Employers Perspective in the Management and Usage of Information Technology

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Abstract
Information technology is what is trending today globally because of the important role it plays in a growing world of economy. Accordingly, various organizations are becoming increasingly beneficial from continuous investment in the information technology as well as the use of it. This study aims to illustrate what it entails to set up an information technology infrastructure in an organization. The paper further attempts to elucidate the extent of information technology as a functional area within an organization from the employer perspective. The study concludes that since the information technology environment is important in the decision making process in any organization/company, employers should strive to embrace its usage.

Key Words: *Employer perspective, functional area, information technology, infrastructure*

Introduction

Of recent times the role of information technology has taken a centre stage as a driver of the economy is as such regarded as an important resource for organizations to improve their market positions in the long term by provision of timely appropriate information (Burt & Taylor, 2003). Globalization in business world has increased the chance of getting a greater amount of information in much less time. As a result, companies are forced to spend more time and energy on handling the increased information load (Brown, 2005) (Coex & Kreger, 2005).

For many organizations, the increasing availability of technologies has resulted in ambiguity in their management (Laudon, 2009). This is due to management and support services of these complex and heterogeneous provision of different gadgets such as PC's, desktops and Laptops. Applications of mobile and wireless devices, printers, and networks have proven difficult and expensive for most organizations that want to implement information technology.

According to OECD (2002) information technologies play an important and growing role in the world of economy and organizations, companies, industries and governments are getting increasing benefits from their continuous investments in information technology as well as from a wider use of the internet in a knowledge-based economy. As information systems are designed to provide effective help in this process, they are becoming increasingly popular among companies and employers due to the robust technological development (O'Brien, 1999).

This paper deals with what information technology is as well as the usage of information technology among employers in their enterprises and analyzes the following three key questions: how the usage of information technology influences an organizations economic performance, what is required for an individual company to develop its information technology infrastructure and finally, to what extent information technology is considered important as a functional area within the organization from the employers perspective (Coex and Kreger, 2005).

1.1 What is Information Technology?

Information Technology (IT) can therefore be summarized as a set of all activities and solutions provided by computing resources and, with applications related to several areas (Burt & Taylor, 2003). Information Technology is also commonly used to denote the set of non-human resources dedicated to storage, processing and communicating information as well as the mode of how these resources are organized in a system capable of executing a set of tasks. IT is not limited to equipment (hardware), software (software) and data communications. There are technologies for the planning of Computing, for the development of systems, for the support, for the software, for the processes of production and operation and for the support of hardware. Thus IT covers all activities developed in society by using the resources of computers.

1.2 How the Usage of Information Technology Influences an Organizations economic performance

It is very clear that the world is flat due to information technology (IT). IT has wired the world and brought about global business (Brown, 2005). However basing on the Information Systems Strategy Triangle, a company has to balance its business, organizational and information systems strategies so as to be successful (O'Brien, 1999). Just like in enterprises, today's employers in companies and organizations depend on information technology IT to help drive competitive advantage. Whether you're running a small legal firm or a midsize finance company, you know that business performance is increasingly tied to your ability to keep the IT systems operating at peak efficiency.

But for organizations with more modest IT resource and personnel, IT management and maintenance can be a difficult job to do. Routine system monitoring and maintenance can eat up time and resources that could be better used to help run the business more efficiently and make it more competitive. And when something does go wrong, it can be a nightmare employees can't get their jobs done, customers can't get service, orders can't be processed and supplies can't be ordered.

Most employers understand the value of IT, and know that the right solutions are critical to streamline operations and processes, Improve communication and collaboration, and better serve customers and employees, especially in tough economic times. Organizations need technology to help compete more effectively against larger enterprises –it is therefore of no surprise that most analyst firms forecast that organizations adoption of new IT solutions and services is growing at a faster rate.

Many organizations are challenged by the growing complexity of their IT environment. Even the relatively modest businesses may need to manage several desktops and notebooks, handheld devices, servers, a network and applications to successfully transact. However, many organizations don't have any depth or resource to dedicate solely towards the plethora of IT maintenance and monitoring tasks in today's modern IT environment. IT complexity grows as the organization grows in size -more employees, devices, servers and software solutions to look after. You're also likely to have multiple locations, and have to support users and systems in these locations-adding to management time and hassle. The number of people that work remotely from a tele-commuter who is working at home, to sales and service people working on the road- is growing in organizations of all sizes.

According to OECD (2002), the Information Technology IT play an important and growing role in world economy, and companies and industries are getting increasing benefits from their continuous investments in IT, as well as from a wider use of the Internet in a knowledge-based economy. IT has stimulated innovation in services, increased the efficiency of production and creation, and at the same time, facilitated the management of inventories and administrative costs.

It is a catalyst of changes in companies, improving the organization of work, helping companies to reduce the cost of their routine transactions and streamlining their supply chains. So crucial is IT especially when associated with the raise of the level of skills and organizational change, and apparently seem to support the improvement of productivity within enterprises, both in new sectors and in traditional ones. Such benefits have long term effects and will continue to develop, despite the difficulties and challenges with which companies are facing today.

1.3 Other Applications of IT

Many new applications of IT have a potential meaning and may have economic and social impacts, as well as a key role in the bonding and in the convergence of the various technologies. Among these emerging technologies are the ubiquitous networks, which enable monitoring of people and objects as well as tracing, storing and processing of information in real time. Applications such as radio frequency identification (RFID) and other technological sensors are being used in applications for commercial use. The technology of prevention and warning of natural disasters are becoming more important for reducing the impacts of disasters which result in large economic losses.

The participatory Web (Web 2.0) is the active participation of users on the Internet, creating contents; they adapt the Internet and develop applications for a wide variety of fields. The digital content represents an important factor in the IT industry. Technological innovation and demand of new consumers are leading to new forms of creation, distribution and access to digital content. The convergence in applications such as convergence of nanotechnology, biotechnology, neuro-technology and robotics, probably, will provide more opportunity and challenges for companies and employers operating in the IT sector (OECD, 2006).

1.4 Setting up an Information Technology Infrastructure

In the last quarter of this century, a new form of socio-economic organization has emerged. After the collapse of statism, in the Soviet Union and throughout the world, it is certainly a capitalist system. Indeed, for the first time in history the entire planet is capitalist, since even the few remaining command economies are surviving or developing through their linkages to global, capitalist markets (Sasvari &Majoros, 2013). Yet this is a brand of capitalism that is at the same time very old and fundamentally new. It is old because it appeals to relentless competition in the pursuit of profit, and individual satisfaction (deferred or immediate) is its driving engine. But it is fundamentally new because it is tooled by new information technologies that are at the roots of new productivity sources, of new organizational forms, and of the formation of a global economy.

As people and companies rely on basic infrastructures to function, businesses also rely on an information systems infrastructure (consisting of hardware, software, networks, data, facilities, human resources, and services) to support their decision making, business processes, and competitive strategy (Erickson & Howard, 2007). Business processes are the activities that organizations perform in order to reach their business goals and consist of core processes and supporting processes. The core processes make up the primary activities in the value chain; these are all the processes that are needed to manufacture goods, sell the products, and provide service, and so on.

According to Allen and Westby (2007), almost all of an organization's business processes depend on the underlying information technology infrastructure, albeit to different degrees. For example, an organization's management needs an infrastructure to support a variety of activities, including reliable communication networks to support collaboration between suppliers and customers, accurate and timely data and knowledge to gain business intelligence, and information systems to aid decision making and support business processes. Therefore, organizations rely on a complex, interrelated information technology infrastructure to effectively thrive in the ever-increasing, competitive digital world.

Core ⟶	Inbound Logistics	Operations & Manufacturing	Outbound Logistics	Marketing & Sales	Customer Service
Support	Administration				
	Firm Structure				
	Human Resource				
	Technology Development				

	Procurement

Fig 1.1: A Generic Value Chain showing an Organizations Core &supporting activities, Adopted from Managing Information Systems Infrastructure, Chapter 4.

In order to make better decisions, managers at all levels of the organizations as shown above need to analyze information gathered from the different business processes. The processes of gathering the information as well as the information itself is commonly referred to as business intelligence. Whereas some of these processes obtain the information from external sources—such as marketing research or competitor analysis—other processes gather business intelligence from internal sources, such as sales figures, customer demographics, or performance indicators (Buckley et al, 2008). While there are a variety of different systems used for gaining business intelligence, all gather, process, store, or analyze data in an effort to better manage the organization. In other words, modern organizations rely heavily on their information technology infrastructure; its components include the following:-

- Hardware
- Software
- Communications and collaboration
- Data and knowledge
- Human resources
- Facilities

All these when well set up in an organisation present solutions that can help support an organizations competitive strategy, decision making and business process. Setting up an IT infrastructure entails a lot. The change in organizational IT status brings with it a change in the roles of the Chief Information Officer (CIO), a change that more closely aligns the function of IT leadership with that of chief executive officers. For example, the CIO of the State of California "serves as IT advisor, leader, strategic planner, and collaborator" (California, 2007). There is no mention of the CIO as a technologist or as a technology manager. The proliferation of change and standardization of IT infrastructures has driven a bifurcated role for CIOs.

While some CIOs are still focusing on cost minimization through leveraging IT infrastructure, others have become less focused on technical management and more on leveraging IT processes as competitive advantages (Chun & Mooney, 2009). Similarly, McNurlin, Sprague, & Bui (2009) posits that currently there are four roles for the CIO, namely, leading, governing, investing, and managing. In these four roles, the bifurcated nature of the CIO role is evident with three of the four roles focusing on strategic direction and one role continuing to focus on technology management. Along with the changing nature of the CIO and technology management roles, employers are challenged to address changing assumptions that underlay strategic decision making with respect to information technology infrastructure.

These assumptions result from a rapidly changing environment, an environment that many employers find daunting to assess and understand. For example, Kelly and Erickson (2005) give the example of Radio Frequency Identification (RFID) use by Benetton that caused a public outcry concerning privacy issues and forced a reversal of the decision to implant RFID chips in clothing as a means of tracking. Other ethical concerns that are likely to arise when setting up an IT infrastructure include security, legal issues, and voluntary and informed consent. Nonetheless, understanding the underlying assumptions that provide strategic advantage can give any organization a significant advantage through the strategic application of IT resources.

1.5 Information Technology as a Functional Area in an Organization

The size of the information Technology department can vary greatly, depending on the role of information technology in the organisation and on the organizations' size. The size of the information technology group and the total expenditures on computers and information systems are largest in service organizations where

information systems can consume more than 40% of gross revenues (Fan, 2009). Today the information technology group often acts as a powerful change agent in the organization, suggesting new business strategies and new information based products and coordinating both the development of technology and the planned changes in the organisation.

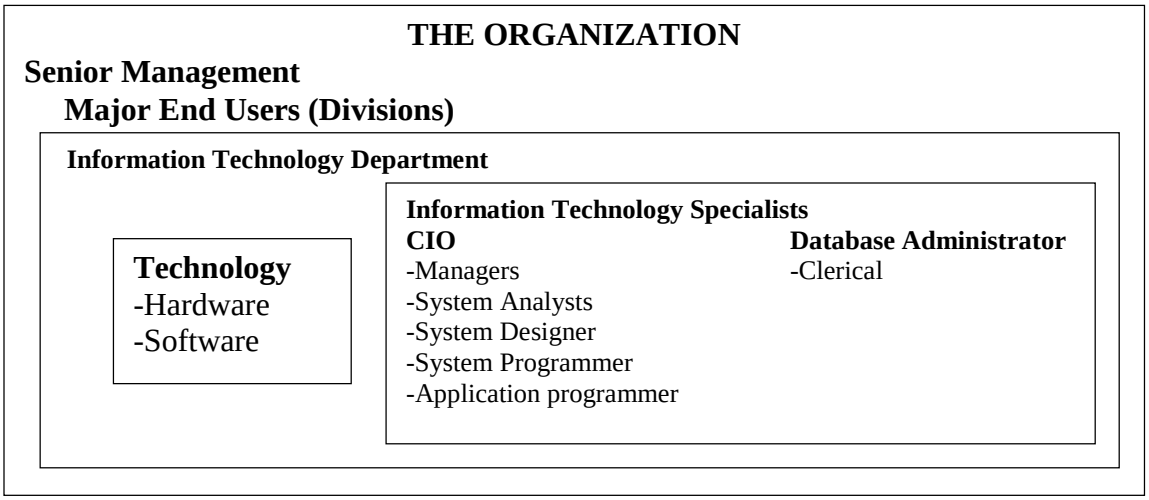

Figure 1.2: The Entities of the Information Technology Function in the Organization, Adopted from Boudreau, Loch, Robey, &Straud, 1998

From the figure above the information Technology function in the organisation is composed of three distinct entities. The first is a formal organizational unit or function called an information technology department. The second consists of information systems specialists such as programmers, systems analysts, project leaders, and information systems managers. Also, external specialists such as hardware vendors and manufacturers, software firms and consultants frequently participate in the day-to-day operations and long term planning of information technology. A third element of the information technology package is the technology itself, both hardware and software. These three combined make the functional area of the organisation and should be well understood as well as supported by the employer or the owners or stakeholders of the organisation because this is the platform on which the contemporary world rides today.

It's necessary to understand that the world is a rapidly changing canvas that visits a dynamic and turbulent environment on employers (Boudreau et al, 1998), changing how Information technology (IT) are used and needed in each organization. The power to collect, assess, and disseminate information is a valuable strategic resource that any organization can use to improve its competitive advantage. At the same time, technological advances are changing rapidly, thus requiring frequent updates in hardware and software as well as new competencies for IT professionals.

As employers face the challenges of optimizing the use of information technology, they are called to address a number of issues so they can make informed and effective decisions. A failure to understand the nature of the changing environment and the associated consequences is certain to cause decision-making that is slow to meet the challenges of the global market, thus creating a strategic disadvantage for the late mover (Stauss & Jedrassczyk, 2008). Employers must not only understand the role of IT in corporate governance and corporate strategy formulation, but how the accepted norms of this role are changing over time. This touches on key issues related to these changing roles for employers involved in corporate governance and senior-level strategic planning.

1.6 The IT Relationship to Strategic Governance in an Organization

The changing environment of IT includes numerous issues that employers as strategists must consider as they make IT decisions. Some of the trends related to IT include flattened organizational hierarchies, increasing reliance on intellectual capital, greater reliance on outsourcing and strategic alliances, changing demographics, consumer focus, and a need to organize and control an increasingly complex and turbulent environment (McNurlin, Sprague, & Bui, 2009).

Further, IT evolution is often at the heart of environmental complexity and turbulence, often causing organizations to spend millions in terms of cash so as to remain competitive. These changes require new competencies for IT employers as well as IT technologists. They also require new competencies for non-IT employees and employers. The complexity and turbulence of these changes create an unrelenting need for continued education and system updating, along with increasing demands for transparency. All are associated with significant costs for any organization, both in terms of financial investments and in terms of effort to manage the related changes processes themselves.

The challenge becomes one of balancing constrained resources with a need to remain competitive. Even the mission of the IT function itself is changing, evolving from a focus on efficiency and effectiveness in a support role to a focus on enterprise performance as the foundation for competitiveness in a rapidly changing market. In many cases, IT becomes the backbone for customer management and even product delivery. With this new direction, IT becomes a strategic partner in organizational performance, working on a level comparable to other functions such as accounting, marketing, and human resources.

Strategically, there is a notable change in status, because IT moves from a position of supporting the traditional business functions, to one of enabling them, thereby becoming a strategic necessity and a full partner in the success of the organization. All of the change places strong demands on IT governance in terms of the roles and responsibilities that are required of employers with respect to IT decision making.

One assumption that every employer needs to understand is that there is pervasive ambiguity throughout strategic decision-making. Because the environment is dynamic and turbulent, employers are less capable of making precise forecasts about the future. Less precision in forecasts indicates a need for current, accurate, and transparent information, one of the competencies that can be developed through tactical IT implementation. Well engineered IT processes provide leverage against the ambiguity that is inherent in a turbulent environment and provide transparency in an environment that demands increasing accountability. Another assumption that employers need to be aware of is that, because of rapid technology proliferation, the window for creating strategic advantage through IT implementation is considerably shorter than it has been in years past and continues to grow even shorter.

This indicates that there is need to recognize opportunities as they emerge, so that strategies can be developed in a timely manner to create advantage through IT implementation. For example, the time from design to completion for many clothing manufacturers is still several months. Through the innovative use of information technology, one manufacturer has created a competitive edge by streamlining the design-to-delivery time to 3 weeks, thus creating a significant advantage over other clothing manufacturers (Apparel Search, 2010). Similarly, Wall-mart and Ford have used IT applications to improve their business processes to provide strategic advantage. Wall-mart's inventory management system has eliminated the need for purchase orders while Ford's automated accounts payable function has eliminated the need for 300 staff positions (Lacity, 2010; Kelly and Erickson, 2005).

Another changed assumption is the need for IT to be recognized as a full partner in the success of any organization, from the smallest of organizations that need to post information online to satisfy customer expectations to the very large organizations significant online revenue-generating divisions. This shift is apparent with companies such as United Parcel Service that now is described as "the technology company that delivers packages" (Brewster & Dalzell, 2007). Similarly, through careful architecture and principles

development, Dow Corning recently moved the CIO position to one of equal authority to that of other chief officers, thus creating a natural connection between IT strategy and business strategy (Weill & Ross, 2004). There is also a necessary assumption that IT technologists must be educators as well as technologists, and Employers of all organizations cannot lead an innovative, global enterprise without being educated in IT initiatives. If employers want innovation, they need to learn about information technology. Davenport (1993) identifies ten IT activities that facilitate innovation, including: "... identifying and selecting processes for redesign, identifying enablers for new process design, defining business strategy and process vision, understanding the structure and flow of the current process, measuring the performance of the current process, designing the new process, prototyping the new process, implementing and operationalizing the new process and associated systems, communicating ongoing results of the effort, and building commitment toward the solution at each step." Additionally, there is evidence to suggest that, when employers are engaged with IT, a business is more likely to leverage IT initiatives into a successful business opportunity, and consequently, into a strategic advantage (Lacity, 2010). Finally, because relationships between companies often lead to strategic advantage, one must recognize the assumption that technologies facilitate relationships. Whether the relationships are with customers, front line employees, strategic allies, or other senior leaders, IT creates an environment of accessibility that fosters productive relationships and employers need to understand that.

In this way, IT helps level the competitive playing field for many organizations, allowing small, that is geographically localized, organizations to have worldwide access to customers, and worldwide organizations to have seemingly local access to employees. In terms of governance, use of IT can create ethical issues with any of these stakeholders. For example, Mujtaba (2003) investigates the multiple issues that are involved when using information technologies to monitor employees and opens the discussion for employers' consideration before implementing an information technology. Nonetheless, if communication is the process through which people are connected with others to create relationships, then IT has become the conduit for modern relationships.

Taken together, these assumptions along with the changing environment and emerging governance roles are a call for employers to revisit strongly held beliefs about the IT function, because they may point to potentially serious gaps in IT strategy, which often lead to error and strategic disadvantage. "The fundamental error that most companies commit when they look at technology is to view it through the lens of their existing processes. They ask, 'How can we use these new technological capabilities to enhance or streamline or improve what we are already doing?' Instead they should be asking, 'How can we use technology to allow us to do things that we are not already doing?" (Hammer &Champy, 1993).

2.0 Conclusion

The purpose of writing this article was to find out the employers perspective of Information Technology and how the said Information technology are used or needed by various organizations. From the literature search we have deduced that most organizations rely on an information technology infrastructure to support their decision making process, business processes and competitive strategy. This therefore means that information technology is a basic functional area in any organisation because it's the only change agent that the organization can use to suggest new business strategies, new information based products and coordination of development of new technologies for the organization as well as initiate the planned change.

Therefore the Information technology environment contains numerous issues that employers must consider as they make decisions. But because information technology is cost related employers should consider working closely with information technologists if they have to balance between resource uses and also remain competitive. Consequently since information technology enables organizations attain a competitive edge it should be the one area that each employer strives to implement.

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