Management of Information Technology: The Study on Strategy, Planning and Policies

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Abstract

In recent years, Information Technology (IT) has been changing at a breathtaking pace. Although this rapid IT change has created opportunities, studies have shown it is challenging those responsible for it around the world (1). IT projects are notorious for budget overruns and delays, and rapid IT change can exacerbate these problems.

Rapidly changing IT is enabling today's huge growth in electronic commerce and Internet business. IT will continue to change with alacrity. One study estimated the rate of IT change as 20 to 30 percent per year and accelerating. Industry observers have further claimed that this change is challenging today's IT management (2).

Introduction

In recent years, information technology has skyrocketed in capability and plunged in cost. Increasing competition in the market place is compelling organizations to continuously search for new and better methods for reducing cost and increasing productivity. Information technology (IT) has become one accepted vehicle for enabling key business process changes that can give an organization an edge over its competition (3). IT and business, as we all know always closely intertwined, are now becoming virtually inseparable. In fact, it is difficult to imagine a business today that does not in some way rely on IT as a foundation for its success. At the same time, IT continues to change rapidly. While maintaining their traditional role of increasing organizational efficiency and effectiveness, IT departments are now often required to lead businesses into new industry structures and markets. In fact, recent study conducted by The Economist Intelligence Unit, called “Assessing the strategic value of information technology, planning perspectives for Sr.Executives,” (2), indicated that an increasing number of business executives plan to leverage their IT investments and balance their IT goals toward allocating technology investments to programs aimed at reaching new markets or changing industry and market practices, as opposed to using technology simply for efficiency or effectiveness purposes. Because IT systems are also the production line of today’s online business, IT failures are now business failures, suggesting the need for more rigor in IT management. Clearly, the management of IT is no longer solely an IT issue- it is a business management issue of great interest to CEOs and CIOs alike. On top of that, IT management must realize the potential of new IT while avoiding its risks. Mistakes can be costly, and it is virtually impossible to have experts on all emerging ITs (3). Combined with rapid IT change, lengthy acquisition and implementation processes can obsolete many ITs before they ever actually contribute to their intended purpose.

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Strategies

Satisfying speed to market requirements for new services

Too often, organizations launching new products or services initiatives resist implementing a structured IT management system under the belief that such rigorous structures impede their ability to react to the fast-paced world of information technology. These companies consider speed to market the most important criterion for introducing new services. However, companies that lack a solid IT infrastructure, including a rigorous IT management system, hastily entering the market first, also expose themselves to the risk of failing first (4). To date, markets have not proven tolerant of service delivery failures, regardless of the whether the cause was technology or business process failure.

Provide standard procedures and documentation

Manuals of standard procedures for the operation of information system are typically developed and maintained. Following standard procedures promotes uniformity and minimizes the chances of errors and fraud. It helps employees know what is expected of them in operating procedures and output quality. It is important that procedures be developed for both normal and unusual operating conditions. For example, procedures should tell employees what to do differently when their computers are not working. Finally, system, program and operations documentation must be developed and kept up-to-date to ensure the correct processing of each application. Documentation is also invaluable in the maintenance of a system as needed improvements are made.

Provide an enterprise IT management system

In order to achieve maximum leverage from IT investments, corporations need to centralize authority for making some key technology decisions (5). At the same time, IT delivery functions within divisions often define a system for managing their own departments. They use their own culture and environment to guide their IT management approach, relying heavily on corporate wide norms established by the centralized authority can vision, goals, financial objectives and guiding principles. This centralized authority can be ‘real’ or ‘virtual’ organization made up of leaders spread throughout the company, but its influence must be consistently applied throughout the enterprise.

When developing an enterprise IT management system, those responsible for an organization’s use of technology must first define the component parts of that management system. They must then assign ownership and authorities associated with those activities, finally integrating them into a comprehensive IT management system for the enterprise (4).

Provide Global System Development

Naturally, there are conflicts over local versus global system requirements, and difficulties in agreeing on common system features such as multilingual user interfaces and flexible design standards. And all of this effort must take place in an environment that promotes involvement and “ownership” of a system by local end users. Thus, one IT manager estimates it takes 5 to
10 times more time to reach an understanding and agreement on system requirements and deliverables when the users and developers are in different countries (5). This is partially explained by travel requirements and cultural differences, but technical limitations also contribute to the problem.

Manage Global Data Issues

Managing global data issues have been a subject of political controversy and technology barriers in global business operations for many years. A major example is the issue of transborder data flows (TDF), in which business data flows across international borders over the telecommunications networks of global information systems. Many countries view transborder data flows as violating their national sovereignty because it avoids customs duties and regulations for the import or export of goods and services (5). Other countries may view TDF as a violation of their privacy legislation since, in many cases, data about individuals is being moved out of the country without stringent privacy safeguards. Still others view transborder data flows as violating their laws to protect local IT industry from competition, or their labor regulations for protecting local jobs.

Manage Global IT platforms

The choice of technology platforms is another major dimension of IT management. That is, what hardware, software, telecommunications networks, and computing facilities will be needed to support our global business operations? Answering this question is a major challenge of global IT management. The choice of a global IT platform is not only technically complex, but also has major political and cultural implications.

For example, hardware choices are difficult in some countries because of high prices, high tariffs, import restrictions, long lead times for government approvals, lack of local service or spare parts, and lack of documentation tailored to local conditions. Software choices can also present unique problems. Software packages developed in Europe may be incompatible with American or Asian versions, even when purchased from the same hardware vendor. Well-known U.S software packages may be unavailable because there is no local distributor, or because the software publisher refuses to supply markets that disregard software licensing and copyright agreements.

Manage Computer Failure

Many firms also use fault tolerant computer systems to ensure against computer failure (6). These systems have multiple central processors, peripherals and system software. This may provide a fail-safe capability where the computer system continues to operate at the same level even if there is a major hardware or software failure. However many fault tolerant computer systems offer a fail-soft capability where the computer system can continue to operate at a reduced but acceptable level in the event of a major system failure.

Policies

Satisfy customer relationships
A successful IT management structure must have a solid set of processes in place for interfacing and communicating with customers. By establishing a good rapport with customer IT organizations can improve all forms of customer interaction including translating customer requests into solutions, delivering services and support, and accessing customer satisfaction. One example would be companies like airlines or hotel chains that have global customers, that is, customers who travel widely or have global operations. Such companies will need global IT capabilities for online transaction processing so they can provide fast, convenient customer service to their customers or face losing them to their competitors.

**Keeping pace with the new purpose and structure of IT**

Since IT environments today are dramatically different from the host-centric systems of 20 years ago, every organization should have a policy in order to keep pace with the new purpose and structure of IT. Today, IT systems span complex networks with multiple access points and servers, hundreds of software components and thousands of computing devices.

With the introduction of distributed computing and client/server technology in the 1980s, many organizations abandoned a centralized IT decision-making unit (7). Today, businesses recognize the value of leveraging a consistent application of technology across the entire organization. In addition to their area-level responsibilities, individual IT domains must also interoperate with each other to meet common goals (8). Moreover, key corporate assets—such as databases and networks—need to be maintained in standard, centrally controlled repositories to improve accessibility and derive maximum benefit for the organization.

**Efficient and Effective Disaster Recovery**

Natural and man-made disasters do happen. Hurricanes, earthquakes, fires, floods, criminal terrorist acts, and human error can all severely damage an organization’s computing resources, and thus the health of the organization itself. Organizations dependent on voice telecommunications, data telecommunications, video telecommunications creation or computer services for carrying out their mission must make sure that they cater for disaster recovery (9). Besides these organizations, organizations like airlines and banks for example, are crippled by losing even a few days without hours of computer power. Many firms could survive only a few days without computing facilities. That is why an efficient and effective disaster recovery is a necessity policy whereby each and every organization should have. Thus, each organization is responsible and accountable for its own disaster recovery.

**Gain competitive advantage**

Managing technological innovations can be used to gain cost advantage through pioneering lower-cost product design and creating low-cost ways to perform needed operations or they can support differentiation by pioneering unique products or services that increase buyer value and thus command premium prices (10).

In some cases, a new technology can completely change the rules of competition within an industry. Leading companies that respond inefficiently to technological opportunities can falter while new companies emerge as the dominant competitors. The stories of how Microsoft and Intel grew from the opportunities provided by IBM are now well known.
Planning

Disaster Recovery Planning

Each organization is responsible and accountable for its own disaster recovery plan. A disaster recovery plan must contain information to enable information technology management to ensure the organization’s ability to resume mission critical computing and telecommunications services and operations. Besides that, a disaster recovery plan may contain references to another organization’s disaster recovery plan or to an agency’s internal policy, standards or procedures manual (11).

If an agency purchases IT services from another organization, the agency must make certain its disaster recovery plan for those services fits with the service provider’s plan. If two or more agencies participate in operating an information service facility, they must develop a joint disaster recovery plan that meets their mutual needs. Besides that, a disaster recovery plan helps to specify which employees will participate in disaster recovery and what their duties will be and also helps to prioritize applications that will be processed (11).

IT Investment Planning

IT investment planning is a systematic process for linking each agency’s investment in IT to its business strategies, objectives, programs and processes. The planning includes determining how well technology is currently meeting the business needs of the agency, identifying services gaps or technology opportunities that could improve agency performance and defining investments that will deliver desired business outcomes as well as customer satisfaction levels with the best value over the investment cycle (12).

Portfolio Planning

The portfolio planning process replaces the development of agency strategic and tactical plans for IT. It structures executive decision making in the selection of IT investments and feeds directly into the biennial budget process. Portfolio planning will help ensure that IT will effectively support the accomplishment of the agency’s business strategies (12). For example, in many agencies the identification of opportunities for the use of electronic funds transfer has enabled fundamental business process improvement. Similarly, geographic information system technology may offer a whole new paradigm for the organization and use of information in agencies whose missions revolve around geographic considerations (12).

Conclusion

Rapidly changing IT offers huge, potential benefits to organizations. However, IT is changing at a rapid rate and the management of IT has increased in importance. This research contributes to the understanding of the management of information technology. It identifies the strategies that need to be implemented in managing information technology. Besides that, this research also identifies some of the policies and planning involved in managing IT.
References: