Towards a pooling of ITIL V3 and COBIT

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Abstract

The purpose of this paper is to propose a pooling of ITIL and COBIT. This is to make a projection of ITIL processes and their structures on COBIT as well as positioning the two references one compared to the other for a better use in the Information Technology governance.

Keywords: *Good practices, ITIL, process, COBIT, IT Governance, IT Strategy.*

1. Introduction

The governance of Information Technology brings together all of the management systems (processes, procedures, organization) for controlling information technologies. This concern is an offshoot of the desire to ensure corporate governance.

There are many references that reflect the best practices developed over the years. The reality is that each of them focuses on a specific matter: safety, quality, customer services, auditing, project development, etc...

ITIL (Information Technology Infrastructure Library) is a set of good practice structured as multiple processes communicating with each other. Each has its own role so that, at the end, they can both respond to the two issues which are : the continuous improvement and customer satisfaction.

COBT Is A reference of information systems, the perimeter of COBIT governance (created by ISACA Information Systems Audit and Control Association) exceeds the one vested in the management of information systems to all stakeholders encompass in the company. Malthus, According To COBIT, "governance of information systems Is The reference of leaders and the Board of Directors, it Consists of structures, command and operation processes leading the IT of the enterprise to support its strategies and business objectives, and allow them to expand."

This article helps to highlight the completeness and pooling possible between these two references based on the perspective of developing a version of COBIT that includes the most used processes of ITIL.

2. Understanding ITIL

To define ITIL, you must be in a context of continuous improvement and customer orientation needs.

ITIL is a set of good practice structured as multiple processes communicating with each other. Each has its own role so that, at the end, both can respond to the two issues which are: the continuous improvement and customer satisfaction.

ITIL is not a standard because it does not provide criteria or a requirement - set defined internationally and certifying the organizations.

ITIL is not a methodology or method. It provides and uses methods to better explore the good practice.

The good practices provide organizations a structure, approved by years of experience in large companies globally recognized for their professionalism and thoroughness, to formalize their processes and manage their information. These good practices are used primarily as guidelines to companies serving businesses wishing to improve their quality of service.

However, to take advantage of the power of all good practices proposed by ITIL, and following the worldwide recognition of the robustness of its processes, a standard was created in 2006 based on these good practices. This standard called ISO20000 international came out to meet the needs of companies wishing to demonstrate their alignment with the good practices recommended by ITIL.

3. Why ITIL?

ITIL provides a pragmatic approach to deal with the situations in which CIOs are faced, namely, among others:

- The IT sector is receiving more and more investment budget. It represents important expenses especially for companies to whom; the main business isn't focused on computing.
- Information systems are becoming more complex. As long as the IT workers are trying to meet the requirements and demands of their internal customers, they find themselves facing an infrastructure and a large arsenal application that must be managed and maintained while trying to be responsive.
- With the advent of new technologies of information and communication (social medias …), users have become up - to - date with all high - tech news. Especially since the editors have popularized their software's (advent of open source) and telecommunications infrastructure (mobile phone).
- As long as companies have spent enormous sums of money for the IT infrastructure (hardware and software), the leaders expect a return on investment and begin to tighten the budgets. Thus the difficult situations the CIOs have to face.
- Globalization has played its part too. It introduced the practices of service between recharges its subsidiaries. This new situation has opened the eyes of CIOs who want to bill their services to their internal customers.
- All this was said, made the ambiguous role of the CIO. With the mode of outsourcing, the user begins to ask questions about the added value of CIOs as external suppliers support their claims with contracts and a better reactivity.
- For companies specialized in IT, being certified or certifying their staff improve their reputation and trust of their internal or external customers. This certification is a label that the CIO can show to proof their professionalism with standards recognized worldwide.

Client axis :
For this axis, ITIL will respond to the:

- Lack of mechanism structured for delivery and service support.
- Lack of confidence in the management of IT services.

Management axis:

- Mismanagement of resources and means.
- Failure of service in a frequent way.
- Irregularity in meeting the deadlines of requests and claims of customers.
- Changes or modifications not coordinated or analyzed.

Decision axis:

- Decisions are made without any pragmatic basis.

4. The basic concepts of ITIL

Mainly, ITIL is based on five pillars:

- Customer focus.
- The life cycle of service.
- The concept of process.
- Continuous improvement.
- Communication.

Customer focus

This concept is crucial for managing IT services. It makes the customer needs the main concern of the IT specialist. Thus, what's important is not focusing on new technologies and the power of servers and telecommunications but rather meeting the functional need of the customer in the most faithful and most optimal way.

Taking into consideration the business needs of the customer and make them the main concern of the IT management is the reason to be of the IT services.

It is then necessary to fully understand the customer needs, follow up their development and establish an organization that supports them expressing and monitoring these needs.

The life cycle of service

Before describing the life cycle of the service, we must first explain its concept. In general, the service can be defined depending on the context.
In a restaurant we can evaluate the service: smiles, atmosphere, responsiveness,...
In a tennis match, the service is a trigger of play
In an organization, a service is an entity having a function and a task performed by a group of staff.
In the IT field, a service is defined as a benefit, help or assistance a user can expect from a supplier.
In daily life of IT projects, and after the post - production of projects, CIOs find themselves faced with two situations:

- Whether the operations team was not involved in the project since its design, creating a frustration having to deal with tasks from which they don't understand the point in the business.
- Or the project team, as it masters the issue, continue the project in the operational phase. This generates organizational failures and conflicts of responsibility.

To avoid this kind of anomaly, ITIL provides the solution and advocates considering the management of services from the needs study of the IT projects. Thus, the overlapping roles of the project team and operations team are avoided and the operating team is aware of the stakes of the project and its services as well as the added values.

This makes sure that the resources and expertise required for the operation of services after their releases are available. This involves taking into consideration the impact of performance, availability and budget since the start of the project.

The process concept

The concept of life cycle brings all necessary elements for successful projects from the specification of needs by customers until the go - live of services.

The concept of process has demonstrated its robustness when quality is the matter. ITIL has adopted this approach to structure the philosophy of its good practices as multiple processes interacting between each other.

This concept of process provides answers to the sequence of activities while undergoing examinations and performance indicators measuring the achievement of results for which the process was designed.

The process owner is responsible for the design of the process and ensures that it meets the need defined. He reports to company executives.

The process manager is responsible for implementation of the process as it was defined by process owner to which he reports.

The quality of service

This concept is the raison d'être of the good practices. Quality service is defined as it has the ability to respond to customer needs exactly as they were defined. The client judges their supplier, not based on their how - to - methods but rather based on their appreciation of the result within the deadline expected, while respecting the specifications defined.

In that sense, ITIL seeks to improve service in a perpetual manner based on the philosophy of Deming wheel: Plan, Do, Act, Check.

Communication

One of the contributions of ITIL is the good communication. It harmonizes the language between customers and suppliers. This language removes any ambiguity when the IT specialists talk about the SLA agreement, incident, problem, change, ...

The good communication is an important component of the service quality. Business Directions must understand the issues of IT, their constraints and commitments. The communication also facilitates the negotiation of budgets, as projects come directly from business requirements.

The communication also reflects the transparent aspect of the CIO. This is to convey a clear picture to users, a picture illustrating the negative aspects and most of all the positive ones of the IT management and the efforts of IT resources.

5. COBIT

Definition

COBIT (Control Objectives for Information and related Technology) is a unifying tool that allows managers to bridge the gap between control requirements, technical issues and business risks. Since its first version released in 1996 COBIT has evolved, version 4.1 appeared in 2007.

COBIT provides a framework for structured control IT operation with 34 processes divided into four areas:

- Plan and organize (PO)
- Acquire and implement (AI)
- Deliver and support (DS)
- Monitor and evaluate (ME)

The four fields of CobiT include coherent sets of processes. PO represents the field of strategic dimension of IT governance. The AI field gathers all processes that impact resources, from acquisition to implementation. The DS field is devoted to services offered to clients of the CIO. Finally, the SE field covers largely the controlling, audit and monitoring of everything.

COBIT processes

For each of the 34 process, COBIT describes the scope and purposes and then list and develop:

- Control objectives for IT auditors, which are detailed in other publications;
- A management guide written in a logic of governance SI;
- A maturity model for each process.

Processes plan and organize (PO) :

The processes described in this chapter discuss the strategy and tactics to optimize the contribution of IS to achieve the business objectives of the company.

The processes of this field are the following:

- PO1: Defining a strategic IT plan
- PO2: Defining the information architecture
- PO3: Determining technological orientation
- PO4: Defining the processes, organization and labor relations
- PO5: Managing IT investments

- PO6: Communicate the goals and management guidelines
- PO7: Managing IT human resources
- PO8: Managing Quality
- PO9: Assessing and managing risks
- PO10: Managing projects

The PO field describes the 10 strategic information systems governance process. It concerns both huge CIOs as well as CIOs which have outsourced most of their projects or their operations.
We can couple COBIT with other references, but the PO field will remain essential.

Processes acquire and implement (AI):

The processes described in this chapter concerns the identification, development or acquisition of IT solutions, their implementation and integration with business processes, modification and maintenance of existing systems.
The processes of this area are the following:

- AI1: Find IT solutions
- AI2: Purchase applications and maintain them
- AI3: Purchase a technical infrastructure and maintain it
- AI4: Facilitate the operation and use
- AI5: Purchase IT resources
- AI6: Manage change
- AI7: Install and validate changes and solutions

Projection of the AI process to ITIL

The AI field covers all of the applications and infrastructure projects as well as all patches and any kind of change in the scope of information systems. It is similar to the chapter Transition Service of ITIL V3.
Some will find that the piloting the project itself is not there. It is true that the AI2 process, which covers both the development and maintenance of applications, should be more explained. It is on this level that we must link the project management methods that exist elsewhere.
However, this field has the advantage of describing Processes that are often ignored, such as the AI4 process (Facilitate the operation and use), or Neglected, Such as AI1 process (decision making or not) and AI6 / 7 (change management, testing and production).

Processes Deliver and Support (DS)
This area covers the implementation of services: computer operations, security management, continuity management service, user support, data management and equipment.
The processes of this area are the following:

- DS1: Define and manage service levels
- DS2: Manage third ‐ party services
- DS3: Manage performance and capacity
- DS4: Ensure continuous service
- DS5: Ensure security of systems
- DS6: Identify and allocate costs
- DS7: Educate and train users
- DS8: Manage support to clients and incidents
- DS9: Manage configuration
- DS10: Manage problems
- DS11: Manage data
- DS12: Manage the physical environment
- DS13: Manage operations

Projection of DS processes to ITIL
The DS field describes completely the conditions of IT services supply. It first described the relationship with the trades (DS1) and with third parties (DS2). This preamble allows all contractual services.
Essentially, this field is the closest to the related ITIL processes. Only DS7 seems not to be described in ITIL.

Processes monitor and evaluate (ME):
The processes described in this chapter deal with the performance management, monitoring of internal control, compliance with regulatory standards and governance.

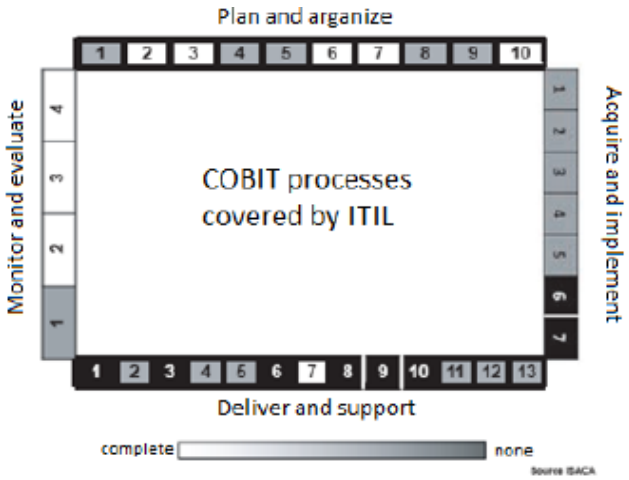
- The processes of this field are the following:
- ME1: Monitor and evaluate the performance of IS
- ME2: Monitor and evaluate internal control
- ME3: Ensure compliance with external obligations
- ME4: Implement a governance of IS

Projection of ME processes to ITIL
The process of ME domain describe four levels of monitoring and evaluation of the whole system (PO, AI and DS). Where the process is SE1 the main role as it controls it fully. It should be the starting point for all deployed processes' improvement (a little bit like the "continuous improvement" in ITIL V3).
ME2 process is more difficult to identify because it is made to monitor the well ‐ functioning of the above process. This requires an independent responsible, preferably in internal audit, should be designed.
ME3 process has the advantage of isolating the monitoring over compliance. Finally, ME4 provides a way to audit the implementation of the governance of IS.

6. Towards a pooling of COBIT and ITIL.

ITIL structures its approach of the services' management around the relationship with stakeholders: daily IT service users and project managers for controlling (business

managers, etc.).. COBIT, in the same way, has systematically put beforehand the finality of IT services, including meeting the needs of business and the desire to align supply with demand. Both approaches share the same values regarding the management of IT services.
The figure below lists the COBIT processes that are closest to the ITIL processes. Note that the names of the process are often the same, reflecting the growing awareness of ITIL with COBIT designers over the versions.



Why pooling?
The steps ITIL and COBIT are often conducted separately. ITIL was a response to better structure the service centers which are, for the same reason, the only function to be represented as the heart of the process. The procedures of the service center concerning the incident management (structuring levels, climbing, registration tickets call, enrichment databases resolution, etc.) had to industrialize to meet the demands at lower cost.
Simultaneously, a growing number of organizations are outsourcing the support functions, which were not necessarily in their core business and seem complicated to manage and optimize in ‑ house. As for tools, editors have offered more accomplished ones, able to handle all procedures and linking them to a database of resources in the broad sense (call tickets, configuration objects, but also job descriptions, etc.).. All this "arsenal" was built with the ITIL framework.
The key points to consider in order of pooling the two approaches are as follows.

• Reconcile two cultures
ITIL culture is pragmatic, constantly confronted with the daily issues and geared more towards the service (service continuity, performance). it often manages data objects in a level of detail that only applies to players in the support, maintenance or operation.

COBIT, however, may be perceived as too theoretical, not often useful nor concrete enough to be deployed easily and effectively.

• Structuring the whole repository
Avoid duplication of processes, which inevitably occurs if one does not describe a mapping process to ensure overall consistency.

• Make the link with the studies and developments
ITIL has trouble spread to the teams of studies and development. It is recognized neither in the management of projects at the elementary level or in the overall management of portfolios and investments.
COBIT has the advantage of giving a comprehensive framework that provides a process of transition, PO10 between ITIL and studies.

• Gradually build the data of the ISD model
ITIL gains are interesting but the risk of falling into the details is big. We must rely on the CMDB to create the data model of the CIO, ensuring distance themselves and define the granularity of the data relevant for control.

7. Total Mapping between ITIL and Cobit

Below reconciliation between the phases and processes of the two repositories, ITIL correspondence is in italics.

Reconciliation of phases
- Planning and Organizing (PO) => Service strategy
- Acquiring And Implementing (AI) => Service conception
- Delivering and Supporting (DS) => Transition and operation of service
- Monitoring and evaluating (ME) => Continuous improvement of service

Reconciliation of processes
- PO1: Define a strategic IT plan => Set service strategy (strategy service)
- PO2: Define the information architecture
- PO3: Determine technological direction
- PO4: Define the processes, organization and labor relations
- PO5: Manage IT investment => financial Management of service (strategy of service)
- PO6: Communicate the goals and management guidelines
- PO7: Managing IT human resources
- PO8: Managing Quality
- PO9: Assess and manage risk
- PO10: Manage projects

- AI1: Find IT solutions => Management and deployment into production (Phase transition of service)
- AI2: Purchase applications and maintain them
- AI3: Purchase a technical infrastructure and maintain it
- AI4: Facilitate the operation and use
- AI5: Purchase IT resources
- AI6: Manage change => Change Management (Phase transition of service)
- AI7: Install and validate changes and solutions => Management and deployment into production (Phase transition of service)

- DS1: Define and manage service levels => Service Level Management (Design Phase)
- DS2: Manage third - party services => Supplier Management (Design Phase)
- DS3: Manage performance and capacity => Capacity Management (Design Phase)
- DS4: Ensure continuous service => Continuity Management (Design Phase)
- DS5: Ensure security of systems => Security Management (Design Phase)
- DS6: Identify and allocate costs => Financial Management Service (Strategy service)
- DS7: Educate and train users => Management and deployment into production (Phase transition of service)
- DS8: Manage support to clients and incidents => Incident Management (Operation Phase)
- DS9: Manage configuration => Asset management and configuration (phase transition)
- DS10: Manage problems => Problem Management (Operation Phase)
- DS11: Manage data
- DS12: Manage the physical environment
- DS13: Manage operations => (This is a phase according to ITIL)

- ME1: Monitor and evaluate the performance of IS => Phase of continuous improvement of service
- ME2: Monitor and evaluate internal control => Phase of continuous improvement of service
- ME3: Ensure compliance with external obligations
- ME4: Implement a governance of IS => Portfolio Management Service (Phase service strategy)

8. Recommendation for a successful approach for pooling

When used together, COBIT and ITIL provide a top - down approach for the IT governance and for the management of services. The COBIT management guide provides a comprehensive approach to manage objectives and priorities for IT activities.
When used together, the power of both approaches is amplified, with a greater likelihood of management support and direction, and a more efficient use of resources for implementation.

Structuring the process
The organization needs an effective action plan that suits their particular circumstances and the needs, but some recommendations are common to all businesses:

- Ensure that the project of setting up standards of governance is in terms of senior management and will be sponsor of this project.
- Deficiencies and ensure that IT issues are identified and listed
- Work with management in ensuring alignment of initiatives with positive impacts on business activities of the company.
- Developing dashboards to measure the performance of IT services

Planning
Establish an organizational framework (ideally as part of a global initiative of IT governance) with clear responsibilities and objectives.

Ensure the participation of all stakeholders.
- Identify project risks
- Develop strategies for improvement, and decide of the highest priority projects that will improve management and governance.
- Consider supporting COBIT control objectives using the most detailed ITIL guidelines.
- Measure results, establish a dashboard mechanism to measure current performance and monitor the results of further improvements.

Pitfalls to avoid
There are also some obvious rules, but pragmatic, that management should follow to avoid the pitfalls:
- Treat the initiative to implement a project activity with a series of phase.
- The implementation involves cultural change and new processes. Therefore, a key success factor is the activation and motivation for change.
- Make sure there is a clear understanding of objectives.
- Manage wait times. In most companies, achieving success takes time and requires continuous improvement.
- Focus first on where it is easier to make changes and improvements and build from there, one step at a time.

4. Conclusions

The reference of good practices was designed to meet a need of structuring the service of processes management, it responds to this need with more details and efficiency and also, ITIL remains the most deployed reference in the management of IT infrastructure and service.

On the other hand, COBIT gives a more strategically view of IT management for a better alignment of IT with the enterprise strategy.

Thus, managers of information systems are faced to two interesting references. Yet each one has a terminology, its processes and methodology of implementation. This article has put the focus on processes and common objectives of these references and the fields of possible pooling, One of the perspective of this paper is to design a version of COBIT that fully integrates common ITIL processes.

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