Chapter XXIX
Intelligent Networking and Business Process Innovation:
A Case Study Analysis of Home Box Office and Dell Computers

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ABSTRACT

Today, innovation is much more about much than just developing new products. It is about reinventing business processes and building entirely new markets to meet untapped customer needs. This chapter will examine the subject of business process innovation which involves creating systems and methods for improving organizational performance. Special attention is given to the topic of intelligent networking which represents the combination of software, technology, and electronic pathways that makes business process innovation possible for both large and small organizations alike. A central tenet is that the intelligent network is not one network, but a series of networks designed to enhance world-wide communication for business and residential users. Two very different kinds of intelligent networks are discussed in this chapter. The first involves satellite-to-cable television networking where the emphasis is on program distribution to the end consumer. The second is a supply chain management network where the emphasis is on just-in-time manufacturing. Each of the said networks represents a highly innovative business process and share the common goal of improving organizational performance. The information presented in this chapter is theory-based and supported by a case-study analysis of Home Box Office, Inc. and Dell Computers.

INTRODUCTION

International business has been transformed by the power of instantaneous communication. The combination of computer and telecommunications have collapsed the time and distance factors that once separated nations, people and business organizations (Friedman, 2005). The information economy involves the full integration of transnational business, nation-states and technologies operating at high speed. It is a global economy that is being driven by free-market capitalism. The basic requirements for all would be players is free trade and a willingness to compete on an international basis (Friedman, 2005). The once highly centralized business has given way to the transnational corporation (TNC) that operates in multiple countries throughout the world. Instead of time and communication being highly synchronized, today's working professional lives in a digital world of asynchronous and virtual communication that allows for the international collaboration of projects regardless of time zones, geographical borders and physical space (Gershon, 2002). The driving force behind such changes is that today's information economy is built on what Noam = (2001) calls a "network of networks." (pp. 1-2). We don't talk to people, we network with them.

The Intelligent Network

The intelligent network represents the combination of software, technology and electronic pathways that makes business process innovation possible for both large and small organizations alike. The intelligent network can be likened to the internal nervous system of an organization. It provides the basis for the seamless integration of information and communication both internal and external to the organization. The combination of high-speed voice, data and video communication allows today's business enterprise the ability to coordinate the production, marketing and delivery of products on a worldwide basis.

The Foundation Principles. A central argument of this chapter is that the intelligent network is not one network, but a series of networks designed to enhance worldwide communication for business and residential users (Noam 2001). What gives the network its unique intelligence are the people and users of the system and the value-added contributions they bring to the system via critical gateway points. Systems theorists refer to this as a the principle of network wholism (Gershon, 2004). As an example, the Internet has become greater than the sum of its parts. The exponential growth of the Internet is due to the many contributions of its users in terms of search engine design (*Google*); electronic commerce, (*eBay, Amazon.com* etc.); social networking; (*Facebook, My Space* etc.); speed and throughput (cable modems, DSL etc.) Today, the Internet has created a new business model that maximizes the potential for instantaneous communication to a worldwide customer base. It has fundamentally changed how retailtrade is conducted in terms of information gathering, marketing, production and distribution.

Intelligent Networking and Organizational Decision Making Process. The intelligent network has had a major effect on the spatial reorganization for today's highly complex organization. Time and distance factors have become less important in determining where a company chooses to locate (O'Hara-Devereaux, & Johansen, 1994; Poole, 1990). One important consequence is that organizational hierarchies tend to beflatter, thereby, allowing direct communication between and among organizational players (Huber, 1990). What's important to remember, is that intelligent networks are not stand alone entities. Rather, intelligent networks are part of a greater human and organizational decision-making process (Monge & Contactor, 2003; Monge & Eisenberg, 1987). Technology alone is rarely the key to unlocking economic value. Companies create real wealth when they combine technology with new ways of doing business (Manyika, Roberts & Sprague,

2007). In sum, people and innovative thinking make the difference.

What is Innovation?

Innovation can mean the introduction of an entirely new product or service to the marketplace. But innovation can also mean introducing an entirely new process that improves long term organizational performance. In the field of business and technology, innovation breaks down into three subset areas. They include: 1) product innovation, 2) business model innovation and 3) process innovation. Some of today's more innovative companies are innovative in all three areas. The combination of the Apple iPod and iTunes mediastore, for example, qualify as a new product (i.e., *iPod*), business model (*iTunes*) and business process (*iTunes + MP3 music file sharing delivery*). In sum, Apple has created the first sustainable on-line music delivery business of its kind. Innovation is important because it creates a lasting advantage to a company or organization.

This chapter will look at the relationship between intelligent networking and business process innovation. Two very different kinds of intelligent networks will be considered in this examination. The first kind of network looks at the principles of cable networking with a specific reference to satellite-to-cable television distribution where the emphasis is on achieving economies of scale in design and operation. The second kind of network examines a supply chain management system network where the emphasis is on global inventory management and just-in-time manufacturing. Each of the said networks represent a highly innovative business process and share the common goal of improving organizational performance. The information presented in this chapter is theory-based and supported by a case-study analysis of Home Box Office, Inc. and Dell Computers.

BUSINESS PROCESS INNOVATION

Today, innovation is about much more than developing new products. It is about reinventing business processes and building entirely new markets to meet untapped customer needs. Davenport & Short (1990) define *business process* as "a set of logically related tasks performed to achieve a defined business outcome." A process is a structured, measured 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 within an organization (Davenport, 1993). In their view, a business process exhibit two important characteristics: 1) they have customers (internal and external) and 2) they cross organizational boundaries, (i.e., they cut across different organizational subunits). One technique for identifying business process in an organization is based on the principles of value chain analysis proposed by Porter (1985). Value chain analysis includes the various activities through which a firm develops a competitive advantage and creates shareholder value. The goal is to offer the customer a level of value that exceeds the cost of the activities, thereby, resulting in a profit margin.

Business process innovation involves creating systems and methods for improving organizational performance. The application of business process innovation can be found in a variety of settings and locations within an organizational structure, including product development, manufacturing, inventory management, customer service, distribution etc. A highly successful business process renders two important consequences. First, a highly successful business process is transformative; that is, it creates internal and external efficiencies that provides added value to the company and organization. Second, it sets into motion a host of imitators who see the inherent value in applying the same business process to their own organization. Table 1. provides a comparison of five media and telecommunications companies that are industry leaders in the use of business

Table 1. Five media and telecommunications companies the transformative impact of business process innovation

Home Box Office	In 1975, helped advance the principle of satellite/ cable networking by using satellite communication to advance long haul television distribution.
Dell Computers	In the area of computer manufacturing, Dell created a highly successful business model utilizing just-in-time manufacturing techniques as well as direct-to-home sales capability.
Pixar Studios	Developed computer generated animation graphics in contrast to traditional cartoon animation techniques. Examples include, *Toy Story, Finding Nemo, Monsters Inc.,The Incredibles, Cars* etc
Apple Computer	The combination of the Apple iPod and iTunes media store have created the first sustainable music down-loading business model of its kind.
Netflix	Has become the largest on-line DVD rental service in the U.S., offering flat rate rental by-mail to customers. Developed highly sophisticated supply chain management system.

process innovation. Each of the said companies have rendered a host of imitators in the way they have refined business process.

BUSINESS PROCESS AND REENGI-NEERING

Business process innovation involves creating systems and methods for improving organizational performance. Specifically, business process innovation is about creating internal and external efficiencies that will improve operational design and performance. Accordingly, process innovators are obsessive problem solvers. There is a constant focus on finding new ways to improve quality and optimize performance. Everyone within the organization from senior management to the worker on the floor has a responsibility to improve product and service quality.

Reengineering

The principles of reengineering owe their aegis to an evolving set of business process improvement theories, starting with Total Quality Management (TQM) and including Six Sigma. While a number of management scholars have contributed to the principles of reengineering, Hammer & Champy (1993) popularized the term to the general public when they published *Reengineering the Corporation: A Manifesto for Business Revolution*. Since then, the term "reengineering" has become part of the corporate lexicon whenever an organization should decide to reorganize or downsize its business operations. Reengineering, however, is really about business process innovation.

The decision to reengineer usually comes about at a time when a business is faced with major competitive threats or recognizes that its operations are costly and inefficient. Another term for reengineering is *business process redesign*. Hammer & Champy statethe question very simply. "If I was recreating this company today, given what I know and given current technology, what would it look like?" (p. 31). Business process redesign often means starting over. Reengineering represents a fundamental rethinking of business processes in order to bring about dramatic improvements in organizational performance. It means throwing out old assumptions about how things were done in the past and developing new procedures and solutions.

In order to accomplish such goals, reengineering means having to rethinkkey business processes and a willingness to abandon old or outmoded ways of doing business. Improvements in performance can be measured in several ways, including reduced manufacturing costs, greater speed and efficiency, improved customer service etc. While the specifics of reengineering will vary from one organization to the next, there are certain features that are typical of a reengineered process. This includes:

- Creating cross-functional teams
- Streamlining the business process
- Designing multiple versions of a business process
- Sharing information and resources

One of the basic tenants of reengineering is that one organizes around keybusiness process which may be handled by a small, cross functional work team rather than by rigidly defined organizational hierarchies, departments or assembly lines. A cross functional team consists of members from various departments with different skill sets. They meet regularly as a group to solve ongoing problems of mutual interest. Second, reengineering presupposes the ability to identify customer needs and then designing a process and aligning people to meet those needs. A routine request for information, for example, should not be routed among five different departments. Instead, the request should be handled by one person who is given the proper resources and authority to handle such requests. That person now performs the whole process and also serves as the single point of contact for the customer.

In years past, large organizations tended to compartmentalize information. It was not uncommon to find that several divisions within an organization might create their own separate data base. The duplication of effort was both costly and inefficient. Today, the emphasis is on the sharing of information resources across divisional lines

thus promoting greater efficiency in product manufacturing, marketing and distribution. This is at the heart of Enterprise Resource Planning (ERP) which allows various players within a company's extended supply chain to access the same information from a commonly agreed upon information system platform (Zheng, Yen & Tarn, 2000).

HOME BOX OFFICE, INC.

The real move to modern cable television began on November 8, 1972, when a fledgling company named Home Box Office (HBO) began supplying movies to 365 subscribers on the Service Electric Cable TV system in Wilkes Barre, Pennsylvania. That night, Jerry Levin, then Vice-President for Programming, introduced viewers to the debut of HBO. The feature programming for that inaugural night was a hockey game between New York and Vancouver and a film prophetically entitled, *Sometimes a Great Notion.*

From the beginning, HBO developed two important innovations that helped to promote its rapid growth and development. First, HBO introduced the principle of premium television (i.e., business model innovation). Specifically, HBO achieved what no other television service provider had accomplished to date; namely, getting peopleto pay for television. The principle of advertiser supported "free" television was firmly engrained in the mind's of the American public. What HBO did was change public perception about the nature of television entertainment. HBO offered a unique value proposition emphasizing recently released movies and other specialized entertainment that could not be found elsewhere on the general airwaves. While HBO was not the first company to introduce a monthly per channel fee service, they were the first to make it work successfully. This marked the beginning of premium television entertainment (Parsons, 2003). Second, HBO utilized microwave and later

satellite communications for the transmission of programming, rather than distribution by videotape (process innovation). Prior to HBO, there was no precedent for the extensiveuse of satellite delivered programming in the U.S.

Satellite/Cable Networking as a Business Process

A communication satellite is essentially a microwave relay in the sky, operating at 22,300 miles above the earth's equator. It receives microwave signals in a given frequency and retransmits them at a different frequency. Satellites provide an efficient means of reaching isolated places on the earth and are considerably less expensive than terrestrial communication links for select applications. Communication satellites are a versatileform of wireless communication. What distinguishescommunication satellites from other forms of wireless communication is its high orbital position and movement.

The term "geosynchronous orbit" refers to a satellite that operates at 22,300 miles above the earth's equator. The satellite rotates at the speed of the earth. Hence, the satellite appears to be stationary in its orbital position. In principle, a complete satellite link requires a line of sight path extending between the earth station and the satellite. A satellite footprint refers to the signal's area of coverage. The HBO signal, for example, utilizes an east Coast and west Coast feed in order to blanket the entire U.S. Therefore, any cable operating system equipped with an earth station that falls within the footprint of a satellite fed signal and that is locked on to the appropriate transponder is capable of receiving the same signal.

Signal Quality and Strength. In designing the proper satellite communication link, there comes a tradeoff in design. Either one builds small satellites with large earth stations or large satellites with small earth stations. In short, amplification of the signal has to happen at one end or the other. Dur-

ing the decades of the 1960's and 1970's, satellite manufacturers like RCA and Ford Aerospace built small satellites and large earth stations because there was no practical way to launch large satellites with heavy payloads. Subsequent improvements in satellite design and launch capability have allowed designers to put more amplifying power in the satellite or space segment end. This, in turn, has led to a corresponding decrease in the size of earth stations. The direct beneficiaries of such design changes have been the broadcast, cable and direct broadcast satellite television industries (Gershon, 2000; Parsons & Frieden, 1998).

Satellite Advantages

1. *Economies of Scale.* Cost bears no relationship to the distance involved and/or to the number of users. When considering any distance greater then a few hundred miles, the cost of broadcasting via satellite is significantly less expensive than landline transmission. This is because only one relay station is involved; namely, the satellite. The satellite's footprint (or area of coverage) permits many earth stations to simultaneously receive the same signal. Therefore, an economy of scale is realized because it costs no more to transmit television to one earth station then it does 10,000 so long as they fall within the same footprint. This is the key technical / economic underpinning that makes cable television and direct broadcast satellite television possible.

2. *Wide Area of Coverage.* Satellites provide wide area coverage where distance and terrain are not critical factors. This becomes especially important for mobile communication for ships at sea or fleet management. Satellite communication is also good in rural areas that may not have established terrestrial communication links. This is one of the special appeals of Direct Broadcast Satellites for people living in the rural countryside.

3. ***Rapid Installation of the Ground Network.*** The installation of an earth station is relatively inexpensive and can be accomplished quickly. In addition, there is a lower cost per added site. This has been especially important for mobile news operationsin the field as well as military communication.

HBO and the Principle of Cable Networking

HBO's 1975 decision to use satellite communications was significant in two ways. First, it demonstrated the feasibility of using satellite communication for long haul television distribution. As a consequence, HBO was able to create an efficient distribution network for the delivery of its programming to cable operators. Second, the development of the satellite/cable interface would usher in a whole new era of cable programmers that were equally capable of leasing satellite time and delivering their programs directly to cable operating systems, including: WTBS, 1976; ESPN, 1979; CNN, 1980; and MTV, 1981. Thus, was born the principle of cable networking; that is, television programming designed exclusively for cable operating systems and later direct broadcast satellite systems (Gershon & Wirth, 1993). The principle of satellite / cable networking would transform the business process of long-haul television distribution. As cable analyst, Paul Kagan once remarked:

Rarely does a simple business decision by one company affect so many. In deciding to gamble on the leasing of satellite TV channels, Time Inc. took the one catalytic step needed for the creation of a new television network designed to provide pay TV programs. (HBO, Inc., 1984).

Today, HBO has extended its brand worldwide and reaches an estimated 18 million subscribers in more than 50 countries in Latin America, Asia and Central Europe.

DELL COMPUTERS

The company known as Dell Computers was established by Michael Dell in 1984 and has grown to become one of the world's preeminent manufacturers of desktop and laptop computers. Dell builds computers to customer order and specification using just-in-time manufacturing techniques. The company has built its reputation on direct sales delivery to the end consumer combined with strong customer support. Dell's business modelis simple in concept, but very difficult to execute in practice (Kraemer & Dedrick, 2002).

Michael Dell started out as a pre-med student at the University of Texas. Dell soon became fascinated by computers and created a small niche in the assembly and sale of PCs and PC components out of his dormitory room. Dell bought excess supplies at cost from IBM dealers which allowed him to resell the components at 10-15 % below the regular retail price. He then began to assemble and sell PC clones by purchasing retailers' surplus stock at cost and then upgrading the units with video cards, hard disks, and memory. Dell then sold the newly assembled IBM clones at 40% below the cost of an IBM PC (Thompson & Strickland, 2006). By April 1984, with sales reaching $80,000 a month, Dell dropped out of the university and formed a company called PCs Limited. The ability to sell directly to the end user at a discounted price proved to be a winning formula and by the end of 1986, sales had reached $33 million. PCs Limited was renamed Dell Computers in 1987 and the company soon opened its first set of international offices.

From 1990 to 1993, Dell experimented with traditional retail distribution in hopesof faster growth, but soon realized that such methods were less profitable and refocused on direct sales. By 1996, Internet sales had taken off and the company realized that computer savvy shoppers preferred the convenience of custom ordering what they wanted directly from Dell and having it delivered to their door. During this time, Dell had become

master innovators involving two important business processes. The first process was customization using a just-in-time manufacturing capability. Dell built computers to customer order and specification, thereby, eliminating excess inventory and the need for storage. The second important process was direct-to-consumer sales delivery thus avoiding costly investment in retail store infrastructure. It was process model that other computer manufacturers would later adopt (Fields, 2006).

Supply Chain Management as a Business Process

Supply chain management (SCM) is a complex business model that takes into consideration the entire set of linking steps necessary to produce and deliver a product to the end consumer. A supply chain consists of the intermediary steps from the point of product inception (inclusive of the purchase order) to the delivery of the finished good(s) to the consumer. A supply chains consists of the following intermediary steps:

- Research and design teams
- Raw Material Suppliers
- Intermediate Product Manufacturing
- End Product Manufacturing
- Wholesalers
- Retailers and/or Direct Sales

SCM has two distinct and equally important parts: 1) the philosophy and 2) the methodology. SCM philosophy is grounded in the belief that everyone involved in the supply chain is both a supplier and customer and requires access to timely, up-to-date information. The goal is to optimize organizational efficiency and to meet the needs of any and all suppliers and customers. SCM methodology has to do with the specifics of strategy implementation. Through process reengineering, all non-essential elements are eliminated. SCM forces companies to move away from an organizational structure designed around

functional silos toward one designed around the end-to-end flow of business processes. Information is key. To that end, an essential element of any SCM methodology is the ability to share timely information across the entire supply chain system. A well designed SCM system gives automated intelligence to an extended network of suppliers, manufacturers, distributors, retailers and a host of other trading partners (Tarn et.al., 2002; Zheng, Yen & Tarn 2000).

Enterprise Resource Planning. A supply chain is connected by transportation and storage activities and coordinated through planning and networked information activities. When engineers discuss the architecture of a network; they are describing how the physical parts of the network are organized, including: Information pathways (configurations), 2) Terminals (gateways and access points) and 3) Data enhancement equipment (software protocols and add-on devices). Central to any discussion of supply chain management and intelligent networking is the principle of enterprise resource planning (ERP) which attempts to integrate all departments and functions across an entire company onto a single computer system using a common data base and a shared set of reporting tools (Tarn et al., 2002). Dredden & Bergdolt (2007) define enterprise resource planning as "information systems that integrate processes in an organization using a common database and shared reporting tools." (p. 48).

Just-in-Time Manufacturing

Telecommunications has collapsed the time and distance factors that once separated nations, people and business organizations. Communication is instantaneous. The combination of high-speed voice, data and video communication allows both large and small organizations the ability to coordinate the production, marketing and delivery of products on a worldwide basis. The full impact of instantaneous communication can be seen in the area of SCM, global inventory

management systems and just-in-timemanufacturing capability.

Most companies have access to excellent hardware and software capability that enables them to operate in an international business environment. The distinguishing factor often centers on speed and turn around time. Faster product cycles and the ability to train and produce worldwide production teams have transnationalized the manufacturing and distribution process. It is the ability to apply time-based competitive strategies at the global level that enables the transnational corporation to manage inventories across borders. At the heart of time base competitiveness is just-in-time manufacturing which allows a company to meet an order in the least amount of time. Just-in-time manufacturing (and delivery) relies on the use of supply chain management and ERP systems for the purpose of tracking customer orders. ERP systems are designed to interface with Universal Product Codes (i.e., bar codes) or Radio Frequency Identification (RFID) tags which enables a manufacturer or service provider to track the status of a product throughout the entire manufacturing and delivery cycle. In sum, SCM systems integrate and optimize both internal and external processes to the organization. In contrast, ERP systems tend to focus on internal business processes within the boundaries of a single organization. The ERP system coordinates and integrates all information planning activities within a single organization (Tarn et. al., 2002). This can include reacting to customer needs (i.e., answering customer inquiries about production status, delivery dates etc.)

Dell and Global Supply Chain Management

Today, Dell has an international workforce of 35,000 employees located in 34 countries and three major regions of the world, including the Americas, Europe/the Middle East and Asia Pacific. Dell's selection of geographic location and production facilities has largely been driven by it

foreign direct investment strategy, including the perceived profitability of the market and growth potential. Each of the three regional hub sites have their own headquarters and set of assembly plants. Because of Dell's build-to-order philosophy, Dell has evolved a highly sophisticated manufacturing and logistics capability. A global network of suppliers and contract manufacturers support each production facility. Instead of producing all the necessary components itself, Dell contracts with other manufacturers to produce subassembly parts, such as motherboards, microprocessors, monitors etc. Dell maintains control over the final assembly portion, paying particular attention to customized feature elements (Kraemer & Dedrick, 2002)..

Dell's global inventory management system requires an efficient method of communication in order to meet customer demands and to ensure a ready supply of parts on hand to support various kinds of configuration requests. Over time, Dell has built a complex, global wide SCM / ERP system that tracks information between and among suppliers, distributors, and other key component players that involve product manufacturing and support. In addition, Dell has established a specific network of suppliers and contract manufacturers to support each production facility.

In the past, Dell's approach to computer manufacturing involved a standardized assembly line process, whereby, a single individual would install a single component and the partly assembled PC was sent on to the next station. In 1997, Dell undertook a major process redesign known as "cell manufacturing" by which a team of workers would work together to assemble an entire PC at a workstation or cell (Thompson & Strickland, 2006). This technique has resulted in a steep decline in assembly time and increased productivity per square foot of assembly space. According to CEO Michael Dell, this has allowed us "to drive for even greater excellence in quality, cycle time and delivered cost. We will innovate and adapt our supply chain model to help drive

differentiated product design, manufacturing and distribution models." (Hoffman, 2007).

DISCUSSION

There are no short cuts when it comes to innovation. As Hoff (2004) notes, "inspiration is fine, but above all, innovation is really a management process." (p. 194). Putting the right structures people and processes in place should occur as a matter of course – not as an exception (McGregor, 2007). Accordingly, business process innovation (and the intelligent networks that support it) are part and parcel of a greater human and organizational decision-making process (Monge & Contractor, 2003). The goal is to improve organizational performance. HBO's pay cable television service was greatly enhanced by the first-of-its kind satellite-to-cable distribution system thus advancing the cause of cable networking. Dell computer's direct to home retail sales strategy was greatly aided by its worldwide supply chain management system combined with its just-in-time manufacturing capability. Both companies are major innovators in the area of improving organizational performance. This can be seen in Table 2.

Value Creation

What is the value of one good idea or suggestion? Business process innovation is about creating a special value to the organization. Innovation, without value creation, is simply a technology driven effort that may provide incremental improvements to the organization, but does not address the larger question of how to make the organization better. Value creation can translate in many ways and formats. Not every innovative solution has to be a major breakthrough. Sometimes, small incremental changes in the area of business process can make a big difference to an organization in terms of product quality, production and distribution efficiency, cost containment and/or customer service. The Japanese auto industry use the term *kaizen* to describe the principle of continuous improvement. Dell applied the very principle when the company improved its approach to computer manufacturing (and customization) by introducing its cell manufacturing technique. This, in turn, has added value to the company's ongoing just-in-time manufacturing capability.

Developing a Culture of Innovation

Companies, like people, can become easily satisfied with organizational routines that stand in the

Table 2. Comparison of business process innovation and application

	Dell Computers	**HBO**
Major Business Areas Supported	The manufacture of desk top and lap top computers.	The production and delivery of pay cable television services.
Planning Goals	To support extended supply chain management system and help advance enterprise resource planning.	To support cost-effective delivery of television programming to U.S. cable operating systems.
Major Functionality and Benefits	Optimize information flow throughout the extended supply chain; thus enabling global inventory management and just-in-time manufacturing capability.	Satellite-to-cable network interface creates economies-of-scale cost savings for television production company.
Relationship with Customers	Provides timely information on production status and makes possible direct-to home delivery of computer equipment.	Provides premium television services to the end consumer via cable television or DBS.

way of being innovative. Managers can sometimes become preoccupied with fine-tuning and making slight adjustments to an existing product line or business process rather than preparing for the future. Forward thinking companies must be able to deconstruct management orthodoxy. HBO demonstrated this willingness by changing the public perception about the nature of television entertainment. HBO effectively created a new value proposition that television was something worth paying for; especially if the company could deliver premium quality television that was otherwise unavailable to the consumer in 1975. Hence the company's future slogan, it's not just television – it's HBO. But equally important, HBO changed the business process of how television programming was to be delivered to the cable operator, who effectively served as the company's retail outlet. By introducing the satellite / cable interface, HBO changed the business process of long-haul television distribution forever more. As Pilotta, Widman & Jasko (1988) point out, organizations (even large ones) are always human constructions; that is, they are made and transformed by individuals. Strong, innovative companies succeed by creating a culture where everyone has a role to play in making the organization better.

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KEY TERMS

Business Process Innovation: A process is a structured, measured 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 within an organization. Business process innovation involves creating systems and methods for improving organizational performance.

Cable Networking: HBO's 1975 commitment to advance satellite distribution of programming to cable operating systems ushered in a whole new era specialized television programs, including WTBS, 1976; ESPN, 1979; CNN, 1980; and MTV, 1981. Thus, was born the principle of cable networking; that is, television programming designed exclusively for cable operating systems and later direct broadcast satellite systems.

Enterprise Resource Planning: Enterprise resource planning (ERP) attempts to integrate all departments and functions across an entire company onto a single computer system using a common data base and a shared set of reporting tools. The goal of an ERP system is to replace stand alone programs such as accounting, manu-

facturing, human resources, warehousing and transportation and replace them with a single unified software program.

Intelligent Networking: Intelligent networking represents the combination of software, technology and electronic pathways that makes business process innovation possible for both large and small organizations alike. A central tenet is that the intelligent network is not one network, but a series of networks designed to enhance worldwide communication for business and residential users

Just-in-Time Manufacturing: Just-in-time manufacturing means quick turnaround and allows a company to meet an order in the least amount of time. Just-in-time manufacturing (and delivery) relies on the use of supply chain management and ERP systems for the purpose of tracking customer orders.

Reengineering: Reengineering involves a major restructuring (or overhaul) of an organization's key operations. Another term for reengineering is *business process redesign*. There are certain features that are typical of a reengineered process. This includes: 1) Creating cross-functional teams, 2) Streamlining the business process, 3) Designing multiple versions of a business process and 4) Sharing information and resources.

Supply Chain Management: Supply chain management (SCM) is a complex business model that takes into consideration the entire set of linking steps necessary to produce and deliver a product to the end consumer. A supply chain consists of the intermediary steps from the point of product inception (inclusive of the purchase order) to the delivery of the finished good(s) to the consumer. A supply chain is connected by transportation and storage activities and coordinated through planning and networked information activities.