoft, and Toyota became great companies because they had intellectual capital—knowledge, information, intellectual property, and experience—and used it to achieve competitive advantage. Knowledge and information have become the New Economy's primary raw materials and the source of its most important products.

5.1.4. Data Access Transforms Business Reporting

The demand for data from users, including employees, capital suppliers, customers, regulators, and the like, will continue to accelerate rapidly. This will require the use of massive databases and network technologies that will provide customized information to users—anyplace, anytime.

In addition, highly networked environments will increase user needs for instantaneous information. Information on demand will be a requirement of all network participants. Users won't be satisfied with paging through static report images; they will need to analyze data—within the scope of the reporting system—from multiple perspectives in order to answer critical business questions involving all aspects of the value chain.

Data access will replace traditional forms of reporting. Companies will employ complex, multifaceted, client/server report-processing environments that include intelligent report viewers, tiered report processors, flexible report schedulers, report distribution schemes, user flexibility, and administration and control mechanisms. Content agents that allow users to customize their reports and receive data in real time will support these databases.

5.1.5. Other Social, Demographic, and Political Changes

The following social, demographic, and political trends have been obtained from various research studies. They are illustrative examples of current trends and their related business implications. Many government agencies and private research firms continuously analyze and monitor trends that affect the way business is conducted. The enterprise and the engineer should cultivate and become familiar with these resources and monitor current trends during the design and development of the full business model.

5.1.5.1. Birth Rates The significant changes in birth rates during the past half century continue to affect the marketplace in subtle ways. New births have now become part of a much larger population base and are not as likely to have the major impact that the "baby boomers" have had. Markets will be smaller and enterprises will have to spend more time and resources to tap into them.

5.1.5.2. Immigration As births fall in the next decade, immigration will have even more of an effect on the composition of the market. Immigrants bring a diverse set of skills and attitudes to the United States, the most prominent being their enthusiasm and desire to partake in the U.S. experience.

Immigrants expand the labor pool in the workplace at both ends, as unskilled workers and as high-end workers with specialized talent and training. Business will find that the foreign-born make up an increasing share of their markets, especially in the four largest and most dynamic states: California, Texas, New York, and Florida. Companies will have to learn about the cultures of these groups as they become both customers and employees.

5.1.5.3. Household Growth Households are of particular importance to future markets because they are the fundamental purchasing unit. Virtually all consumer-spending decisions are made within the context of household needs and budgets. Thus, new households create new sales opportunities.

One of the most important longer-term consequences of the aging baby boomers is that household formation is slowing down. For companies that sell products and services to new households (housing, home furnishings, new cars, insurance), the days of growing with the market are over. Opportunities will now have to come from understanding the composition of the household, more than sheer growth in numbers. More and more sales will be driven by increasing the provision of value-added goods and services to households.

5.1.5.4. Families Continue to Change The composition of the household is changing. The share of households made up of married couples with children declined from 40% in 1970 to 25% in 1995. That share will continue to go down. The households with the most dynamic growth rates will be married couples without children.

Business will make more sales to smaller households, and the sales will demand more one-on-one interaction. This is because needs and tastes will no longer be driven by family imperatives, which tend to be similar to each other, but by those of adults, which tend to be more personal. This means much wider swings in the purchasing patterns of households.

5.1.5.5. Income Mobility of Workers Increasing immigration rates, the growing importance of education, and changing systems of compensation that reward high performers have contributed to a

disturbing trend in the United States: a growing inequality in income between the rich and the poor. In the last three decades, the number of households with incomes under $15,000 (in constant 1996 dollars) has grown from 14 million to 21 million, while the number with incomes over $75,000 (in constant 1996 dollars) has grown from 4 million to 17 million. The good news is that every year about one third of adults of working age move out of their income quintile. In five years, almost half move.

Consumers' purchasing behavior is driven by household resources. But access to credit means that consumer purchases may not always be limited by current earnings. Many household purchases are based on expected changes in future income. The fact that as many as 50% of adults can expect to find themselves in a different income quintile in the next five years suggests that payment flexibility will be a critical tool for enterprises trying to meet the ever-more elusive needs of the 21st century consumer.

5.1.5.6. The Virtual Workforce Technology and changing organizational cultures are enabling more people to work wherever they choose to live. In the next five years, the number of telecommuters is expected to reach 20 million or more. Some predict that half the workforce will be telecommuting from home, office, or shared facilities within the next decade.

At the same time, the number of temporary workers, freelancers, independent contractors, and the like exceeds 25 million by some estimates. Virtual partnerships/alliances between independent contractors are expected to flourish as sophisticated telecommunications capabilities enable people to link up with anyone, anywhere.

5.1.5.7. Political and Regulatory Changes The regulation of commerce and industry is being adapted to meet the needs of the new consumer. The United States spent almost a century building a regulatory network to protect citizens from the complex risks of a rich, urbanized, industrialized society. Now a more sophisticated consumer, new technologies, and a much more competitive global market are gradually creating an environment more self-regulating and open to consumer discretion, in which it is easier to spread throughout the marketplace the risk that the government formerly took on. As a result, regulatory barriers are coming down.

Sophisticated consumers, one of the key drivers of the move toward deregulation, will become a roadblock if they feel that their fundamental birthrights are threatened: (a) affordable and accessible health care choices, (b) safety and security of the financial system, (c) quality of life that environmental regulations protect; and (4) any issue that seems to lead to an unwanted invasion of privacy.

5.1.5.8. Privatization The transformation of state-owned or controlled enterprises into privately owned or managed enterprises is sweeping the world for the second decade. This phenomenon indicates expanding confidence in the benefits of market forces the world over.

While privatization initiatives have been common all over the world, Europe has felt the largest impact. Almost 60% of the private money raised in the last few years has been in Europe. The flow of public enterprises into the private sector will continue in the 21st century, though probably at a slower rate. Privatization has increased competition and lowered prices, given consumers more choices, increased the rate of innovation, ended subsidies to state-run enterprises, provided new investment opportunities, and replaced monopolies with new players.

5.1.5.9. Key Trends to Follow The New Economy will be affected largely by future developments in three key areas:

1. *Information technology*, providing refinements of computer technologies to optimize the possibilities of electronic commerce
2. *Biotechnology*, where the manipulation of genes will allow new control over diseases and health possibilities
3. *Nanotechnology*, the development of miniaturized systems so that everyday instruments such as mobile phones and calculators can be used in extraordinary ways

5.2. Customers

In the New Economy, the companies with the smartest customers win. The richness and reach of information created by the network economy has moved the power downstream to the customer. With more timely, accurate, and relevant information, customers will be in the driver's seat as existing products are improved and new products are introduced. Their power in the New Economy cannot be overemphasized. The extent to which customers are integrated into the design, development, and improvement of products and services will determine competitive advantage. Knowledge is the driver of the New Economy, and customers generally have much more of it than the producers of products and services.

5.3. Competitors

As the richness and reach of information improve, traditional barriers to entry in most markets will be reduced substantially. Enterprises can no longer focus most of their efforts on analyzing existing competition. New market entrants will appear at an ever-increasing rate, and value propositions will be challenged continuously.

5.4. Regulators

The regulation of commerce and industry is being adapted to meet the needs of the new consumer. The competitive global market is gradually creating an environment that is more self-regulating and open to consumer discretion. As a result, sophisticated consumers are driving deregulation; however, markets will deregulate at varying speeds around the world, some much more slowly than others. In-depth understanding of local regulations will be important as enterprises expand into an ever-increasing number of new markets.

While many regulatory barriers will disappear over time, new regulations will emerge regarding the environment, safety of the financial system, access to health care, and other areas that are considered important to the new generation.

5.5. The Community

The networked economy will ensure that an enterprise's stakeholders, including the local communities that it serves, have a breadth of information to help them make choices. Managing the brand image will become even more important as companies realize the importance of providing information to their stakeholders about social and environmental performance.

5.6. Alliances

Alliances are fraught with uncertain risks and opportunities. Uncertainty brings ambiguity, and ambiguity can lead to business failures. Alliances are most advisable when conditions are right within both the enterprise and the target industry. When alliances are considered, there is a range of strategic options that should be measured in terms of their related risks and rewards.

Rewards can be measured in a variety of ways: market share, cash flow, depth of product line, and growth, to name a few. Risks generally include political, monetary, technological, partner, and market risks, among others.

The architecture of alliances is composed of a number of critical elements, including common language; principles and practices; strategies; structure, roles, and responsibilities; processes and systems design; interrelationships and interfaces; early warning signals; and performance management.

5.7. Stakeholders and Owners

Stockholders are only one of several possible stakeholder groups. Obligations to a firm's stockholders are generally referred to as the firm's fiscal responsibility, while obligations to its stakeholders—parties that have an interest, or stake, in the success or performance of the company—are referred to as the firm's social responsibility.

Sweeping trends in corporate governance are placing more oversight responsibility on boards of directors, audit committees, and other corporate committees to improve fiscal and social performance, as well as stakeholder communication. In addition, stockholders are demanding board of director independence and accountability.

5.8. Suppliers

In many industries, the cost of purchased supplies accounts for 60–80% of production costs, so suppliers can have an important impact on an industry's profit potential. When the number of suppliers in a market is limited and substitute products are lacking, suppliers can exercise considerable power over their customers because the switching costs can be problematic and costly.

The relative importance of the suppliers' products to the buyer, and conversely the relative lack of importance of the buyer to the supplier group, give significant power to suppliers. Other factors that increase the bargaining power of suppliers include high switching costs and a credible threat of suppliers to move into various stages of the value chain as direct competitors.

5.9. Capital Markets

The changes in capital markets in Europe and North America are spreading throughout the world. China is already entering the commercial capital markets in Europe and the United States, and Russia will follow. The West is investing in rising and maturing stock exchanges throughout the world as it seeks market positions and greater return on capital. Major new enterprises in developing economies,

created through privatization, are entering the world's capital markets. But as companies tap capital sources outside their home countries, capital suppliers are likely to demand representation on their boards of directors.

5.10. The Economy

Macroeconomic developments, such as interest rate fluctuations, the rate of inflation, and exchange rate variations, are extremely difficult to predict on a medium- or long-term basis. Unpredictable movements of these macroeconomic indicators cannot only affect a company's reported quarterly earnings, but even determine whether a company survives. There is general agreement that the financial environment, characterized by increased volatility in financial markets, is more risky today than in the past. Growing uncertainty about inflation has been followed quickly by uncertainty about foreign exchange rates, interest rates, and commodity prices.

The increased economic uncertainty has altered the way financial markets function. Companies have discovered that their value is subject to various financial price risks in addition to the risk inherent in their core business. New risk management instruments and hybrid securities have proliferated in the market, enabling companies to manage financial risk actively rather than try to predict price movements.

6. ELEMENT 2: MARKETS

6.1. "Market" Defined

In simple terms, a market is a group of customers who have a specific unsatisfied need or want and are able to purchase a product or service to satisfy that need. For example, the market for automobiles consists of anyone older than the legal driving age with a need for transportation, access to roads, and enough money to purchase or make a payment on a car.

Markets can be broken down in numerous ways as marketers try to find distinctive groups of consumers within the total market. Market segmentation allows marketers to allocate promotional expenses to the most profitable segments within the total market and develop specific ad campaigns for each one. Segmentation produces a better match between what a marketer offers and what the consumer wants, so customers don't have to make compromises when they purchase a product.

6.2. Market Domains Served

The served market is the portion of a market that the enterprise decides to pursue. For example, a company that manufactures video games defines the market as anyone who owns a television. The *potential market* is defined as households with children and a television. The *available market* is limited to households with children, a television, enough income to make the purchase, and a store nearby that carries the game. The *served market* consists of households with a television, access to a toy store, sufficient income to buy the product, and children within a specific age range.

7. ELEMENT 3: BUSINESS PROCESSES

7.1. Categories of Business Processes

Considerable controversy revolves around the number of processes appropriate to a given organization. The difficulty derives from the fact that processes are almost infinitely divisible; the activities involved in taking and fulfilling a customer order, for example, can be viewed as one process or hundreds. Process identification is key to making process definitions and determining their implications. If the objective is incremental improvement, working with many narrowly defined processes is sufficient because the risk of failure is relatively low, particularly if those responsible for improving a process are also responsible for managing and executing it. But when the objective is radical process change, a process must be defined as broadly as possible.

Before we explain the major business process categories, the following definitions may be useful:

- A *business process* is a logical, related, sequential—connected—set of activities that takes an input from a supplier, adds value to it, and produces an output to a customer.
- A *key business process* is a process that usually involves more than one function within the organizational structure, and its operation has a significant impact on the way the organization functions.
- A *subprocess* is a portion of a major process that accomplishes a specific objective in support of that major process.
- *Activities* are work elements that go on within a process or subprocess. They may be performed by one person or a team of people.
- *Tasks* are individual elements and/or subsets of an activity. Normally, tasks relate to how an individual performs a specific assignment.

For purposes of understanding the business and documenting the business model, it is useful to organize the business processes into categories:

1. *Strategic management processes:* those processes that develop the value proposition of the enterprise and define the business objectives
2. *Core business processes:* those processes that develop, produce, sell, and distribute products and services (i.e., the value chain)
3. *Resource management processes:* those processes that support and provide appropriate resources to the value-creating processes of the enterprise

Most enterprises can define their business in terms of 10–15 key processes: one to three strategic management processes, 5–7 core business processes, and 3–5 resource management processes. Figure 7 is an illustrative example of process definitions in the industrial products industry.

Identifying and selecting processes for the business model is an important prerequisite to understanding the enterprise and its competitive strengths and weaknesses. Without some focus on critical processes, an organization's energies, resources, and time will not be focused appropriately. The appendix to this chapter provides a list of key generic business processes and their related subprocesses that should be useful as a guide in identifying and selecting processes in any organization.

7.1.1. Strategic Management Processes

Strategic management is the name given to the most important, difficult, and encompassing challenge that confronts any private or public organization. The conflict between the demands of the present and the requirements of the future lies at the heart of strategic management. Change is the central concern and focus of strategic management: change in the environment, change inside the enterprise, and change in how the enterprise links strategy and structure. Strategic management is the process of identifying opportunities to achieve tangible and sustainable success in the marketplace and understanding the risks that threaten achievement of that success. Figure 8 shows one view of the major components of a strategic management process.

Information technology (IT) has introduced new challenges and opportunities for business. Businesses are forced to adopt IT strategies that provide for connectivity to everyone in the business network—stakeholders, suppliers, customers, alliance partners, and others—and react strategically and operationally in real time. The external forces affecting business are changing so rapidly that organizational structures must be designed so they can respond quickly to changes in the business environment. In addition, IT investments must be leveraged by the adoption of open systems and standards that allow rapid changes in those systems that support the execution of key business processes.

Figure 7 Process Definitions—Industrial Products Example. (From Risk Management Partners, Inc.)

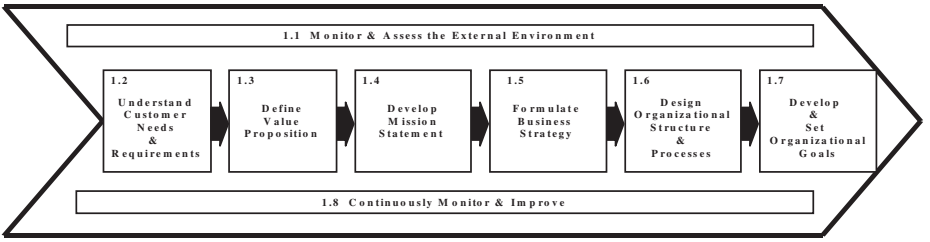

Figure 8 Illustrative Strategic Management Process (From Risk Management Partners, Inc.)

Strategic management principles in the New Economy must recognize the importance of knowledge and information to all value propositions and the need for structures that can adapt quickly and continuously improve in real time. Figure 9 provides an example of the important components of strategy in a connected world.

In the ''Enterprise Business Model'' block in Figure 9:

- ''Knowledge Networks'' means capturing and managing knowledge as a strategic asset.
- ''Process Excellence'' means designing and managing processes to achieve competitive advantage.
- ''Core Competencies'' means focusing on those things that the enterprise does best and using alliance partners to supplement those skills.

In particular, strategy involves continuously reconceiving the business and the role that business can play in the marketplace. The new business model is a real-time structure that can change continually and adapt more quickly and better than the competition.

The traditional approach to strategy development relied upon a set of powerful analytic tools that allowed executives to make fact-based decisions about strategic alternatives. The goal of such analysis was to discuss and test alternative scenarios to find the most likely outcome and create a strategy based on it. This approach served companies well in relatively stable business environments; however, fact-based decisions in the rapidly changing New Economy will be largely replaced by imagination and vision.

Rapidly changing business environments with ever-increasing uncertainty require new approaches to strategy development and deployment. While traditional approaches are at best marginally helpful and at worst very dangerous, misjudging uncertainty can lead to strategies that do not identify the business opportunities and business risks. However, making systematically sound strategic decisions will continue to be important in the future. Even in the most uncertain environments, executives can generally identify a range of potential scenarios. The key will be to design business models that can

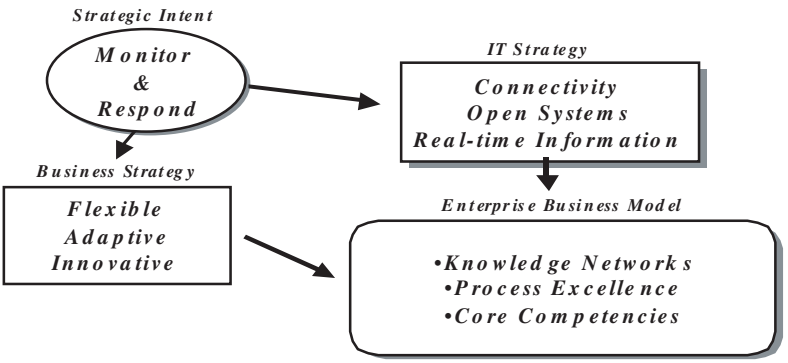

Figure 9 A New Economy Strategy. (From Risk Management Partners, Inc.)

respond quickly as economic realities change. Understanding competitive environments, external forces, and the levels of uncertainty in the marketplace will lead to more informed and confident strategic decisions. The design and development of a real-time business model can provide an invaluable tool to support the strategic management process.

7.1.2. Core Business Processes

Core business processes develop, produce, sell, and distribute an entity's products and services; they are the entity's value chain. These processes do not follow traditional organizational or functional lines, but reflect the grouping of related business activities.

The management of core business processes is about execution of the enterprise's value proposition. Significant changes are taking place in the New Economy that will have profound impacts on core business processes and the way they are managed in the future.

IT is driving the transformation of core business processes by creating a new competitive dynamic that rewards institutional agility. Business processes will no longer be viewed within the boundaries of the organization. Multiple partners will be involved in key activities of many organizations' key business processes.

Historically, the fundamental disposition of core business processes is to prepackage and shrink-wrap as much product as possible, take advantage of economies of scale, and then persuasively offer these products. Service is viewed as a way of enhancing the attractiveness of products. The New Economy enterprise, on the other hand, will design core processes that concentrate on assembling modular elements into a customized response to a specific customer's specific request.

The evolution of extranets and content standards alters the bases of competitive advantage by increasing the quality of information and its access. These technologies diminish the value of established business processes and relationships because most buyers can easily find suppliers—worldwide—who offer the best product. Higher-quality information will allow companies to improve business processes by supplementing internal capabilities with the needed skills and technologies from others—worldwide.

The opportunities to radically change traditional business processes and take advantage of network externalities, multiple strategic and alliance partners, and the richness and reach of information cannot be overstated. Using business process excellence to obtain competitive advantage will be more important than ever before. Deconstructing value/supply chains for the purpose of exploiting market opportunities and reducing transaction costs will be the norm for most successful businesses in the New Economy.

The ultimate challenge posed by deconstructing value chains will be to the traditional hierarchical organization, with its static business processes. Core business process improvement will be both challenging and exciting as opportunities are unleashed to create value in new ways. Outsourcing will flourish as organizations design core processes that emphasize their strengths and supplement them with the outstanding capabilities of other firms that can add significant value to their products and services.

7.1.3. Resource Management Processes

Resource management processes are the processes by which organizations allocate resources and monitor their use. They provide appropriate resources to support the other business processes. Resource management processes can be placed into three basic categories: information, people, and capital. They are focused on serving the needs of internal customers, principally those in the enterprise's core business processes who are externally focused on serving customers outside the organization. Without appropriate resources—information, people, and capital—the core processes cannot offer the value customers need and will cease to provide an effective source of competitive advantage.

7.2. Process Analysis Components

Figure 10 displays a framework for process analysis. The process analysis components in this framework are discussed in this section.

7.2.1. Process Objectives

Processes are established to serve specific customer needs. The customers may be internal, such as another process, or external to the enterprise. The process objectives define what value will be supplied to the customer. One can look at them as the whole purpose for which the organization has put together this set of resources and activities. Process objectives need to be specific, measurable, attainable, and realistic and to have a sense of time. Business process objectives may differ significantly between enterprises within an industry or industry segment, being shaped by the organization's strategic objectives and related critical success factors. For example, the business objectives for the ''materials procurement process'' in a consumer products company might be as follows:

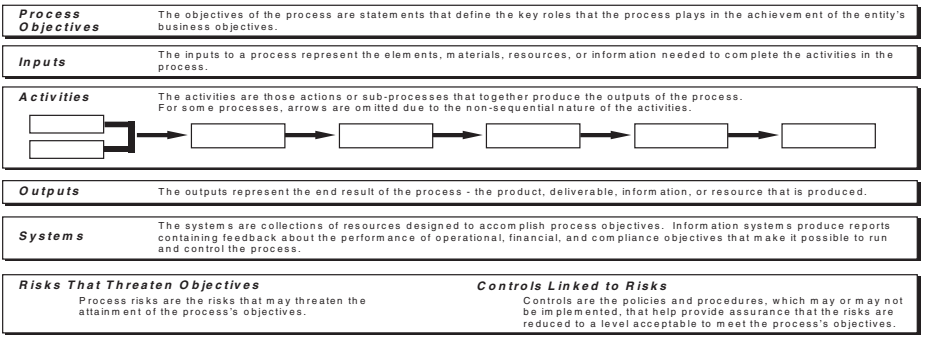

Figure 10 Process Analysis Framework. (Adapted from Bell et al. 1997)

- Effectively manage supplier relationships to ensure the highest quality materials at the lowest cost.
- Provide accurate, real-time production information to suppliers to minimize inventory levels.

7.2.2. Inputs

The inputs to a process represent the elements, materials, resources, or information needed to complete the activities in the process. Examples of inputs for the aforementioned materials procurement process could be the following:

- Material requirements, supply requisitions, negotiated prices;
- Material specifications, bills of material, capital authorizations
- Supply base, production reports, lead times

7.2.3. Activities

Almost everything that we do or are involved in is a process. Some processes are highly complex, involving thousands of people, and some are very simple, requiring only seconds of time. Therefore, a process hierarchy is necessary to understand processes and their key activities. From a macro view, processes are the key activities required to manage and/or run an organization. Any key business process—a strategic management process, a core business process, or a resource management process—can be subdivided into subprocesses that are logically related and contribute to the objectives of the key business process. For example, Figure 11 provides an example of the subprocess components of a new product planning process for a consulting firm.

Every key business process or subprocess is made up of a number of activities. As the name implies, activities are the actions required to produce a particular result. Furthermore, each activity is made up of a number of tasks that are performed by an individual or by small teams. Taken together, tasks form a microview of the process.

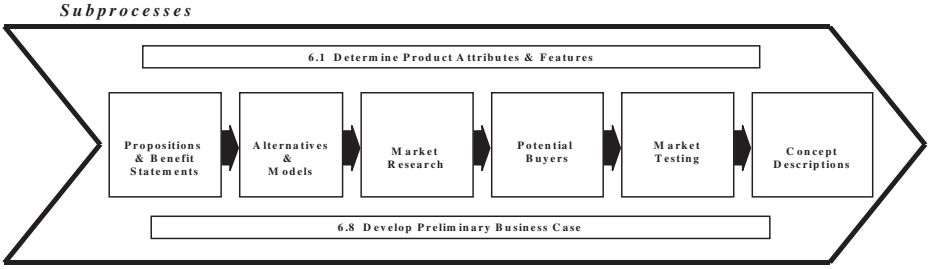

Figure 11 Example: New Product Planning Process—Consulting. (From Risk Management Partners, Inc.)

7.2.4. Outputs

Outputs represent the end result of a process; they are the products, deliverables, information, or resources that are produced.

7.2.5. Supporting Systems

Supporting systems include the hardware, software, information, and communications capabilities that the organization requires to fulfill its mission and achieve its business objectives.

7.2.6. Risks That Threaten Objectives

Business risk is the threat that an event or action will adversely affect an entity's ability to achieve its business objectives and execute its strategies successfully. A business risk is always related to one or more business objectives and can be described as the antithesis of those objectives.

Business risks can be categorized as:

- *External:* strategic risks that threaten an enterprise's marketplace objectives and are mitigated by an effective strategic management process
- *Internal:* process risks that threaten an enterprise's ability to execute its strategy effectively and are mitigated by effective process controls

Figure 12 shows examples of generic risks that could affect the achievement of core process objectives. Similarly, Figure 13 provides examples of generic risks that could affect the achievement of resource management process objectives.

7.2.7. Controls Linked to Risks

A new business risk control paradigm is changing the way organizations manage their business risks. Over the years, businesses have used a variety of practices to control risk. In many organizations, however, control is a misunderstood and misapplied concept. Control all too often means inflexible and unimaginative budgets, seemingly endless management reporting requirements, and an overburdening and often irrelevant stream of information up and down the corporate hierarchy. The new control paradigm is illustrated in Figure 14.

Fast-moving markets, flattening corporate hierarchies, and the need for an expanding scope of authority at the local level are making salient the costs of misunderstanding and misapplying control. In response, managers are rethinking fundamental definitions of control and how business risks should be identified and mitigated.

Empowerment will increasingly blur lines of authority, and increasingly flat organizations will provide fewer opportunities for segregation of duties. Traditional notions of control (such as segregation of duties and functions, proper authorization for expenditures, controlled access to assets, and proper recording of transactions) that define the procedural checks and balances that safeguard assets

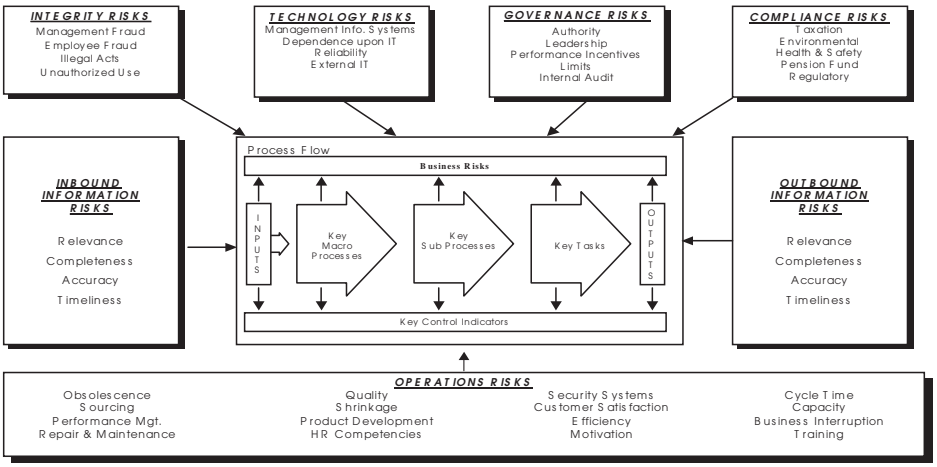

Figure 12 Illustrative Process Risks for Core Processes. (From Risk Management Partners, Inc.)

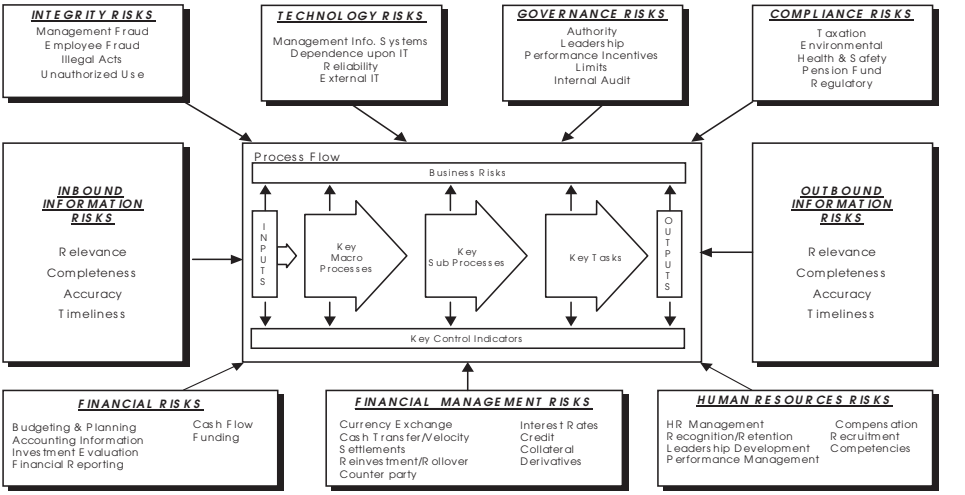

Figure 13 Illustrative Process Risks for Resource Management Processes. (From Risk Management Partners, Inc.)

and assure integrity of data must be recognized as only one aspect of the contemporary organization's control structure.

Other components of the control structure include diagnostic control systems, belief systems, boundary systems, and incentives. Diagnostic control systems, for example, recognize that empowerment requires a change in what is controlled. Consistently, empowered individuals are being asked to take risks and there must be commensurate rewards for the risk taking and achievement of superior performance. Such rewards, which can be either monetary or nonmonetary, are made on the basis of tangible performance consistent with the organization's mission.

The evolving organizational controls structure consists of strategic controls, management controls, and business process controls. A brief description of these elements follows:

- *Strategic controls* are designed to assess continuously the effect of changes in environment risks on the business, formulate business risk control strategies, and align the organization with those strategies.
- *Management controls* drive business risk assessment and control throughout the organization.
- *Process controls* are designed to assess continuously the risk that business processes do not achieve what they were designed to achieve. Embedded in process risk is information processing/technology risk, which arises when the information technologies used in the process are not operating as intended or are compromising the availability, security, integrity, relevance, and credibility of information produced.

Figure 15 provides examples of these types of controls.

8. ELEMENT 4: ALLIANCES AND RELATIONSHIPS

8.1. "Alliance" Defined

Several types of alliances exist, each with a specific purpose. The following are three of the more common types:

- *Transactional alliances* are established for a specific purpose, typically to improve each participant's ability to conduct its business. Cross-licensing in the pharmaceutical industry is an example. Open-ended purchase orders for specific products would be another.
- *Strategic sourcing* involves a longer-term commitment. It is a partnership between buyer and seller that can reduce the cost and friction between supplier and buyer by sharing product development plans, jointly programming production, sharing confidential information, or otherwise working together much more closely than do typical suppliers and customers. Wal-Mart and Home Depot are examples of companies with substantial capabilities in strategic sourcing.

Figure 14 The Old and New Business Risk Control Paradigms. (From Risk Management Partners, Inc.)

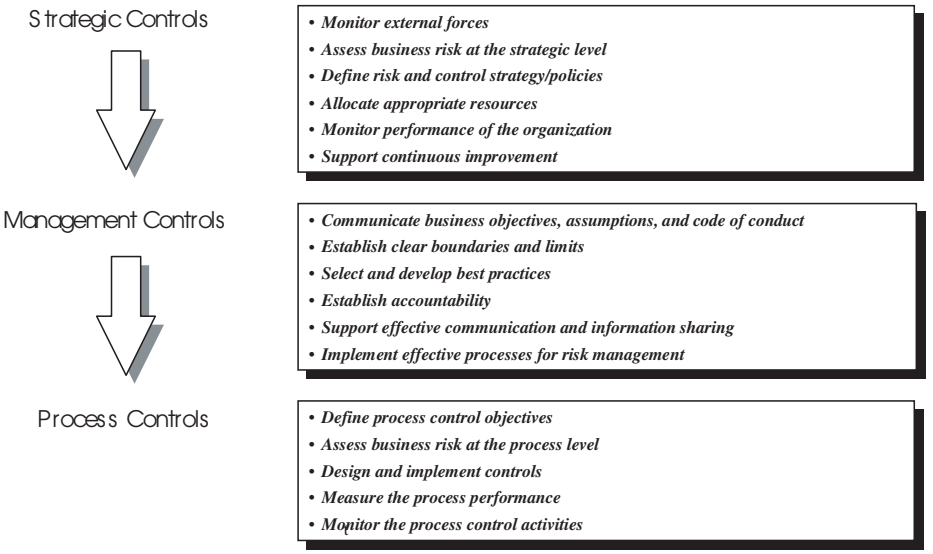

Figure 15 Illustrative Examples of Controls. (From Risk Management Partners, Inc.)

- *Strategic alliances* involve two enterprises pulling together to share resources, funding, or even equity in a new enterprise on a long-term basis. For example, Motorola, Apple, and IBM pooled research programs and made financial commitments to develop a new-generation engine for personal computers—the Power PC.

8.2. Strategic Alliances in the Value/Supply Chain

The move toward strategic alliances is very strong because of increased global competition and industry convergence. For example, in banking, insurance, mutual funds, financial planning, and credit cards, industry boundaries are beginning to blur.

Strategic alliances form when one enterprise alone can't fill the gap in serving the needs of the marketplace. Financial pressures and time constraints have squeezed managers without resources to fill the gaps through internal development. Also, acquisitions have proved expensive and have not always brought the needed capabilities.

An increasing number of global enterprises recognize that strategic alliances can provide growth at a fraction of the cost of going it alone. In addition to sharing risks and investment, a well-structured, well-managed approach to alliance formation can support other goals, such as quality and productivity improvement. Alliances provide a way for organizations to leverage resources. In the future, many organizations will be nothing more than "boxes of contracts," with substantially all of the traditional value/supply chain components outsourced to business partners in the form of alliances or other strategic relationships.

In addition to the more obvious reasons to focus on a company's "core competencies," the new economics of information will dramatically dismantle traditional business structures and processes. New business structures will reform based on the separate economics of information and physical products. Over the next few years, many relationships throughout the business world will change. The dismantling and reformulation of traditional business structures will include value chains, supply chains, and business models. This will result from the separation of the economics of information from the economics of physical products. In addition, the explosion of networks and content standards will allow informational value chains to separate from the physical chain. This will create enormous opportunities to use information innovatively and create new knowledge for competitive advantage. As value chains deconstruct to create new market opportunities, more and more alliances and new relationships will be formed to maximize opportunities and fill the gaps that will exist in traditional business processes.

8.3. Performance Management

While the promise of alliances is very bright, managing a myriad of different and sometimes very complex relationships will be a significant challenge for most enterprises. Improper guidelines, poor

communications between the enterprise and its partners (suppliers, customers, manufacturers, outsourcers, etc.), and unrealistic expectations can lay the groundwork for failure.

The significant shift from hierarchies to alliance networks will require a high level of competency in IT and relationship management. The enterprise and its partners must develop relationships at multiple levels throughout the organization to gain the trust and understanding required for long-term success. That includes making senior managers of the network well acquainted with one another.

Although multiple relationships are beneficial, consistent communication must take place between the partners at various levels within the respective organizations. Partners can receive confusing and conflicting direction from multiple sources within the enterprise. All parties must be connected to a database that tracks commitments and instructions made for their respective staffs.

To achieve success in these complex relationships, enterprises and their partners should speak a common business language. All parties will need to coordinate standards (such as software and network protocols) and business process elements (such as procurement, production, logistics, and customer service). In addition, all parties should participate in joint budgeting in order to understand the key cost drivers inherent in the network's infrastructure.

It is critical for the parties in the network to have access to detailed cost and performance information associated with each partner's respective services. Alliances typically are described by agreements that represent long-term relationships in which unforeseen opportunities, technologies, and business conditions will need to be addressed. The agreements should be flexible in order to accommodate changes in technologies and technology costs. Without careful planning and management, the network can get out of control, producing disastrous results.

The needs of all parties should be addressed in the contractual agreements. These contracts may be inexpensive to enter but extremely expensive to exit. Contracts should define intermediate consequences—generally penalties—for poor behavior and performance, with termination of the contract only as a last resort. Additional payments should be provided to reward superior performance that provides a measurable benefit.

Measurement becomes a major issue in managing alliance relationships. If performance cannot be measured effectively on a real-time basis, failure will likely occur. Service-level agreements must be defined in detail and allow for the addition of service levels that reflect changing business requirements and service levels. Partners should agree to measure and benchmark their cost structures against others on a regular basis for performance goal-setting and ongoing performance evaluation.

Effective day-to-day management of a complex network of relationships begins with planning. Management on both sides of an alliance must be committed to the communication and flexibility required for the relationship to shape and reshape itself as needs and opportunities arise. Well-designed management structures and processes enhance the probability of success for all parties.

9. ELEMENT 5: CORE PRODUCTS AND SERVICES

9.1. "Core Product and Service" Defined

The general goal of a product is to fill customers' specific needs. Core products are the product offerings that are most closely associated with the enterprise's brand image and generate the largest share of product revenue. The enterprise's core products and services are generally the basis for its marketplace strategy and value proposition.

9.2. Categories of Products and Services

A product family is a set of products based on a common platform. A platform includes design components that can be shared by products in the family. These shared design components allow for variations in product functions and features to meet different customer needs. As product strategies change and new technologies are introduced, new platforms are created. The automobile industry, for example, uses product platforms extensively to reduce costs and leverage technologies.

Derivative products are the products that are designed around a platform product. For example, Sony designed over 200 Walkman products, based on three platforms, to meet the specific needs of global markets. The economic proposition for derivative products is to reduce cost by reducing features (low-cost products), or to add features without changing the price significantly (line extensions), or to add features to increase the value to the customer (superior products).

9.3. Measuring Product Performance

Measurements of product performance should exist along four dimensions:

- *Market performance:* How does the marketplace view the company's products?
- *Process performance:* How well does the product development process work?
- *Resource performance:* How well do cross-functional teams perform?
- *Financial performance:* How profitable are the products/services?

Key Performance Indicator	Short-Term	Long-Term
Market Performance		
Customer Acceptance	X	X
Customer Satisfaction	X	X
Market Share		X
Unit Sales Growth		X
Brand Image		X
Process Performance		
Time-to-market	X	X
Quality Standards	X	X
Unique Benefits	X	X
Technology Enablers	X	X
Resource Performance		
Cross-functional Teaming	X	X
Performance Against Goals	X	X
Financial Performance		
Margin Goals		X
Profitability Goals		X
Return on Investment		X
New Product Sales/total Sales	X	X

Figure 16 Core Products/Services Measurement Framework. (From Risk Management Partners, Inc.)

The measurement framework in Figure 16 provides an example of the product dimensions that should be continuously monitored and improved.

10. ELEMENT 6: CUSTOMERS

10.1. "Customer" Defined

Customers are the reason that organizations exist—they are the most valuable assets. They are consumers or other businesses that utilize the enterprise's products and services. Large customers and/or groups of customers can exert significant influence over an organization. The business model is a framework for analyzing the contributions of individual activities in a business to the overall level of customer value that an enterprise produces, and ultimately to its financial performance.

10.2. Categories of Customers

An organization's customer base is made up of customers with many different attributes. They may be categorized along many different dimensions, depending on the purpose for which the segmentation is performed. Possible segmentation criteria include size, market, profitability, geographic location, customer preferences, influence or bargaining power, and intellectual capital. Segmentation gets the enterprise closer to the customer and allows the enterprise to understand customer needs in a very deep way. This closeness gives the enterprise access to information that is critical to strategy formulation and implementation. In addition, the enterprise and/or engineer can utilize customer segmentation techniques for various improvement initiatives.

10.3. Product and Services and Customer Linkages

Products and services and customers are inextricably linked. An enterprise's value proposition is expressed in the value—the products and services—it delivers to its customers. In the New Economy, these linkages will become more formalized as organizations innovate and produce new products *with* their customers. Customer capital will grow when the enterprise and its customers learn from each other. Collaborative innovation will be in everyone's best interest.

10.4. Relationship of Customers to Markets

Markets are made up of customers that have some common interests. Markets can be divided into finer and finer segments (customer groups), with each segment having its own issues. Market seg-

mentation allows an organization to pursue the acquisition of those customers that are most attractive to its value proposition. Segmenting markets also provides the basis for tailoring products more specifically to the customers' needs.

11. APPLYING THE BUSINESS MODEL

The engineer can apply the enterprise business model to his or her work in a number of ways, including:

- Communication of the nature of the business
- Strategic analysis
- Business process analysis
- Business performance measurement
- Risk assessment

In this section, we will discuss each of the above applications.

11.1. Communicating the Nature of the Business

Throughout the design and development of the business model, the engineer should review findings and conclusions with management. The review could take the form of overhead slides or other visual aids, discussions, or a written document. During a review with the enterprise's management, the engineer should confirm that his or her understanding of the business is accurate and complete and provide management with potential new perspectives that may assist in organizational improvement. Once adopted by management, the model can be used as the basis for communicating the nature and structure of the business to employees and other interested stakeholders.

11.2. Improving the Business

As discussed in prior sections, the business model should be designed and developed with an objective of improving the business. The improvement model shown earlier in Figure 2 includes five key business principles that will guide the engineer as he or she achieves that stated objective.

11.2.1. Strategic Analysis

The business model focuses the engineer's attention on whether managers have designed effective strategies for reshaping patterns of behavior. The strategic analysis is intended to provide the engineer with a deep understanding of the broad environment in which the enterprise operates, and it focuses on the organization's strategic orientation and potential for reorientation. Included therein are both the industry and global environs of the organization. Also included is the engineer's understanding of the enterprise's strategy for achieving a sustainable competitive advantage within the industry context. The business risks that threaten achievement of this strategy are consistently identified, along with the enterprise's responses to such risks.

As part of the strategic analysis, the engineer will obtain or update an understanding of the organization's history, management's business strategy and objectives, the business risks faced by the organization, management's planned responses to such business risks, and the business processes that management has implemented. The strategic analysis is also focused on the articulation between the business strategy and the supporting business processes, as well as the articulation between the identified business risks and management's responses or controls.

During strategic analysis, the engineer may first obtain general industry information, including that which is available from trade associations, periodicals, and the like. Then he or she will consider obtaining information about the structure of the industry, including its segmentation, the dynamics among the various organizations that comprise the industry, the critical business issues facing entities in the industry, and significant industry risks.

At the conclusion of the strategic analysis, the engineer will have learned the "directional course" the management has set in response to the environment, taking into consideration:

- The relationship between the broad economic environment and the industry segment(s) in which the enterprise competes
- The enterprise's position and role within its respective industry segment(s)
- Threats to maintaining or improving the current position
- The needs and wants of the enterprise's chosen market segment(s)
- The total productive capacity of the enterprise and its competitors for each niche

- Management's vision of how to satisfy the market needs better than its rivals
- Management's specific strategies and plans for achieving that vision

Also, the engineer will have obtained an understanding of how and to what extent management steers the business and attains a fit between its strategy and the range of environmental forces acting on it. This will have been done through review of:

- The enterprise's strategic management process
- The formalized strategic plan
- The enterprise's approach to ''environmental scanning'' to monitor emerging or changing external threats
- Management's methods for communicating strategies throughout the organization, as well as the clarity of such communications
- The methods and measures used to monitor entity-level performance in terms of the strategic goals

The strategic analysis will provide the engineer with in-depth knowledge of the enterprise's value proposition and insight into opportunities to improve business performance and mitigate the risks that threaten achievement of the established objectives.

11.2.2. Business Process Analysis

Business process analysis is designed to provide the engineer with an in-depth understanding of the key business processes identified earlier during strategic analysis. Through this analysis, the engineer learns how the organization creates value. Specifically, each core business process is studied in depth to discern significant process objectives, the business risks related to these objectives, the controls established to mitigate the risks, and the financial implications of the risks and controls. Likewise, each significant resource management process is examined with the same foci.

Business process analysis adopts a ''value chain'' approach to analyzing the interconnected activities in the business, both domestically and globally. It is consistent with W. Edward Deming's views of business processes and the role of total quality management in monitoring the value of these processes. Core business processes represent the main customer-facing activities of the business. It is the successful combination and execution of the core business processes that creates value in the eyes of customers and therefore results in profitable customer sales. During business process analysis, the engineer recognizes the cross-functional nature of activities in the enterprise's business, that not all activities within and across processes are sequential, and that important linkages exist between processes.

Figure 5, above, provides the context for a process analysis example. Specifically, it depicts the four core business processes of a hypothetical retail company: brand and image delivery, product/service delivery, customer service delivery, and customer sales. Consider the brand and image delivery core business process, which might include the following subprocesses: format development and site selection, brand management, advertising and promotion, visual merchandising, and proprietary credit. Figure 17 presents an example of a completed process analysis template for the format development and site selection subprocess. Such a process analysis template can be used by the engineer to analyze his or her enterprise's core business processes and significant resource management processes. The template is a framework that guides the engineer's collection and integration of information about business processes, using eight components: process objectives, inputs, activities, outputs, systems, risks that threaten objectives, and management controls linked to risks. Refer to Section 7.2 for descriptions of each of these components.

In the retail company, the engineer would address each of the following objectives, which are typical for this process:

1. Provide an environment in which the customer's needs can be met.
2. Deliver a cost-effective and viable shop solution.
3. Inject freshness and maintain a competitive edge.
4. Use the store as a vehicle for differentiation.
5. Open the store on time and stay on budget.
6. Take maximum advantage of available financial incentives.

From a value-chain perspective, and focusing first on process inputs, among the key considerations are historical performance, technology capability, competitor formats, customer profile, and cost constraints.

Continuing the value-chain perspective, the engineer will gather information about process activities such as:

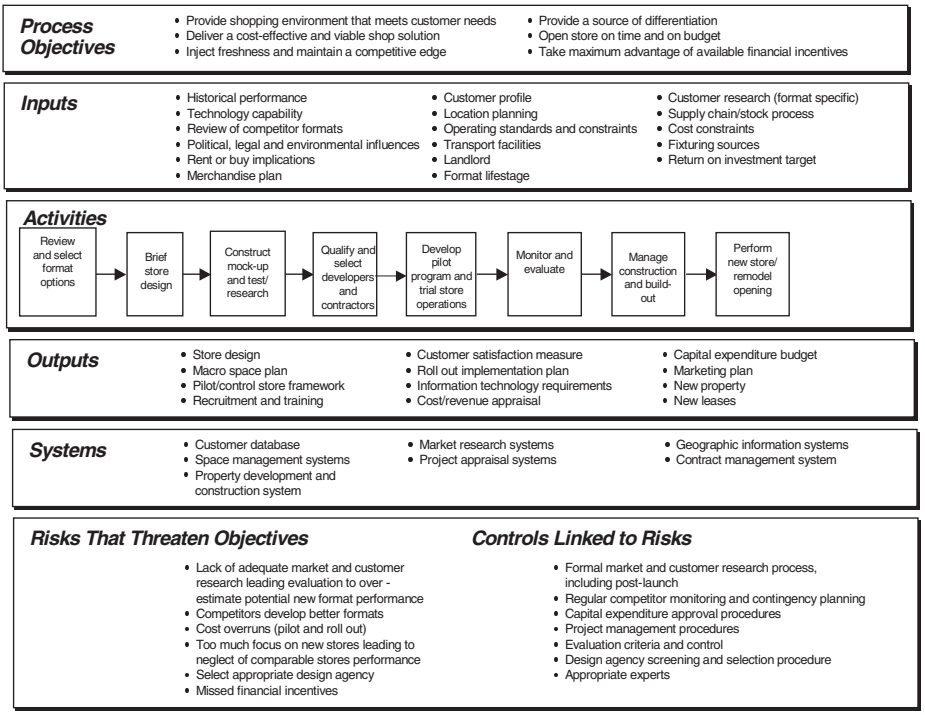

Figure 17 Format Development and Site Selection Subprocess—Retail Company. (Adapted from Bell et al. 1997)

1. Review and selection of format options
2. Store design
3. Store mock-up and research
4. Developer and contract selection

And the engineer will consider outputs like the following:

1. Store design
2. The macrospace plan
3. Recruitment and training
4. Customer satisfaction measures
5. The roll-out implementation plan

The engineer also will recognize that various systems are germane to the format development and site selection subprocess. These systems include the customer database, space management, property development and construction, market research, project appraisal, and contract management systems.

The engineer next considers the risks that threaten achievement of the process objectives and the controls that have been implemented to mitigate such risks. Continuing with the focus on the format development and site selection subprocess, such risks may include the possibility that competitors will develop better store formats, or an overemphasis on new stores relative to existing stores. Controls that could mitigate such risks are regular monitoring of competitors, in concert with contingency planning and usage of appropriate evaluation criteria.

A similar approach is taken by the engineer for the significant resource management processes, which were identified for the retail company in Figure 5 to be financial/treasury management, information management, human resource management, property management, and regulatory man-

agement. Figure 18 presents an example of a completed process analysis template for a retail company's human resource management process.

As shown in Figure 18, the following are among the process objectives of relevance: attract and retain a skilled and motivated workforce; control employee costs while maintaining morale and productivity; comply with regulatory/tax filing requirements; and adhere to the organization's code of conduct. Maintaining a value-chain perspective, the engineer next considers inputs to this process, including the organization's strategic plan, its operating plan, employee regulations, tax regulations, union contracts, industry statistics and market data, and training goals. Activities are then considered, such as developing and maintaining human resource policies and procedures; establishing and maintaining compensation and benefit policies and programs; identifying resource requirements; recruitment and hiring; training and development; performance reviews; compensation and benefit administration; monitoring of union contracts and grievances; and monitoring compliance with regulations.

The engineer then will consider outputs, such as regulatory filings, personnel files, tax filings, and performance reviews. Of course, various systems will be recognized as keys to successful human resource management, such as those related to compensation and benefits, tax compliance, and regulatory compliance.

Subsequently, the engineer considers risks related to the human resource management function, including high levels of staff turnover, noncompliance with regulations, and noncompetitive compensation packages. In turn, the engineer considers the controls that can mitigate the risks, such as implementing growth and opportunity plans for employees; regulatory monitoring; and benchmarking salary costs against industry and other norms.

At the conclusion of business process analysis, the engineer will have updated his/her understanding of (a) how the enterprise creates value, (b) whether the enterprise has effectively aligned the business process activities with the business strategy, (c) what the significant process risks are that threaten the achievement of the enterprise's business objectives, and (d) how effective the processes are at controlling the significant strategic and process risks. This detailed and updated knowledge about the business provides a basis for the engineer's development of recommendations about improvement opportunities and risk management.

11.2.3. Business Performance Measurement

Information-age enterprises succeed by investing in and managing their intellectual assets as well as integrating functional specialization into customer-based business processes. As organizations acquire these new capabilities, their measure of success should not depend solely on a traditional, historical

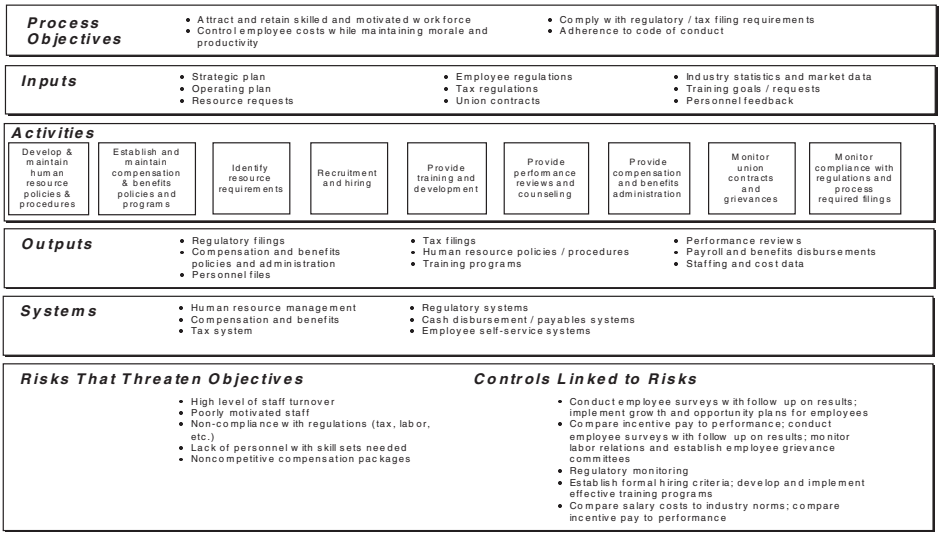

Figure 18 Example Human Resource Management Process—Retail Company. (Adapted from Bell et al. 1997)

financial accounting model. Rather, measurement and management in the information age requires enterprises to become much more competent at identifying and monitoring measures that drive their business performance.

To develop a credible business model, the engineer must gain an understanding of how the enterprise measures and monitors business performance. Financial performance measures are valuable for summarizing the readily measurable economic consequences of actions already taken; however, outcome measures without performance drivers do not communicate how the outcomes have been achieved.

Performance drivers are key indicators of an enterprise's future financial performance. Understanding the cause-and-effect relationships between resource, process, market, and financial performances is essential to understanding the enterprise's strengths and weaknesses.

Figure 19 shows the cause and effect relationships between financial and nonfinancial performance.

Figure 20 provides some illustrative examples of financial and nonfinancial measures for a large management consulting firm, using the measurement framework shown in Figure 19. The performance measures are designed to provide feedback regarding implementation of strategic initiatives.

The strategic analysis provides the engineer with a basis to judge the effectiveness of the enterprise's performance management system. The business measurement approach should include the perspectives mentioned in Figure 19. During the development of the business model, the engineer will be in a unique position to evaluate the cause-and-effect relationships of the major elements of the performance management system. The engineer will review measures of resource performance, process performance, market performance, and financial performance; he or she will determine the business processes and variables that appear to have the greatest impact on the organization. In addition, the engineer will analyze interrelated key performance measures, both financial and nonfinancial, over time and relative to similar organizations. These measurements and assessments are combined with the engineer's knowledge about the business opportunities/risks that are documented in the business model. The updated business model, as well as the mental or more formal simulations performed by the engineer to better understand the organization's strategic-systems dynamics, provide a knowledge-base for development of expectations about the entity's achieved level of overall performance.

During business measurement, the engineer also evaluates the performance of the entity taken as a whole and its key business processes, using key performance indicators (KPIs) and the collective knowledge contained in the business model. KPIs are quantitative measurements, both financial and nonfinancial, collected by an entity or by the engineer, either continuously or periodically, and used by management and the engineer to evaluate performance in terms of the entity's defined business

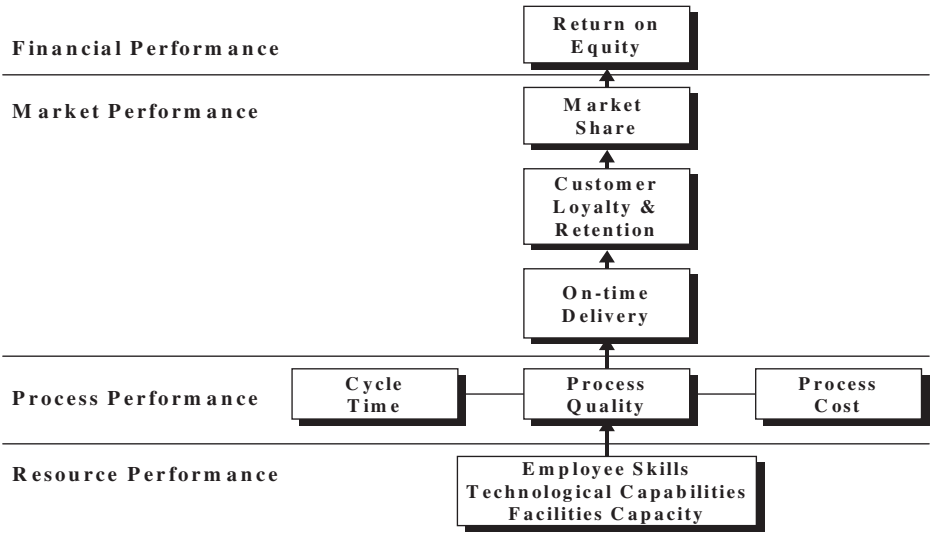

Figure 19 Financial and Nonfinancial Performance Relationships. (From Risk Management Partners, Inc.)

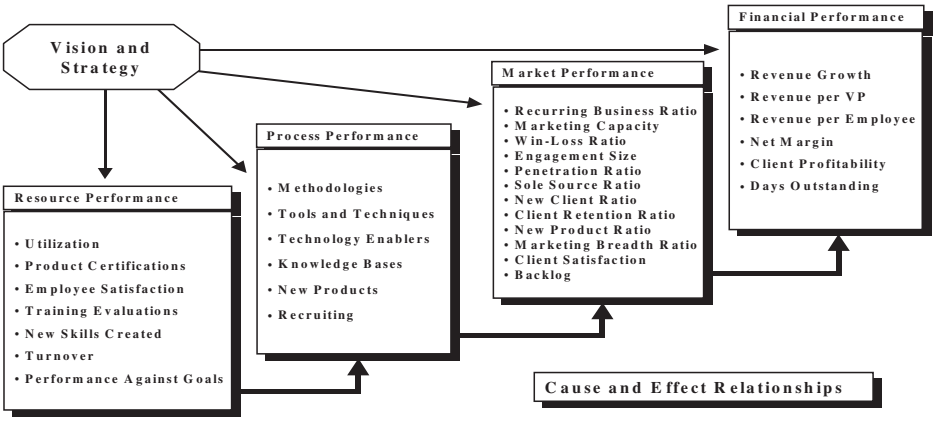

Figure 20 Sample Financial and Nonfinancial Measures—Consulting Firm. (From Risk Management Partners, Inc.)

objectives. KPIs at the process level typically focus on three dimensions of process performance: cycle time, process quality, and process cost. More specifically, management might monitor and control process performance using one or more of the following types of KPIs:

- Waste, rework, and other indicators of process inefficiency
- Backlog of work in process
- Customer response time
- Number of times work is recycled between subprocesses and departments
- Number of document errors
- Customer satisfaction ratings
- Number of routing errors
- Value-adding processing time
- Information processing errors

An integrated performance management system, with the appropriate KPIs, can provide evidence to the engineer that the organization is maintaining the level of process quality required to sustain product demand.

11.2.4. Risk Assessment

Risk assessment is a continuous process performed throughout the design and development of the business model. During strategic analysis and business process analysis, the engineer reviews the processes and procedures that the enterprise has established to identify and manage strategic and process risks.

During the engineer's review of the enterprise's risk management activities, he or she develops an understanding of management's perceptions of business risk, both strategic risks and business process risks, and considers the reasonableness of the assumptions that underlie management's assessments of the potential impacts of these risks. These underlying assumptions may be viewed as a combination of assumptions about the probability of occurrence and assumptions about the magnitude of impact. Also, the engineer uses other information obtained during the strategic and business process analyses to make judgments about coverage (i.e., whether management has considered all significant business risks). And he or she uses this information to make judgments about the extent to which strategic and process risks remain uncontrolled (i.e., to determine the level of residual risk).

Next, the engineer further integrates information about residual business risks by grouping risks based on the particular business model elements to which they relate. He or she will also consider possible interactions among these groups of risks and develop expectations about how they might be manifested in the performance of the business. This integrated knowledge, together with the appropriate business measurements, provides the engineer with a basis for performing a diagnosis of the

business. Furthermore, it guides tactical planning about the type and extent of additional information he or she should obtain in order to make recommendations for improving risk management activities.

By this point, the engineer will have developed a business risk profile of the organization. In the business risk profile, residual business risks are classified as either strategic or process risks. Also, interactions among risks are identified, and the risk classifications and identified interactions are cross-matched with related business performance attributes.

11.3. Continuous Improvement

At the conclusion of the business model design and development effort, the engineer will have constructed a fully integrated business model containing all of the information he or she has collected and integrated through the application of the five business principles shown earlier in Figure 2: strategic analysis, business process analysis, risk assessment, business measurement, and continuous improvement. The engineer will use the completed model as the basis for final review of the recommendations for improving business performance. But it must be remembered that the business model is a living document that must be updated and maintained on a continuous basis to reflect changing market conditions, new or improved value propositions, changes in organization structures, and the like. Continuous improvement applies just as much to the business model as it does to the business itself.

Acknowledgement

The enterprise business modeling concept described in this chapter was developed by KPMG LLP as an integral and fundamental part of its proprietary audit approach called the Business Measurement Process (BMP). The authors, both KPMG LLP retired partners, were involved in the development of the BMP: Frank Marrs led the entire development effort as National Managing Partner, Assurance Services; Barry Mundt was involved in the design of the business modeling concept and facilitated the development of generic enterprise business models for six industries. A large part of this chapter is based on a research monograph published by KPMG LLP, entitled *Auditing Organizations Through a Strategic-Systems Lens.*

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APPENDIX
List of Generic Business Processes and Subprocesses

Strategic Management Processes

1.0 Understand Markets and Customers:

- **1.1** Determine customer needs and wants.
- **1.2** Monitor changes in market and customer expectations.

2.0 Develop Vision and Strategy:

- **2.1** Monitor the external environment.
- **2.2** Define value proposition and organizational strategy.
- **2.3** Design organizational structure/processes/relationships.
- **2.4** Develop and set organizational goals.

3.0 Manage Improvement and Change:

- **3.1** Measure organizational performance.
- **3.2** Conduct quality assessments.
- **3.3** Benchmark performance.
- **3.4** Improve processes and systems.

Core Business Processes

4.0 Design Products and Services:

- **4.1** Develop new product/service concepts and plans.
- **4.2** Design, build, and evaluate prototype products/services.
- **4.3** Refine existing products/services.
- **4.4** Test effectiveness of new/revised products or services.
- **4.5** Prepare for production.

5.0 Market and Sell Products/Services:

- **5.1** Market products/services to relevant customers.
- **5.2** Process customer orders.

6.0 Produce and Deliver Goods:

- **6.1** Plan for and acquire necessary resources.
- **6.2** Convert resources or inputs into products.
- **6.3** Deliver products.
- **6.4** Manage production and delivery process.

7.0 Produce and Deliver Services:

- **7.1** Plan for and acquire necessary resources.
- **7.2** Develop human resource skills.

7.3 Deliver service to the customer.
7.4 Ensure quality of service.

8.0 Invoice and Service Customers:
8.1 Bill the customer.
8.2 Provide after-sales service.
8.3 Respond to customer inquiries.

Resource Management Processes

9.0 Develop and Manage Human Resources:
9.1 Create and manage human resource strategies.
9.2 Perform work level analysis and planning.
9.3 Manage deployment of personnel.
9.4 Develop and train employees.
9.5 Manage employee performance, reward, and recognition.
9.6 Ensure employee well-being and satisfaction.
9.7 Ensure employee involvement.
9.8 Manage labor/management relationships.
9.9 Develop human resource information systems.

10.0 Manage Information Resources:
10.1 Plan for information resource management.
10.2 Develop and deploy enterprise support systems.
10.3 Implement systems security and controls.
10.4 Manage information storage and retrieval.
10.5 Manage facilities and network operations.
10.6 Manage information resources.
10.7 Facilitate information sharing and communication.
10.8 Evaluate and audit information quality.

11.0 Manage Financial and Physical Resources:
11.1 Manage financial resources.
11.2 Process finance and accounting transactions.
11.3 Report information.
11.4 Conduct internal audits.
11.5 Manage the tax function.
11.6 Manage physical resources.

12.0 Execute Environmental Management Program:
12.1 Formulate environmental management strategy.
12.2 Ensure compliance with regulations.
12.3 Train and educate employees.
12.4 Implement pollution-prevention program.
12.5 Manage remediation efforts.
12.6 Implement emergency response program.
12.7 Manage government agency and public relations.
12.8 Manage acquisition/divestiture environmental issues.
12.9 Develop/manage environmental information systems.

13.0 Manage External Relationships:
13.1 Establish communication networks and requirements.
13.2 Communicate with stakeholders.
13.3 Manage government relationships.

13.4 Build relationships with network participants.
13.5 Develop public relations program.
13.6 Interface with board of directors.
13.7 Develop community relations.
13.8 Manage legal and ethical issues.