ITIL Methodology to Manage Information Systems Departments: Benefits and Risks

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Abstract

During the last years, the ITIL methodology has become the most widely accepted approach to manage Information Systems departments. The objective is to assure that the complete IT services catalog is delivered to the rest of the company, with an agreed service level quality. Its recommendations have already been adopted by thousands of organizations all over the world, including the largest multinationals. Every day, companies need to increase their enterprise agility and improve their capacity to react when there are new demands from the market. For that reason, the IT departments are considered strategic partners for the businesses. The success of the enterprises strongly depends on the IT effectiveness and that is going to accelerate the ITIL expansion. In this paper we make a review of ITIL, explaining its benefits, but we also point out potential risks when this methodology is adopted and we give some recommendations to do it successfully.

Keywords: ITIL, Information Systems, Service Level, Enterprise Agility.

1. Introduction

The philosophy behind the development of ITIL is the recognition that organizations are becoming increasingly dependent on IT in order to satisfy their corporate objectives and meet their business needs. This leads to an increased requirement for high quality IT services.

The IT Infrastructure Library (ITIL) can be considered as the world's most widely accepted methodology for the management and delivery of IT Services. It represents a guidance to control all the IT processes based on best practices reflected in a set of books. Used by many thousands of organizations around the world, a whole ITIL philosophy has grown up around the recommendations contained in the ITIL books. These books give guidance on the provision of quality IT services, and on the environmental facilities needed to support IT. ITIL has been developed in recognition of the organization's growing dependency on IT and represent a set of best practices for IT Service Management, classifying all the activities in a set of well defined processes.

Kevin Behr (2005), in his book *"The Visible Ops Handbook: Implementing ITIL in 4 Practical and Auditable Steps"*, indicates that when a problem occurs in the IT department the best policy is not to start checking all the infrastructure elements and begin troubleshooting. He recommends instead seeing those responsible for the last configuration change. Since 80 percent of IT and system outages are caused by operator and application errors, and not by hardware problems or intruders, those analyzing an incident should always start by looking at themselves. This is just an example of the attention that has to be paid to the processes, in this case the process called Change Management.

ITIL provides the foundations for state-of-the-art IT Service Management. The extensive

adoption of the ITIL methodology has encouraged organizations worldwide, both commercial and government institutions, to develop supporting products as part of a shared ITIL philosophy. For the Gartner Group, the overall results of moving from no adoption of IT Service Management to full adoption can reduce an IT organization's Total Cost of Ownership by as much as 48 percent.

The Information Technology Infrastructure Library (ITIL) represents a drastically different approach to IT by framing all activity under two broad umbrellas named Service Support and Service Delivery respectively. By focusing on the critical business processes and disciplines needed to deliver services around IT, the ITIL methodology provides a maturity path for IT that is not based on technology. This accessibility allows senior executives to both sponsor and drive IT quality improvement efforts.

ITIL offers a complete and proven set of best practices obtained from the collective experience and knowledge of thousands of IT practitioners around the world. By defining IT quality as the level of alignment between the actual services delivered and the actual needs of the business, the library serves as a common point of engagement for IT and the other business units. Rick Sturn and Wayne Morris (2000) in *"Foundations of Service Level Management"* explain how to implement service level management. They address all key process areas for establishing, implementing and managing service delivery and they suggest the best way to negotiate an SLA (Service Level Agreement) with the clients (the departments paying for the IT services). This book is interesting for two reasons. First, the authors are experienced practitioners who have specialized in service level management, and second, it covers all the key points of creating, implementing and managing an effective service level management initiative.

2. ITIL history

In the late 1980's, with Margaret Thatcher as Prime Minister, the British government officials determined that the level of IT service quality provided to them was not what it was required. The Central Computer and Telecommunications Agency (CCTA), now called the Office of Government Commerce (OGC), was asked to develop a framework for efficient and financially responsible use of IT resources within the British government and the private sector.

The idea of IT service management as a way to improve business functions is not new. This concept has been around for nearly as long as there have been IT services. However, the concept of collecting, documenting, and maintaining all service management best practices together within one body of knowledge was outstanding for its time and an important contribution to IT management. The goal was to develop a common approach that would be independent and applicable to organizations with differing technical and business needs. This resulted in the creation of the ITIL methodology.

ITIL version 1 grew from a collection of best practices observed in the IT service industry. This was done by identifying all practices implemented industry-wide and those that were not. This approach is why ITIL is recognised as best practice. It is baased on examples from a practical world rather than just a theoretical model or methodology. The infrastructure that we manage through ITIL has changed significantly over the years and new versions had to be released. The current publication is known as ITIL version 2, and version 3 is expected to be released by the summer of 2007.

3. The ITIL books

Since the library was published for the first time in the late 80's, some new books have been added to the original library. Currently, in 2007, the existing books are the following:

1. *Service Support (2000).* It focuses on ensuring that the users of IT services have access to appropriate services to support business functions. This book covers the following IT processes:

    - Service Desk. For the users of IT services, it provides the single point of contact with the IT organization.

    - Incident Management. It is a reactive task, reducing or eliminating the effects of current or potential disturbances in IT services, ensuring that users can get back to work as soon as possible.

    - Problem Management. This process investigates the infrastructure (hardware and software) and all available information to identify the underlying cause of current and potential failures in the provision of service.

    - Configuration Management. It controls the infrastructure inventory and it checks if changes in the IT infrastructure have been recorded correctly, including relationships between configuration items (CI's).

    - Change Management. It aims to manage the process of change and consequently limit the introduction of errors and of incidents related to changes in the IT infrastructure.

    - Release Management. It aims to ensure the quality of the production environment by using formal procedures and checks when implementing new versions.

2. *Service Delivery (2001).* This book covers the service the business requires from the IT department in order to provide adequate support to the business users. The processes described are:

    - Capacity Management. The purpose is to ensure the required capacity for data processing and data storage, at the right time and in a cost effective way.

    - Financial Management for IT Services. This process manages the costs to deliver all the IT services.

    - Availability Management. The objective is to provide a cost-effective and defined level of availability of the IT service that enables the business to reach its objectives.

    - Service Level Management. It is the process of negotiating, defining, measuring, managing and improving the quality of IT services at an acceptable cost.

    - IT Service Continuity Management. The objective is to ensure that the required IT infrastructure and IT services, including support and service desk, can be restored within specific time limits after a disaster (event that affects a service in such a way that significant effort is required to restore the original performance level). Typical disasters are fires, floods, earthquakes, etc.

3. *Software Asset Management (2003)*. This is one of the most critical elements of the information and communications technologies and most organizations have done huge investments in software, whether internally developed or externally procured. However organizations often do not invest commensurate effort into managing these software assets. This guide has been developed to describe what Software Asset Management (SAM) is and to explain the requirements so that it performs effectively and efficiently.

4. *Planning to Implement Service Management (2002)*. This book explains how to start with ITIL. It describes the necessary steps to identify how an organisation might expect to benefit from ITIL and how to start obtaining those benefits. It will help organisations in identifying their strengths and weaknesses, enabling them to introduce the necessary changes to achieve their goals.

5. *ICT Infrastructure Management (2002)*. Information and Communications Technology Infrastructure Management is concerned with the processes, organisation and tools needed to provide a stable IT and communications infrastructure, and is the foundation for ITIL service management processes. The book covers:

   - Design and Planning
   - Deployment
   - Operations
   - Technical Support.

6. *Application Management (2002)*. It provides an outline of the Application Management lifecycle and is a guide for business users, developers and service managers of how applications can be managed from a service management perspective. This book places service management at the heart of the provision of information services to the business. Based on this perspective, applications should be managed throughout their lifecycle with the business objectives in mind.

7. *Security Management (2000)*. This book looks at security from the service provider stand-point, identifying how Security Management relates to the IT Security Officer and how it provides the level of security necessary for the provision of the total service to the organisation. The guide focuses on the process of implementing security requirements identified in the IT Service Level Agreement, rather than considering business issues of security policy.

8. *The Business Perspective (2005)*. This book is concerned with helping business managers to understand IT service provision. Issues covered here include:

   - Business Relationship Management
   - Partnerships and Outsourcing
   - Continuous improvement and exploitation of Information, Communication and Technology (ICT) for business advantage.

The OGC books are a compilation of best practices but they do not describe how to implement the ITIL methodology in a practical way. For that purpose, Randy A. Steinberg (2001) gives some important hints in his book *"Implementing ITIL: Adapting Your IT Organization to the Coming Revolution in IT Service Management"*. He presents different options for transitioning the existing Service Management solutions in order to build an appropriate IT Service Management

Organization. Suzanne Van Hove, Ivor Evans, and Diane Colbeck (2005) also explain practical methods in their book "The Complete Guide to IT Service Management".

4. ITIL adoption today

The *ITIL User Community Forum* is intended to serve as an interactive and completely independent resource to support ITIL education and enable the free exchange of ITIL information.

Figure 1 shows the results of a survey made in March 2007 to more than 8.000 IT professionals, asking about their involvement on ITIL projects. Actually, more than 20 percent of the IT community has started using ITIL or are in the process of deploying the methodology.

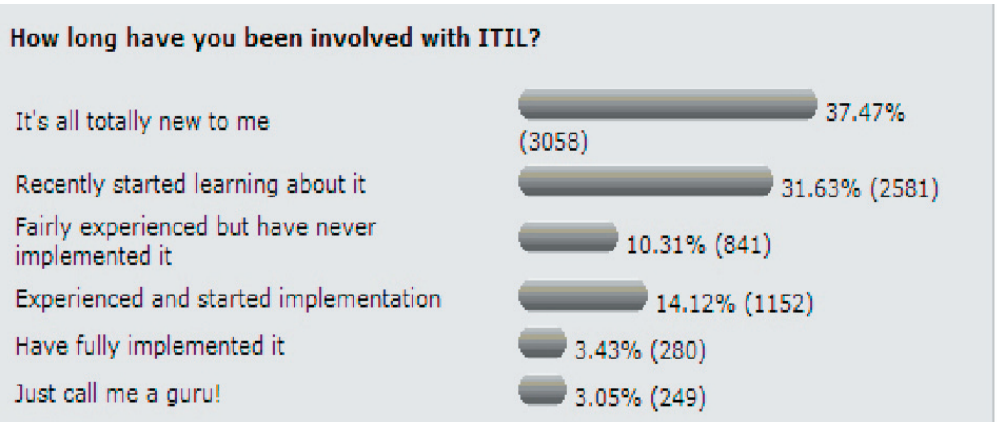

Figure 1. Survey about the use of ITIL (March 2007). Source: ITIL Community Forum.

Many multinational companies have already adopted these best practices. Some remarkable examples are Procter & Gamble, Telefonica, IBM, HP, Caterpillar, Shell Oil and Boeing. Procter & Gamble has published savings of 15 million dollars a year after the adoption of ITIL across their Information Systems department. This is more or less the 10 percent of their total IT budget. In Shell Oil there is an installed base of 80.000 PCs. Only from software release changes the company has saved the equivalent of 6.000 wages of IT professionals with a value of 5 million dollars approximately.

The Telefónica Group is deploying ITIL gradually and in several steps. First, educating and certificating the IT management and after that, training the remaining employees who work in Information Systems. In 2006 the company announced the merge of the mobile and fix line businesses. Both IT departments have adopted ITIL and this will facilitate the merge because they are organized around the same processes and they will use the same ITIL language.

Hewlett Packard has also been a pioneer in ITIL adoption. An example is the Service Desk. As we explained before, its objective is to attend calls from the users with incidents related to the information and communication systems. In the early 90's, the company established Service Desks in every country and with its own personnel, establishing a methodology to manage the incidents from the users. Next step was to externalize the Service Desk to other local companies, in the same country. The last improvement regarding the single point of contact between the users and the IT department was the complete externalization out of the borders (off-shoring), building several Service Desk centers distributed in 3 continents. These centers offer the employees (users of IT systems) a continuous service according to an "around the clock" model. Depending on the time band, the attention to the users is given from one continent or another (Europe, America, Asia), assuring the service is continuously available to

the users.

But the ITIL model has also benefits for small companies. In this case, the deployment has to be done having in mind some particularities due to the size of the organization. Sharon Taylor and Ivor Macfarlane (2006) explain how to implement ITIL in reduced IT departments in their book *"ITIL Small Scale Implementation"*.

5. Benefits of ITIL

The benefits of ITIL can be analyzed from two different points of view. One is the users' perspective and the other is the IT departments' perspective. Regarding the users of IT services, ITIL will allow the use of a common language facilitating the communication and understanding of the services from both sides, the IT provider and the IT consumer. Quality will be managed better and the costs of the services for the IT customers will tend to go down.

Concerning the Information Systems department, it will gain in efficiency because all the processes will be under better control. Infrastructure will be simplified, making a more rational use of the IT hardware and software assets. Redundant activities will be discovered and avoided. There will be precise guidelines about managing incidents, problems, configurations, changes or software releases. By classifying the IT activities in well defined processes it will be easier to externalize part of them through outsourcing.

In essence, ITIL is a compilation of best practices and for any company trying to improve the IT service management the alternative to the ITIL guidelines will be something like "reinventing the wheel". Following the ITIL recommendations, any organization can be sure of managing the Information Systems department and the offered services catalog in the best possible way.

6. Potencial problems

As we have seen before, there are many clear benefits from adopting this methodology. However, potential problems can appear coming from mistakes if ITIL is not deployed correctly. If this happens most of the benefits will be shadowed and the project will end in frustration. In that situation, the organization will need a long time until a new ITIL project is taken under consideration again.

The major risks that will have to be observed before launching a process to evolve the IT department to ITIL are the following:

6.1. Lack of understanding and support from the top management of the organization

Most of the CEO's, CIO's and CFO's recognize the value and the benefits of implementing the ITIL recommendations. However, reality shows that even if they are aware of the improvements for the organization, they do not always get personally involved and that is a major mistake.

Deploying ITIL means important organizational changes, decisions about process managers and new responsibilities and roles of the IT personnel. The managers and the CIO especially, have to get involve in pushing the project with energy. In order to be able to do it, the CIO must have a deep knowledge of ITIL. Only knowing the methodology the CIO will be able to support it until the complete IT department is ITIL-compliant.

Rivalries among different areas inside IT can also be an obstacle for the success of the project and once again, the CIO must help making decisions to solve blocking situations.

6.2. Workload of IT people due to their daily tasks makes progress impossible

At present, most companies operate in very competitive environments. For that reason IT departments' structures are largely optimized in human resources. Therefore, the employees are often overloaded and have no time to devote to implementing the new ITIL processes and methodology.

In order to be successful in an ITIL project, all employees of the IT department have to be trained and educated, and that means investing time. Managers will also have to dedicate some time to change the structure of the department, redefining the processes in a different way and making decisions about who is who in the new organization. If the managers have no time to perform all these new tasks, the project will never progress satisfactorily.

Contracting a consulting company with expertise on ITIL deployment projects will help to meet the planned timings. The external consultants will lead the workshops in the different areas involved in the project, making recommendations and raising the problems they can find to the top management of the company. This will have an extra cost but it will be well spent money if the consulting company helps to achieve the corporate goals.

6.3. No clear measures

In order to know the benefits after an ITIL project, clear metrics have to be put into place. The question is how to measure and report about the ITIL processes and what metrics are important to the management of the organization.

The ITIL manager has to build a complete ITIL metrics program. He must figure out which metrics are the most important and how to determine them. He will also have to deal with staff resistance to a metrics program and for that reason this program should be done step by step.

Randy A. Steinberg (2001) gives important advices about this issue in the book *"Measuring ITIL: Measuring, Reporting and Modeling - the IT Service Management Metrics That Matter Most to IT Senior Executives"*. It is a practical guide that shows the operational metrics to use and how these can be calculated into Key Performance Indicators (KPIs) and Critical Success Factors (CSFs) that are aligned with senior management targets.

6.4. Excessively ambitious objectives

When the objectives are too ambitious, they can be difficult to be achieved, leading to a general lack of motivation and frustration. Sometimes, companies want to obtain all the benefits from ITIL in a short period of time trying to implement significant changes very quickly. The IT organization cannot absorb too many structural changes due to the natural inertia of any organization and this leads to disaster.

Instead of facing large and complex projects, it will be better to make the projects by stages. In this way, splitting the large plan into several shorter and smaller projects it will be easier to achieve the partial goals, but keeping always the final objectives in mind.

6.5. When there is no commitment from all levels of the IT organization

A typical error is to nominate a group inside IT to be the only responsible to deploy ITIL across the entire department. Doing that, the rest of the areas will not feel fully committed with the project and it will be difficult to get their full support. ITIL is oriented towards processes,

with a process manager for each of them. In a certain process people from different areas can participate and for that reason, the collaborative mind will be critical to be successful.

All the employees, at any level of the organization, should be trained in the ITIL methodology and best practices understanding the benefits and the reasons for the new IT service management. This education should be presented as something motivating for the employee. In fact, the ITIL certification will add value to the individuals in the labor market.

6.6. When ITIL becomes an objective itself

This is the last, but not the less important mistake that an IT manager can make. In some cases the IT organizations can be too strict trying to be ITIL compliant, forgetting that ITIL is just a set of best practices than cannot have priority over the real business objectives of the company.

Excessive bureaucracy managing the IT processes can be an obstacle for the enterprise agility, having negative effects on the business, instead of helping to gain in efficiency, IT service quality and cost control.

The advice in this case is not to forget that IT services are to support the business processes and no methodology makes sense if it does not add value to the business by improving the services quality and reducing the costs.

7. Conclusions

Today, most of the businesses depend strongly on the information and communication technologies y and the services provided by the IT department. ITIL is a set of best practices to manage the services catalog and has become a standard worldwide. Following this methodology the IT organizations can improve the quality of IT services, making a more efficient use of the human resources and IT infrastructure and reducing costs.

However, some potential risks have been detected and relevant recommendations have to be issued in order to avoid the situations mentioned before. Following these recommendations companies will obtain the positive outcomes and benefits expected from an ITIL project.

Acronyms

ITIL: Information Technology Infrastructure Library

CCTA: Central Computer and Telecommunications Agency

OGC: Office of Government Commerce

CEO: Chief Executive Officer

CIO: Chief Information Officer

CFO: Chief Financial Officer

KPI: Key Performance Indicator

CSF: Critical Success Factor

SLA: Service Level Agreement

CI's: Configuration Items

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