

1

A Look at IT in the Next Five Years

Yet another revolution has begun in the field of information systems. When it is over, IS departments as they are currently constituted will be dismantled. Independent software specialists will dominate the development of systems, programming and other software. Users will completely control individual information systems. (Dearden, 1987)

Business processes will take center stage in eBusinesses, forcing the IT organization as we know it to disappear. Technology management will become the responsibility of business process owners—both inside and outside the corporation. (Cameron, 2000)

At the beginning of the fifth (or sixth) decade of the “information age”—depending on how you count—it is both amusing and frustrating to see the consistency of the pundits on information technology (IT). Predicting the demise of IT seems to be a theme. At the start of the current decade, they’re still at it. Articles with titles like “IT department faces extinction” (Marron, 2000) and “Are CIOs obsolete?” (Maruca, 2000) are challenging the concept of a separate IT department within organizations. The experts cite trends such as the growth of e-business and the rise of application service providers as well as the increasing technical sophistication of users as the reasons that IT, as a separate entity, will likely disappear into the rest of the organization in the future.

Conversely, other research groups are predicting dire shortages of IT staff. The GartnerGroup (1999c) writes:

Through 2004, market demand for relevant and specialized IT skills and know how will continue to outstrip supply.

By 2006, nearly half the workers in developed global economies will be employed by industries that either produce IT or use IT intensively.

Similarly, it has been found that the scope and depth of the chief information officer (CIO) role is expanding, the status of IT is rising in most organizations, and that the CIO's formal power is increasing (Maruca, 2000).

This chapter tries to make sense of the challenges that are facing IT, particularly over the next five years, and how they will shape the organization that everyone loves to hate. We selected a five-year term as being the best time frame in which to predict meaningful change. This has proven to be remarkably accurate in the past (see McKean and Smith, 1996). We believe that to look further ahead than five years is not only extremely difficult, but is ineffective given the pace and rate of change in the business and IT environment. This chapter presents the findings of this focus group. After a brief overview of the environment in which IT will find itself in the not-so-distant future and a look at how IT has changed over time, we then discuss IT's evolving role and responsibilities in each of these areas.

THE CHANGING IT FUNCTION

More so than any other organizational function, IT has had to face pressures for continual change and challenge. For example, in the mid-1990s we wrote: "It is evident that a more sophisticated mechanism for delivering IS to the organization is now required. Like the process of retooling an outdated factory to turn out products faster and more efficiently, the IS function must undergo a change that is no less comprehensive if it is to fulfill its organizational mandate . . . the risk of not doing so is increasing inadequacy and eventual obsolescence" (McKean and Smith, 1996). Five years later, we read, "IT needs to transform itself, the way it operates, the way it does business. Those who are not successful will disappear" (Marron, 2000).

This kind of pressure stems from two sources: the changing business environment and the changing technology landscape. Ten years ago, globalization, merger mania, deregulation, and electronic commerce not only didn't exist, no one had even predicted them (Maruca, 2000). Similarly the relentless improvements in all forms of technology, many of which *were* predicted, have led to a huge variety of applications that have continually surprised and challenged IT and business managers alike. Just keeping up with these vast and varied changes has left everyone breathless. And it is unlikely that the pace of change is going to abate. In fact if there is one thing that everyone agrees on it's that change is going to increase.

While every organizational function has been affected by these business and technology changes, none has faced more of them than IT. This is because as the function charged with delivering technical solutions to business problems, it sits squarely at the intersection of these two massive forces. One way the IT organization has coped is by dramatically expanding the scope and number of its responsibilities. Table 1.1 illustrates how these have changed over the last two

Table 1.1 *IT's growing list of responsibilities.*

1980s' responsibilities	1990s' responsibilities	2000s' responsibilities
Systems development	Systems development	Systems development
Operations management	Operations management	Operations management
Vendor relationships	Vendor relationships	External relationship management
	Data management	Knowledge management
	End-user computing	Infrastructure management
	Education and training	Change management
	Managing emerging technologies	Environmental scanning
	Corporate architecture	Corporate architecture
	Strategic systems	Strategic leadership
	Systems planning	Strategy implementation
		Network management
		E-commerce
		Business integration (CRM, ERP, etc.)
		Resource management
		Risk management

decades. This “add-on” feature is one of the most characteristic features of the changes affecting IT over the last 20 years. It also explains why IT is becoming increasingly more difficult and complex to manage. In fact, some organizations represented in the focus group are beginning to recognize that the demands of managing such an entity are so great that they require more than one person and have created a chief technology officer (CTO) as well as a chief information officer (CIO). Others are creating an “office of the CIO” staffed with several senior people, each with very specific responsibilities (Maruca, 2000).

Whatever the future holds for the IT department itself, it is clear that IT and its central place in the organization will get more important in the foreseeable future. To cope, IT departments will have to adapt. As Table 1.1 shows, IT’s influence now encompasses not only much of the traditional organization, but is also expanding to include the new forms of organization toward which the world is evolving. Looking ahead to the next five years, our focus group managers saw a critical and important role for IT in both these areas, helping companies to adapt to the new business and technological realities they are facing.

THE IT ORGANIZATION IN FIVE YEARS' TIME

Focus group members faced a wide variety of challenges in their day-to-day jobs and each placed a different emphasis on what would be the most important one for their particular IT organization in the future. For example, one manager

Table 1.2 *IT in five years will be different from the previous two decades.*

	1980s' view	1990s' view	2000s' view
IT mission	Technology management	Corporate change	Corporate transformation
IT function	System automation	Corporate re-engineering	Mobilize strategy
IT management	Reactive	Proactive	Anticipatory
IT self-image	Service provider	Facilitator	Catalyst
External controls	Balkan states	Federated republic	Federated network
Internal controls	Metrics	Impact	Value
Staffing	Specialists	Skilled generalists	Business technologists
Systems development	Structured	Evolutionary	Assembled
Hardware/Software management	Planned	Confused	Minefield
In the workplace	Office automation	Automated office	Boundary-less office

believed that IT staffing would be a driving issue behind the future of IT, while others felt it would be e-commerce or the major new technologies that are just hitting the market (i.e., wireless and unlimited bandwidth). However, together the members painted a compelling picture of the shape and face of the IT organization in the next five years. Table 1.2 summarizes their vision and contrasts it with that of the previous two decades. The remainder of this chapter will discuss each of the features of the IT organization of the future.

IT Mission

The concept of the IT organization leading or driving *corporate change* was introduced in the early 1990s, along with the notion of re-engineering. It was the first time that organizations had realized that technology could be used to dramatically change how company processes worked. Instead of “paving the cow paths”, IT could be used to eliminate or short-circuit many time-honored practices. With this realization came a growing recognition that it wasn’t enough to simply change a process with technology, one also had to change the human practices that supported it. Thus was born the concept of IT as a corporate change agent or change manager. However, although corporate change has become increasingly significant during the last decade, what has remained constant is the concept of the organization itself. Today, most organizations are still the same recognizable entities they have always been. This is about to change.

Whereas in the 1990s change focused around processes, in the next five years we will see the beginning of the radical transformation of organizations themselves. The advent of the Internet in the mid-1990s has opened up new possibilities for doing business across organizational boundaries. Tapscott et al.

(2000) suggest that as businesses come to recognize and exploit these opportunities, they will soon realize that technology can be used to create and enhance inter-enterprise effectiveness and efficiency. Over the next five years, companies will initiate major experiments with inter-organization ventures to explore new ways of structuring enterprises to deliver value. Tapscott et al. (2000) predict that several new, inter-enterprise business structures will emerge in the coming decade, such as those that integrate across a value chain (e.g., Dell Computers) or that aggregate goods for other companies (e.g., Amazon.com). IT will provide the means to facilitate such *corporate transformations*, and IT staff will be instrumental both in identifying the possibilities available and establishing the mechanisms whereby these new ways of business will operate.

Internally too, businesses will begin to look significantly different, due to improving applications of technology, integration, and knowledge and to management's increasing need for structures and processes that can respond rapidly to external pressures and growing customer demands. There will thus be a significant broadening of IT's change management responsibilities as companies realize that technology can not only be used to make its processes more effective and efficient but can also fundamentally transform the way business operates.

In short, IT's mission will grow to be more than facilitating change. Over the next five years, we will see organizations expecting IT to be front and center in the drive to transform almost every aspect of the business: from how it delivers value, to how it is structured, to how it operates internally.

IT Function

In the 1990s, business automation for individual departments became increasingly passé. Instead, IT organizations were asked to work with business managers at higher and higher levels in the corporation to develop corporate-wide applications to improve organizational work processes. This involved changing many of the fundamental ways in which work was done—eliminating steps altogether, simplifying processes, integrating them with related processes or by restructuring them. This *corporate re-engineering* function gave IT a new mandate to seek broader corporate-wide synergies and to link existing functional areas in new ways. In the process, businesses cut layers of management and began to see themselves in terms of processes rather than functions. As the decade progressed, it became clear to senior managers that the IT organization and its staff had a much broader corporate perspective than other functional areas, and were thus able to suggest worthwhile new ways of deploying technology across departmental “stove-pipes” to benefit the organization as a whole. Thus, CIOs and IT staff came to be seen as having an increasingly strategic role to play in the organization. By 2000, more than three-quarters of CIOs were either on the board or the executive committee of their respective organizations (Maruca, 2000).

Over the next five years, the IT function will increasingly come to be valued for its unique perspective on both the corporation and technology and its ability to use this perspective to facilitate strategy development and *mobilize strategy* for the business. IT will have two key contributions to make to strategy formation. First, as the Internet and electronic commerce become a greater and greater portion of a business, IT will be expected to play a key role in developing and implementing the organization's e-business strategies. Second, as technology continues to evolve and diversify rapidly, IT will be expected to become more strategic about its technology policy and to present this strategy to senior management in ways that can be effectively integrated into business strategy.

These new strategic functions will require IT staff and management to develop new competencies, such as business acumen and leadership skills. They will also mean that, for the first time, IT decisions and actions will be in an area where they will have a direct impact on the corporate bottom line. Whereas in the past, the influence of systems has been mediated by other company staff, increasingly over the next five years, through the Internet and other customer-facing technologies, IT systems will interact directly with customers. Thus, the IT function will, of necessity, become more outward-looking and more concerned with business value than previously. It will also become more visible both within the organization and externally. For example, focus group members noted that they have already begun to see their stock prices vary as market analysts assess their company's e-commerce strategies. This pressure can only increase in the near term as both customers and the market vote with their dollars on the quality of IT's work.

IT Management

Focus group members believe that there is no question that the job of the IT manager has got increasingly complex. As Table 1.1 demonstrates, over the years more and more responsibilities have been heaped on IT's plate. But the *tone* of management is also changing. In the 1980s, responding to user criticisms that it was inflexible and bureaucratic, IT tried to *react* to users' needs by creating support functions and adopting client-centered methodologies. However, in the 1990s this style of management was no longer enough. Many IT managers were dismayed to discover that their users expected them to be *proactive* in their vision for how IT could help the company respond to business change by improving processes and developing new products and services. During this decade, IT managers explored a variety of ways to develop this skill. For example, they looked for ways to effectively combine a client-centered business orientation with the knowledge of how IT can change and improve company processes.

In the future, however, even more will be expected of IT managers. In the rapidly changing business and technical environment in which they will be operating, IT managers will be expected to *anticipate* coming trends and to propose business strategies to take advantage of them. As business cycles

shorten to become almost spontaneous and technology outstrips the ability to assimilate it, IT managers will be expected to look even further forward and develop strategies that will enable the company to fulfill needs *as they develop*. Thus, the key skill that IT managers will have to develop is the ability to “get ahead and stay ahead of the curve” in both business and technology strategy.

To do this, IT managers will have to dramatically increase their environmental scanning skills so they can learn about new technologies and the new applications of those technologies. They will also have to develop their research and development capabilities to explore and gain experience with these technologies and what they can do. Because of the difficulties involved in predicting the future in such an unpredictable area, many IT managers will begin to use “real options” thinking (Amram and Kulatilaka, 1999) to develop and design hedging strategies for their organizations. This will require a more flexible approach to technology policy and architecture than has been used previously.

IT managers will also need a more in-depth knowledge of business than in previous decades. As they realize that they need to better understand the business trends facing the company, IT managers will develop new links with the parts of the business designed to monitor customer feedback and business trends, and develop new products. Initially, IT will do this by assisting the business to develop better tools to analyze and identify business information, such as customer reactions, patterns, incipient trends, and consumer needs. As they acquire a clearer understanding of what business is looking for, a much tighter IT–business partnership will develop than has existed in the past.

IT Self-image

How IT views itself internally is key to how it performs. In the 1980s, IT saw itself as a service provider to the business community and designed its processes, structure and metrics accordingly. In the 1990s, however, IT saw its major role to be that of a *facilitator* of business. Its main job became providing the technology and tools that the business needed to do its work. Thus, IT infrastructure became much more important in the last decade. IT organizations developed PC “work-benches” or suites of software for users to access as needed in their work, and large, integrated databases were developed (i.e., data warehouses) for users to explore and do their own analysis, rather than having to rely on preformatted information from an IT system. Over the last decade as well, IT organizations came to recognize that facilitation of business did not necessarily mean that IT itself had to provide all IT services. Thus, IT organizations began to help users to find consultants and to outsource non-core functions (e.g., operations). By the end of the decade, many IT organizations saw themselves as coordinators of technology delivery to the business, rather than the sole providers of it.

In the future, IT will have to change its self-image yet again to accommodate the more active role it will be taking in business. To underscore its responsibilities for business transformation, IT will come to see itself as more of a *catalyst* in

identifying and delivering new forms of value to business. In adopting this self-image, IT will have to be careful if it is not to be perceived as arrogant. IT in and of itself will never be solely responsible for business transformation and new business strategy, no matter how important technology is to the business. Instead, IT must view itself as a chemical agent that, when added to other substances, will cause something completely new and different to occur. As a catalyst, IT can start things happening in organizations that would never have occurred without it; it can stimulate new ideas and start people thinking about new possibilities. This is an exciting role, but it is also one that requires considerably more business acumen and leadership skill than being a mere facilitator. Therefore, it is essential that IT groom and develop its people to be prepared for the role. An effective catalyst must pay more attention to the mixture of relationships, politics, finance, business reality, and technology potential than it has in the past and use its judgment as to whether a new idea will create something new and valuable or merely result in a chemical disaster.

External Controls

As the IT function matured in organizations during the 1980s, companies experimented widely with different forms of governance structures. By the end of that decade, IT functions typically had a wide range of relationships with different departments, and very few controls and standards had been established. Over the 1990s, most IT functions adopted some form of *federal model* of governance, which operated much like a country of united states. In this model, individual user groups were free to make their own IT decisions until they wanted to use the corporate infrastructure. Then, they had to follow corporate standards. By the end of the decade, the need for corporate IT standards and controls over such things as security, communications, and data for new applications had been accepted by most business groups, although IT organizations were still playing catch-up with legacy systems developed in earlier years.

Over the next five years, the need for corporate standards will grow as companies pursue ever greater levels of integration. The adoption of enterprise-wide software packages, such as enterprise resource planning (ERP) and customer relationship management (CRM) will reinforce this need, as will the need for hardware and software to be "plug and play". However, the new challenge IT will face will be how to establish such standards and controls across the network of businesses and customers with which the company will increasingly interact. This will reinforce the need for intra-organizational standards and controls so data and transactions can be easily exchanged. Already some industries, such as the oil and gas industry, have adopted a common data model that greatly facilitates mergers and acquisitions. Architecture standards are growing increasingly "open" too. This process will ultimately lead to a *federated network* of standards and controls to which all groups must ascribe. There will however be no single set of external controls. Instead, they will be established in a variety

of places according to the type of control involved. Industry and technology groups will lead some standards efforts as will major players in a particular field (e.g., Microsoft, the US government). In addition, concerns for security and privacy will hasten legislation and both government and self-regulation in these areas. Organizations of all types will begin to cooperate, especially in the area of security. Companies can expect some form of federal government coordinating body will be established in this area by 2005. In short, standards and controls will increasingly come from a variety of places *outside* the organization for any type of computing that involves using the network. While internal standards and controls will still have a place, they will be relatively diminished by the greater need to establish an open network.

Internal Controls

In the 1980s, fed up with expensive systems disasters and unresponsive IT organizations, it was the accepted wisdom among managers that IT had to be brought under control (McKeen and Smith, 1996). Thus began a fascination with IT performance metrics that has lasted (in some form) up until the present day. In the 1990s, however, it became increasingly obvious that focusing on metrics alone resulted in some very poor systems with great metrics. Therefore, executives and researchers alike began to look at what *impact* information technology was actually having on the firm. They realized that simply delivering systems was not enough. The systems actually had to be beneficial to the organization. Thus, over the last decade, both IT and business departments have been increasingly held accountable for what a system contributes to the bottom line of the business. Unfortunately, this has all too often been interpreted as cost savings, which are considerably easier to measure, than to increased revenues or new opportunities, which are often more nebulous and more difficult to attribute to the use of IT alone.

In the next decade, it is likely these simplistic measures will be refined and made more sophisticated. IT will be assessed not only according to its impact on the bottom line or even according to whether or not applications were delivered on time and on budget, although these will still be important. The major, internal yardstick in IT's future will be the *value* that it delivers to the enterprise. This will take many forms, such as the ability to offer new products and services, to become more competitive, to participate in new markets, to operate more effectively, and to develop new capabilities. While value will frequently be defined as new value, companies will also begin to realize that the ability to *leverage* existing people, technologies, and information more effectively also delivers value. In the past, once a system was developed IT management saw very little significance in the ongoing effort to maintain and upgrade it. Maintenance was seen largely as an overhead function—a necessary evil. Over the next five years, IT management will begin to recognize that companies can frequently exploit current applications of technology more extensively. IT organizations will therefore look for ways to

use existing infrastructure and applications more fully to deliver some “quick hits” of value to the business.

Increasingly, delivering value will come to be seen as a team effort—something that cannot be done without the unique skills and abilities of both the IT and the business members of the team. Interestingly, however, identifying value in advance will continue to remain an elusive skill. While there will be great successes in installing a particular piece of hardware or functionality in a particular company, there will be no guarantees that adopting it will yield the same value in another company. This will refocus management’s attention more fully on the non-technical aspects of value. Capabilities, cultures, and management themselves will increasingly come under the microscope to determine how they contribute to the value that can be derived from IT.

IT Staffing

It has always been a challenge for IT to acquire the right mix of skills in its IT staff. During the 1980s, a number of different *specialists* were developed as technology became more and more complex. Unfortunately, handoffs between them became problematic. In the 1990s, therefore, there was a move to develop more *skilled generalists* who would be able to bring a set of systems skills and disciplines to specific situations and adapt, by learning, the specialized tools and techniques that are required. While this helped certain business-facing parts of IT (e.g., project management and systems analysis), the need for highly skilled specialists in certain “hot” areas remained. In 1996, we suggested that “careful attention must be paid to the people resource if IT is to excel.” Today, the rash of material around the IT “staffing crisis” (GartnerGroup, 1999b), combined with the focus group’s personal experiences, suggests that these warnings have not been heeded. Staffing IT is and will continue to be a growing problem over the next five years.

With the explosion of IT work taking place at present, most organizations will face serious skills shortages over the next five years. As in the past, management will have to resort to hiring specialists from consulting firms to fill the need for high-demand technical skills. Over the next five years it will be essential for IT organizations to develop individuals’ professional skills and recognize different career paths for different types of IT staff. The experts are predicting a growth in demand for such “soft” skills as relationship management, strategic and analytical thinking, and portfolio management (GartnerGroup, 1999a). They also suggest that the competencies needed by IT staff are expanding rapidly and include both technical and business skills. While focus group members agreed that these are and will be required, they also noted an ongoing need for specialists in key technology fields. Thus, over the next five years, it appears that, while the majority of IT staff in any particular organization will evolve to become *business technologists*, there will also remain a strong need for technical specialists, which companies will increasingly fill with skilled contractors.

Systems Development

In the last two decades, systems development has moved from a highly structured process to one that is more flexible and fluid according to the circumstances. During the 1990s, businesses placed increasing amounts of pressure on IT organizations to develop more adaptable systems in shorter delivery cycles. IT organizations responded by developing systems in smaller pieces, making greater use of prototypes, and providing users with more dynamic control over discretionary items, such as report and display formats, and even process logic. Thus, systems came to be developed in a more *evolutionary* fashion. During this time, the older style, structured systems development life cycle has been gradually abandoned in favor of an approach that marries strong project management disciplines with a much more eclectic and modular development approach that may include: packaged software, custom software, legacy software, and end-user tools. Development teams, also, look very unlike those of the past. Increasingly they are composed of equal numbers of users and technical staff (including contractors). Pieces of systems are often developed separately by teams of consultants or specialists in a particular area (e.g., telecommunications, Web-development) and then plugged in. Proprietary data files, owned by a system, are mostly things of the past.

In the new decade, these trends in systems development will continue to escalate as the pressures increase for faster development and more functionality. To address these, over the next five years systems development will increasingly become a matter of *assembling* system pieces rather than coding new software. More and more systems developers will try to cobble existing software and tools together with new technology to create new value for the organization. In addition, knowledge management will become more and more important and a significant amount of development effort will revolve around acquiring or building the means to manipulate corporate and customer information. To this end, ongoing efforts will be made to standardize corporate data and processes so that the entire company has one look and feel to its systems. As bandwidth becomes less of a restriction, companies will begin to add more multimedia features to their systems. This, however, will not be a major feature of systems over the next five years. And, naturally, the Internet and its intranet and extranet siblings will play a huge part in all future development. Over the next five years, substantial efforts will be made to retrofit most existing corporate systems to make them accessible over the Internet and to make the company available to its customers around the clock.

With the IT staffing crisis looming large, IT organizations will also have to modify their development teams—making increasing use of external contractors for technological components and users to work on business requirements and interface issues. IT staff, with their strategic perspective and business technologist skills, will be required for their “big picture” view of the overall initiative. More and more, they will be used to maintain the linkages between the various parts of

the development team through relationship management, coordination skills, and intelligent integration. A company's development staff will come to be utilized more to pull a variety of disparate people and platforms together to achieve a desired result and to identify and resolve problems and issues that threaten the delivery of the system than for the actual development of software. Thus, they will come to be seen much as general contractors in the construction industry. These people may do some of the actual building work, but they may not. However, they always assume responsibility for deadlines, relationship management, project management, and risk management.

Hardware/Software Management

Over the last decade, hardware and software management has become increasingly *confusing* for IT managers. The proliferation of hardware available and the increasing number of vendors has kept managers running hard just to keep up. Today, most IT organizations interact with a network of vendors for a variety of purposes. This has meant that the task of managing all the relationships involved, and sometimes managing the relationships between two vendors, has become a larger and larger challenge for IT.

Over the next five years, these trends will grow to a different level of intensity because of the impact that IT architectural decisions will have on the business. In the past, infrastructure was largely seen as a technical decision and best left to the experts. As organizations come to view infrastructure as strategic to the enterprise, hardware and software management decisions will become more and more visible in the organization. Thus, it will become a *minefield* for IT management, which could blow up in its face if it makes the wrong technology decision. For this reason, IT managers will begin to pay more serious attention to the development of technology strategy. This strategy will not simply make architectural decisions for the organization, however. It will also be devised to hedge against the wrong choices being made. Rather than investing in a single technology direction, organizations will begin to explore and develop options—to various degrees—in multiple technologies. Risk management will become much more fully refined in this area as a result, and companies will begin to look at their technology strategy as a portfolio of options rather than as a static, cast-in-concrete architecture.

In the Workplace

During the 1990s, IT organizations focused on developing an *automated office*. They ensured that all users were connected electronically in some way and had access to the basic software they needed in order to function. Many IT organizations developed a standard suite of office software and integrated corporate systems into office PCs when and where they were needed. Policies and standards were established to ensure that systems were kept secure and that viruses

and non-approved software were not introduced. These practices worked reasonably well until the later part of the decade when the Internet opened organizations up to the world. Almost overnight, not only could employees communicate electronically with others outside the firm, customers and other companies could access the company—both its people and its systems. All of a sudden, the concept of a self-contained automated office appeared both quaint and dangerously out of date.

Over the next five years, the Internet will be the catalyst for changing the workplace. While many features of the future workplace have already been introduced (e.g., email, online access, multi-media, integrated software, partnerships with external organizations), they have not yet come together to change most offices in dramatic ways. This is about to change. In the near future, offices will open up more and more to the outside world until the workplace becomes truly *boundary-less*, and work is conducted in cyberspace rather than the workplace. Remote workers, mobile workers, home workers, networked workers, virtual workers will all become a reality over the next five years in many companies. Similarly, as companies themselves become boundary-less, the space in which they do business will also change from “bricks and mortar” to “clicks and mortar”. IT will be kept busy enabling not only company functions, but also office support anywhere, anyplace, anytime since existing security and infrastructure will not be adequate to cope with the new demands. The workplace will perhaps see some of the most observable changes in organizations over the next five years. By 2005, through IT, the entire look and feel of a company to both its customers and its workers will be fundamentally changed and the virtual office will have arrived.

CONCLUSION

This chapter has explored the ongoing evolution of the IT function in the organization. In particular, it has tried to identify the ways in which key elements of the IT function will be different in the future than in the past. It has shown that IT is becoming increasingly central to corporate strategy in many ways. Not only will IT be making a major contribution to a firm’s business and technical strategic visions for the future, it will also have a primary role in implementing and mobilizing these strategies. IT will therefore increasingly need to anticipate the company’s future direction and to provide the information and infrastructure to ensure that the business will be in the right place at the right time. With the walls of the organization beginning to crumble and firms exploring new ways of working and delivering services to their customers, IT will be expected to act as the catalyst for this transformation. IT itself will also be changing to accommodate these needs with new ways of developing systems and partnering with other companies to deliver value to the organization. The pressures involved will place a significant strain on IT staff, and it is expected that recruiting the right

types of business technologist for a company will be a considerable challenge. The next five years will not be easy ones, but they will be exciting as IT managers experiment with and explore ways to facilitate the organization of the 21st century.

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