ASSURING QUALITY IN IT SERVICE MANAGEMENT

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Adoptarea unui system informational este astazi crucial in mediul competitional foarte puternic, unde firmele isi desfasoara activitatea. Atata vreme cat sistemul este creat bazandu-se pe informatii complete si correct, poate reprezenta un avantaj competitional important. Cresterea exponentiala a Tehnologiei Informatiei va continua fara intrerupere pentru viitorul predictibil si va continua sa invadeze cele mai ascunse aspect ale activitatii profesionale. Aceasta mereu in crestere folosire a tehnicilor computationale a fost unul din motoarele progresului in calitatea afacerilor, In aceasta lucrare sunt prezentate, printre altele, aspecte privind conformitatea cu standardele de calitate ale serviciilor TI, cum ar fi BS15000, respective ITIL, care incep sa se impuna din ce in ce mai mult in societatea moderna.

Adopting an informational system is crucial today in the strong competitive environment where the firms develop their activity. As long as the system is created based on complete and correct information it can represent an important competitive advantage. The exponential growth of IT using in all fields will continue uninterrupted for the predictable future and will continue to invade the most hidden aspects of professional activity. This always rising use of computational techniques was one of the engines to progress of business quality related activities. In this paper are presented, among others, aspects regarding conformities with quality standards or frameworks for the IT services, such as BS15000, respectively ITIL, that begin to impose more and more in the modern society .

Key words: Quality, IT Services, ITIL

1. Introduction

Information Technology (IT) has been serving the enterprise as a technology provider helping businesses to perform more efficiently and to expand into new directions since its early stages. Over the years, IT has become the backbone of businesses to the point where it would be impossible for many to function (never mind succeed) without it. IT is no longer separate from but is an essential element of the enterprise. As a result of its increasing role in the enterprise, the IT function is changing.

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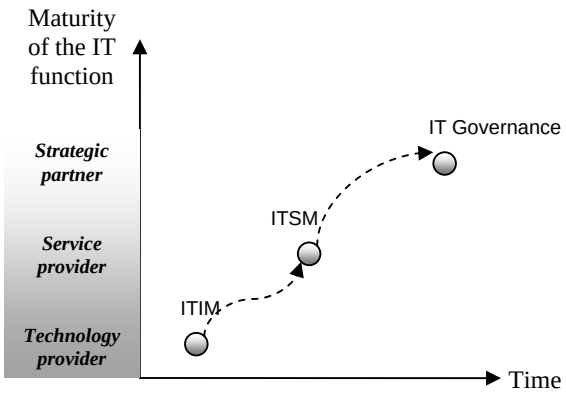

Fig. 1 – Evolution of the IT Function within organizations

When evolving from technology providers into strategic partners, IT organizations typically follow a three-stage approach as depicted in Figure 1. Each evolutionary stage builds upon the others beginning with *IT infrastructure management* (ITIM). During this stage, the IT organizations focus on improving the management of the enterprise infrastructure. Effective infrastructure management means maximizing return on computing assets and taking control of the infrastructure, the devices it contains and the data it generates. The next stage, *IT service management* (ITSM), sees the IT organizations actively identifying the services its customers need and focusing on planning and delivering those services to meet availability, performance, and security requirements. In addition, IT is managing service-level agreements, both internally and externally, to meet agreed-upon quality and cost targets. Ultimately, when IT organizations evolve to *IT business value management* (IT Governance), they are transformed into true business partners enabling new business opportunities. In that stage, IT processes are fully integrated with the complete lifecycle of business processes improving service quality and business agility.

2. Service management software tools

The first question we should ask ourselves on this topic is *'Do we really need software tools*?' If the answer is yes, then we should assess the need formally with a well-researched selection process. If we look at the glossy brochures and listen to the sales talk, Service Management tools are indispensable. However, good people, good process descriptions, and good procedures and working instructions are the basis for successful Service Management**.** The need for, and the sophistication of the tools required will depend on the business need for IT services and, to some extent, the size of the organization**.**

In a very small organization a simple in-house developed database system may be sufficient for logging and controlling Incidents. However, in very large organization, a very sophisticated distributed integrated Service Management toolset may be required, linking all the processes with event management systems. While tools can be an important asset in today's IT-dependent organizations, they are a means, not an end in themselves. When implementing Service Management processes, looking at the way your processes work and your need for management information should always be the starting point. This will provide information needed to define the specifications for a tool best suited to assist us.

Why the need? Here are some of the reasons:

- more sophisticated Customer demands
- a shortage of IT skills
- budget constraints
- business dependence on quality IT services
- increasing complexity of IT infrastructure
- the emergence of international standards
- increased range and frequency of IT Changes.

Automated tools allow:

- the centralization of key functions
- the automation of core Service Management functions
- the analysis of raw data
- the identification of trends
- the preventive measures to be implemented.

3. Summary of tool evaluation criteria

The following criteria should generally be used to assess software tools under consideration:

- an 80% fit to operational requirements
- a meeting of *ALL* mandatory requirements
- little (if any) product customization
- ITIL compliance
- a sound data structure and handling
- business-driven not technology-driven
- administration and maintenance costs within budget.

Software tools should handle processes in conformity with the practices discussed in the IT Infrastructure Library. A set of guidance (the Appraisal and Evaluation Library) is available for the guidance of organizations wishing to select Service Support and Service Delivery tools. The prime areas to consider are:

- functional requirements support, and the level of integration with, for example, service delivery processes and tools
- data structure, data handling and integration, including the capability to support the required functionality
- integration of multi-vendor infrastructure components, and the need to absorb new components in the future – these will place particular demands on the data handling and modeling capabilities of the tool
- conformity to international open standards
- flexibility in implementation, usage and data sharing
- usability: the overall ease of use permitted by the User interface
- service levels: performance and availability
- distributed clients with a centralized shared database (e.g. client server)
- back-up, control and security provisions
- the quality of information provided by the supplier, and its validation by contact with other users.

4. Service Management tools

Few enterprises have no Service Management tools and many are considering replacing or upgrading those that are in use. The range and sophistication of tools for Service Management automation has grown rapidly in recent years.

Tools for the automation of core processes such as Incident logging and tracking have been supplemented by computer-integrated telephony, software capable of handling complex and multiple Service Level Agreements (with separate targets and business clocks), and remote support technology. Other tools include:

- interactive voice response (IVR) systems
- the Internet, internal electronic mail, voice mail
- self-help knowledge
- case-based reasoning/search systems
- network management tools (including remote support capabilities)
- system monitoring
- Configuration and Change Management systems
- release and distribution systems
- security monitoring and control, including password control
- capacity planning
- IT Service Continuity Management (including automatic back ups).

Although some of the tools are not yet commonly used, there are few areas of Service Management that cannot be helped by automation. Some areas of

Service Management are too resource intensive to be performed effectively without automation. Each tool for the automation of Service Management has advantages and disadvantages but automation is still recognized as vital. It is necessary to ensure that the combination of technology, processes and people are integrated and meet the needs of the Customers. Automation should be used to enhance Service Management, not replace it.

Automation is increasingly being treated as part of workflow management, linking each task in the lifecycle from a new service being planned through to disposal. The technology should be used to complement and enhance service delivery, not replace it.

Automation that provides support for distributed computing has revolutionized the ability of an enterprise to diagnose Problems remotely, and in many cases also to fix them remotely (and therefore faster). Remote support technology has also made it possible for an enterprise to make changes by downloading the new versions of software and to monitor the capacity of the infrastructure, identifying capacity problems before they become serious. Automation has enabled easier contingency planning, with work being switched in the event of a local overload or a serious problem that has taken the service out from a specific area.

Some other considerations:

- supplier and product credibility and viability - installed base and degree of support; consider issues such as the financial viability of the vendor (are they likely to be around in a few years when you need them?); also consider large time-zone differences between the supplier and your organization and language differences
- costs, including ongoing cost to upgrade and support - consider which is better:
    - buying a standard package at reasonable initial cost, where the trade-off is that customization may be very expensive and complex
    - or a more flexible package at higher initial costs where customization may be relatively easy and cheap
- adaptability - will the tool be able to meet organization specific requirements and constraints in the years to come.

5. The IT Infrastructure Library

Developed in the late 1980's, the IT Infrastructure Library (ITIL) has become the world-wide *de facto* standard in Service Management. Starting as a guide for UK government, the framework has proved to be useful to organizations in all sectors through its adoption by many Service Management companies as the basis for consultancy, education and software tools support. Today, ITIL is known

and used worldwide, and the reasons for its success are explained in the following paragraphs:

Public domain framework

From the beginning, ITIL has been publicly available. This means that any organization can use this framework described in numerous books.

Because of this, the IT Infrastructure Library guidance has been used by such a disparate range of organizations, local and central government, energy, public utilities, retail, finance, and manufacturing. Very large organizations, very small organizations and everything in between have implemented ITIL processes.

Best practice framework

The IT Infrastructure Library documents industry best practice guidance. It has proved its value from the very beginning. Initially, the information was collected on how various organizations addressed Service Management, analyzed this and filtered those issues that would prove useful.

Other organizations found that the guidance was generally applicable and markets outside of government were very soon created by the service industry.

Being a framework, ITIL describes the contours of organizing Service Management. The models show the goals, general activities, inputs and outputs of the various processes, which can be incorporated within IT organizations. ITIL does not cast in stone every action you should do on a day-to-day basis because that is something which will differ from organization to organization. Instead it focuses on best practice that can be utilized in different ways according to need. Thanks to this framework of proven best practice, the IT Infrastructure Library can be used within organizations with existing methods and activities in Service Management.

Quality approach

In the past, many IT organizations were internally focused and concentrated on technical issues. These days, businesses have high expectations towards the quality of services and these expectations change with time. This means that for IT organizations to live up to these expectations, they need to concentrate on service quality and a more Customer oriented approach. Cost issues are now high on the agenda as is the development of a more businesslike attitude to provision of service.

ITIL focuses on providing high quality services with a particular focus on Customer relationships. This means that the IT organization should provide whatever is agreed with Customers, which implies a strong relationship between the IT organization and their Customers and partners.

Tactical processes are centered on the relationships between the IT organization and their Customers. Service Delivery is partially concerned with

setting up agreements and monitoring the targets within these agreements. Meanwhile, on the operational level, the Service Support processes can be viewed as delivering service as laid down in these agreements.

On both levels there is a strong relationship with quality systems such as ISO 9000 and a total quality framework such as European Framework for Quality Management (EFQM). ITIL will support these quality systems by providing defined processes and best practice for the management of IT Services, enabling a fast track towards ISO certification. Attaining a quality standard is beneficial for organizations but it has to be recognized that this alone does not guarantee delivery of good service. There would need to be on-going review of quality of processes aligned with business requirements.

Generic benefits for quality management include:

- improved quality service provision
- cost justifiable service quality
- services that meet business, Customer and User demands
- integrated centralized processes
- everyone knows their role and knows their responsibilities in service provision
- learning from previous experience
- demonstrable performance indicators.

6. Navigating the IT Infrastructure Library

Following consultation with Service Management organizations and User groups, the diagram shown in Figure 2 can be designed. This illustrates that the new library series will comprise five principal elements, each of which will have interfaces and overlaps with each of the other four. The elements are: the business perspective, managing applications, delivery of IT services, support of IT services, manage the infrastructure.

The Business Perspective book will cover a range of issues concerned with understanding and improving IT service provision, as an integral part of an overall business requirement for high quality IS management. These issues include: Business Continuity Management, partnerships and outsourcing, surviving change, transformation of business practice through radical change.

The Service Delivery book looks at what service the business requires of the provider in order to provide adequate support to the business customers. To provide the necessary support the book covers the following topics: Capacity Management, Financial Management for IT Services, Availability Management, Service Level Management and IT Service Continuity Management.

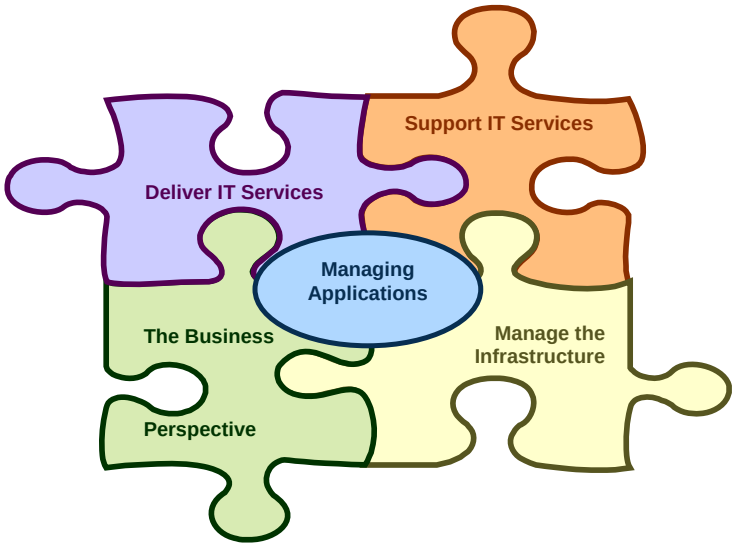

Fig. 2 – Jigsaw Diagram

The Service Support book is concerned with ensuring that the User has access to the appropriate services to support the business functions. Issues discussed in this book are: Service Desk, Incident Management, Problem Management, Configuration Management, Change Management and Release Management.

The major elements of the ITIL books can be likened to overlapping jigsaw puzzle pieces (or perhaps better as tectonic plates), some of which have a precise fit, and some of which overlap or do not fit together accurately.

At the highest level, there are no strict demarcation lines. Indeed, if we consider further the analogy of tectonic plates, sliding over and under one another, joining and separating, then the earthly problem of points of instability or friction caused by the imprecise nature of the pieces has an IT Infrastructure Library equivalent. It is precisely where process domains overlap or where demarcation lines cannot be clearly drawn that many management problems arise. We cannot stop all the problems from occurring (just as we cannot stop earthquakes) but we can provide advice about how to prepare for and deal with them.

To clarify how the concepts within ITIL work together, a set of process models to describe the makeup of ITIL was produced. These process models have been used in practice and enhanced since first produced and now form the cornerstones of the ITIL core books. The process elements for management of services can be defined precisely.

However, in practice, when analyzing the processes in more detail, elements overlap. This situation illustrates the need for both consistency across the guidance, and advice on how to deal with management problems that may arise. The cause of these management problems may be the result of boundaries

drawn. These perhaps have more to do with the span of control than with logical grouping of related processes.

7. A Code of Practice for IT Service Management - PD0005

The British Standards Institute have published A Code of Practice for IT Service Management (PD0005) and the BS15000 standard which are based on the principles of ITIL; the context diagram from the standard is reproduced below in Figure 3.

The diagram is not a process model but simply a pictorial description. It can be viewed in the same way as Figure 2, i.e. the main principles (of Service Management in this instance) are placed in a coherent context, providing guidance that enables the reader to make links between related process elements.

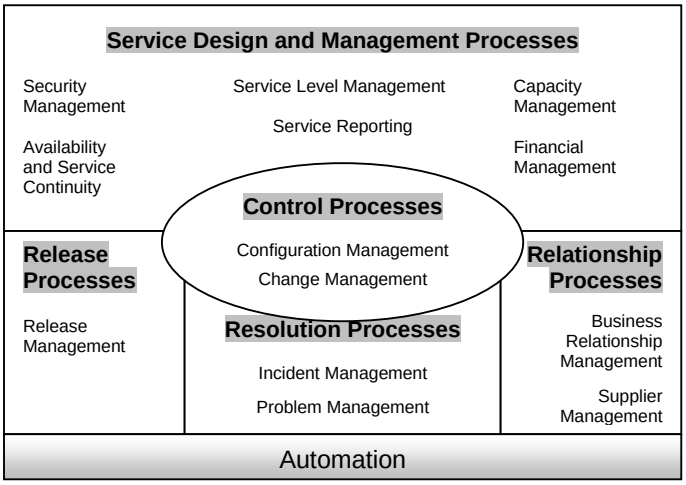

Fig. 3 – *BS15000 Service Management processes*

8. Conclusions

Organizations are increasingly dependent on electronic delivery of services to meet customer needs. This means a requirement for high quality IT services, matched to business needs and user requirements as they evolve.

As a result of its increasing role in the enterprise, the IT function is changing, morphing from a technology provider into a strategic partner. Concurrent to these changes, the IT infrastructure is moving towards a centralized, highly adaptive utility model. We have reviewed the different open and industrial frameworks that support IT organizations in this transition and explore their impact on the next generation of IT infrastructure.

IT Service Management is concerned with delivering and supporting IT services that are appropriate to the business requirements of the organization. ITIL provides a comprehensive, consistent and coherent set of best practices for IT Service Management processes, promoting a quality approach to achieving business effectiveness and efficiency in the use of information systems. ITIL processes are intended to be implemented so that they underpin but do not dictate the business processes of an organization.

ITIL provides a cohesive set of best practice, drawn from the public and private sectors internationally, supported by a comprehensive qualification scheme, accredited training organizations, implementation and assessment tools.

Using ITIL doesn't imply a completely new way of thinking and acting. It provides a framework in which to place existing methods and activities in a structured context. By emphasizing the relationships between the processes, any lack of communication and co-operation between various IT functions can be eliminated or minimized.

ITIL provides a proven method for planning common processes, roles and activities with appropriate reference to each other and how the communication lines should exist between them.

IT service providers will be striving to improve the quality of the service, but at the same time they will be trying to reduce the costs or, at a minimum, maintain costs at the current level. Although standards like BS15000 or the framework ITIL are not a "cure for all diseases," it has provided value to organizations that have implemented ITIL best practices in the context of a wider organizational change.

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