

# MANAGEMENT INFORMATION TECHNOLOGY:MANAGING THE ORGANIZATION IN DIGITAL ERA

**Dr Anil Kumar Mahra**

*Assistant Professor, Laxmi Bai Sahuji ,Institute of Management ,  
Jabalpur MP India*

## **Abstract**

*Digital transformation with the help of Information Technology applications has been a dynamic force of change across several organizations. Management of technological aspect is the most knowledgedemanding organizational process. The information technology support has received only fragmented attention. Many of information technology management approach proposed is whicheverpointing at enhancingactor'svision and efficiency, or at growing the efficiency of communication among the different actors involved. In this paper, we discussed different information systems approaches that aim at integrating different actors' perspectives and tools across different activities. There are numerous frameworks, methodologies, tools and standards have been designed by different authors and organizations for Information Technology management systems in business organizations. But, on their own, they are not comprehensive enough to serve as efficient IT management system. This paper presents the analysis of three information technology frameworks, i.e. ITIL, COBIT, EFQM and a standard, ISO/IEC 27002.*

**KEYWORDS:** Information Technology, Digitization, IT management, Business Organization, Risk assessment.

## **1. INTRODUCTION:**

Information Technology has been observed as a support purpose within businesses. But, when we think through Information Technology from a commercial and business model revolution viewpoint, the role of an information technology organization is shifting into that of a service provider. In today's digital world, industries, trade, business are fully depending of their technological resources that they be more flexible to changing business objectives, new competition and acquisitions. They are less concerned about what technologies are being used by IT organizations and more interested in how the IT organization is going to influence or facilitate a change in business model. Information technology applications security assurance is also a mandatory concern to the stakeholders involved in IT management (Ansari et. al., 2018)

Today's we are observing that many business organizations areadopting the digitalization of their services at the organizations and this needs information technology and business leaders to embark on aorganization transformation strategy and provide employees with the devices and software which enhance their efficiency. With the intention ofgrowfast in this information technology dependent world, it is dangerous that organizations vision workforce revolution as part of its overall digital transformation strategy. Information Technology management stakeholders have developed several frameworks, methodologies, techniques and best practices for efficiently manages the digital policies and procedures within the organizations. Several traditionalmethodson the way to managing information technology are obstructedexpressively such that procedures and methods need arenovation to support this new information technology era.

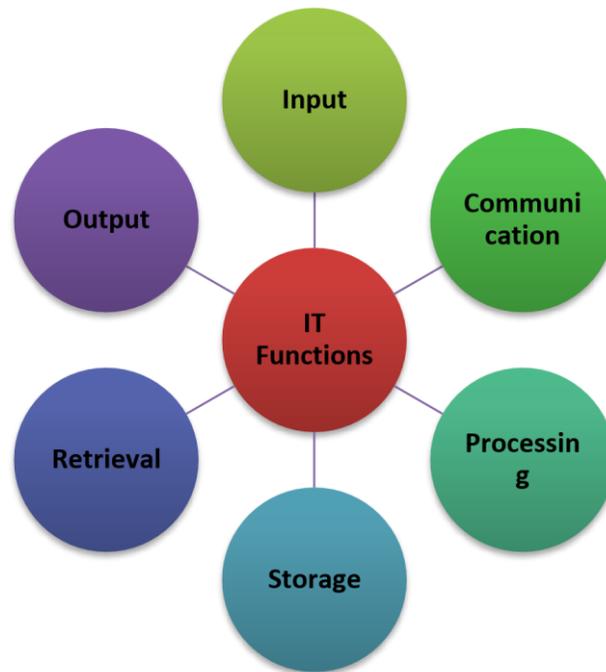
The evolution of IT organizations from technology providers into service providers requires taking a different perspective on IT management. IT Service Management puts the delivered services by IT at the centre of IT management and it is commonly defined (Young, 2004) as "a set of processes that cooperate to ensure the quality of live IT services, according to the levels of service agreed with the customer."The digital transformation of enterprises across the globe has opened-up new challenges, possibilities and

opportunities in the IM space. Digital is all about re-imagining certain aspects if not entire business processes, services and interactions with customers, partners and vendors by leveraging consumer oriented digital technologies to deliver a superior experience. Enterprises have chartered Chief Digital Officers to partner with businesses to identify, develop and implement these new “digital apps”. Enterprises always had applications to support business known as Systems of Records like ERP, CRM, SCM, Risk, DWH, etc. These applications are transaction-driven and designed to initiate, record, execute, monitor and report on business transactions. These are the “core” applications of any business. This paper consists of five sections. The next section discusses the concept of information technology for business sector. The third section discusses the different approaches available for information technology management. The fourth section compares the different information technology management approaches. Finally in the fifth section the paper concludes.

## **2. INFORMATION TECHNOLOGY OVERVIEW**

Information technology (IT) covers any form of technology, that is, any equipment or technique used by a company, institution, or any other organization which handles information. The term information technology was coined probably in the late 1970s to refer to this nexus of computer-based technologies for handling information (Elliott & Starkings, 1988). Information technologies are significantly changing lives. New technologies, devices, machines, and services that make dealing with more information than ever before possible surround everyone. Information networks and services are available that can connect everyone and provide new opportunities for productivity, learning, and entertainment. The technologies include accessing information through computers, the Internet, telephones, pagers, cellular phones, television sets, and public electronic kiosks.

These information technologies include electronic methods of communicating and accessing databases that allow us to bank, shop, pay bills, get books to read, and make travel plans and arrangements from home. They make telecommuting possible and provide more options for running a business from home. Many job functions can be easily performed when access to needed information resources and telecommunication services are provided (Barker, 2002).



**Figure 1 Basic functions of Information Technology**

### **3. INFORMATION TECHNOLOGY MANAGEMENT APPROACHES**

Management is an attempt to direct and control a group of one or more people or entities for the purpose of coordinating and harmonizing them towards accomplishing a special goal. At present Management encompasses several dimensions like human resources, financial resources and technological resources. One new area of management is Information technology management (or IT management). It is a combination of two branches of study, information technology and management. Information technology has several definitions from different perspectives: From the first perspective, IT systems are applications and infrastructures which are components of a larger product. They enable or are embedded in processes and services. From the second perspective, IT is an organization with its own set of capabilities and resources. IT organizations can be of various types such as business functions, shared services units and enterprise-level core units. From the third perspective, IT is a category of services utilized by business. They are typically IT applications and infrastructure that are packaged and offered as services by internal IT organizations or external service providers. In this perspective IT costs are treated as business expenses. From the fourth perspective, IT is a category of business assets that provide a stream of benefits for their owners, including but not limited to revenue, income and profit. In this perspective IT costs are treated as investments (Taylor et. al., 2007). All definitions emphasize the importance of IT in the organizations. Therefore it is crucial to manage and implement IT in the organizations. There are several standards, tools, frameworks and best practices to manage and maintain IT services. The most applicable and widely used such standards are ISO/IEC 27002 in information security, COBIT, ISO 20000 and ITIL. Every standard, tool and framework has its strength and its limitation.

#### **3.1. ITIL**

ITIL (Information Technology Infrastructure Library) is a de-facto standard which introduced and distributed by Office of Government Commerce (OGC) in UK and includes all IT parts of organizations

(OGC, 2007). At present ITIL is the most widely accepted approach to IT Service Management in the world. It has an iterative, multidimensional and lifecycle form structure. ITIL has an integrated approach as required by the ISO/IEC 20000 standard. Service management is a set of specialized organizational capabilities for providing value to customers in the form of services (OGC, 2007). At present ITIL is the most widely accepted approach to IT Service Management in the world. It has an iterative, multidimensional and lifecycle from structure.

### **3.2. COBIT**

The Control Objectives for Information and related Technology (COBIT) is a framework for information technology management. It is a set of best practices developed by the Information Systems Audit and Control Association (ISACA), and the IT Governance Institute (ITGI) in 1992. COBIT was released and used primarily by the information technology community. Later Management Guidelines were added, and COBIT became the internationally accepted framework for IT governance and control (Lachapelle, 2007). COBIT delivers managers, auditors, and IT users with a set of generally accepted measures, indicators, processes and best practices to assist them in maximizing the benefits derived through the use of information technology and developing appropriate IT governance and control in a company. In its latest edition, COBIT has 34 high level objectives that cover 215 control objectives categorized in four domains: Plan and Organize, Acquire and Implement, Deliver and Support, and Monitor and Evaluate. The COBIT mission is to research, develop, publicize and promote an authoritative, up-to-date, international set of generally accepted information technology control objectives for day-to-day use by business managers and auditors. Managers, auditors, and users benefit from the development of COBIT because it helps them understand their IT systems and decide the level of security and control that is necessary to protect their companies' assets through the development of an IT governance model. COBIT covers four domains:

### **3.3. EFQM**

EFQM was introduced at the beginning of 1992 as the framework for assessing organizations for the European Quality Awarded. EFQM is the model Excellence Assessment currently most widely used by European organizations (Dudek-Burlikowska, 2006; Ho, 1995; Urbaniak, 2004) and one of the most popular today (Michalska, 2008). An important advantage of the EFQM self-assessment is its quantitative character, in other words, its result can be compared against other organizations and it can be compared to previous assessments of same organization or between different business units within the same organization. The EFQM Excellence Model is applied by thousands of European organizations to improve their management systems. It covers all the most important organization's functional areas, and it defines exactly what requirements should be fulfilled in these areas. Thanks to this described before, the Model serves as a complex tool of self-assessment and its aim is simultaneously the example of excellence to follow, taking into account the suitable activities in each distinguished areas. Selfassessment informs to the organization about its strong sides as well as permits to identify areas, which should be improved (Harrington, 1991). It permits on many ways of approach to achieve the permanent excellence in all aspects of the organization activity.

The EFQM Excellence Model consists of nine criteria, which are divided, in two groups: Enablers criteria and Results criteria. First criteria deal with what the organization does and they refer to causal factors whose effects take form in the second criteria. The criteria about results are about the organization achieves. The results are the consequence of enablers and enablers are improved using feedback from results (Urbaniak, 2004).

### **3.4. ISO/IEC 27002**

This is an information security management system (HISMSH) standard which is the Code of Practice for

Information Security Management. It lists security control objectives and recommends a range of specific security controls. Organizations that implement an HISMSH in accordance with the best practice advice in ISO/IEC 27002 are likely simultaneously to meet the requirements of ISO/IEC 27002, but certification is entirely optional unless mandated by the organization's stakeholders(Calder, 2013).

#### 4. COMPARISION OF IT MANAGEMENT APPROACHES

ITIL, COBIT, EFQM and ISO/IEC 27002 can be valuable for information technology management in business organizations. Implementers should use ITIL to define strategies, plans and processes, use COBIT for metrics, benchmarks and audits, use EFQM for measure and evaluate the quality and use ISO/IEC 27002 for information security management.

**Table 1**Comparative analysis of different IT Management approach

	<b>ITIL</b>	<b>COBIT</b>	<b>EFQM</b>	<b>ISO/IEC 27002</b>
<b>Developed By</b>	OGC	ISACA	EFQM	ISO
<b>Fragment</b>	9 Processes	34 Processes and 4 Domains	9 criteria	10 Domains
<b>Type</b>	Activities	Metrics(CSF,KPI)	Quantitative Approach	Guidelines
<b>Used for</b>	Cost/Benefits	Benchmarking(CMM )	Quality	Security
<b>Implementati on</b>	Service management	Service audit	Model excellence assessment	Compliance with security standard

#### 5. CONCLUSION

Information Technology has thrown open a plethora of opportunities for IM professionals to experiment and build new capabilities at the core, edge as well as the intersections layers to help enterprises organize, process, manage and deliver data to the business. It is imperative that we create next generation architectural capabilities that are required for enterprises to succeed and not get trapped in technology led conversations. In the long run, technology will keep evolving but architectural capabilities will stay as the foundation on which data is managed. In every organization today, IT services must be delivered in a cost efficient manner, mitigating security risks and complying with legal requirements. The equation is difficult to handle and in some cases it seems like an impossible mission. To be able to survive in this environment a combination of ITIL, COBIT, EFQM and ISO/IEC 27002 can be valuable for organization targets. Implementers should use ITIL to define strategies, plans and processes, use COBIT for metrics, benchmarks and audits and use ISO/IEC 27002 to address security issues to mitigate the risks.

## REFERENCE

1. Ansari, M. T. J., Pandey, D., & Alenezi, M. (2018). STORE: Security Threat Oriented Requirements Engineering Methodology. *Journal of King Saud University-Computer and Information Sciences*.
2. Barker, P. (2002). Technologies for information, communication, and access.
3. Calder, A. (2013). *ISO27001/ISO27002: A pocket guide*. IT Governance Publishing.
4. Dudek-Burlikowska, M. (2006). Quality research methods as a factor of improvement of preproduction sphere. *Journal of Achievements in Materials and Manufacturing Engineering*, 18(1-2), 435-438.
5. Elliott, G., & Starkings, S. (1998). *Business information technology: systems, theory and practice*. Longman.
6. Harrington, H. J. (1991). Business process improvement: The breakthrough strategy for total quality, and competitive.
7. Ho, S. K. (1995). *TQM: an integrated approach: implementing total quality through Japanese 5S and ISO 9000*. Kogan Page.
8. Lachapelle, E. (2007). White Paper: “Control Objectives for Information and related Technology”, Veridion Inc., Montreal, Canada.
9. Michalska, J. (2008). Using the EFQM excellence model to the process assessment. *Journal of Achievements in Materials and Manufacturing Engineering*, 27(2), 203-206.
10. Office of Government Commerce. *ITIL Service Strategy*, TSO, London, 2007.
11. Taylor, S., Lacy, S., Macfarlane, I. (2007) *ITIL: Service Transition*, TSO publications, Norwich, UK
12. Urbaniak, M. (2004). Quality management—theory and practice. *Difin, Warsaw*, 290.
13. Young, C. M. (2004). An introduction to IT service management. *Research Note*.