

The governance of health information systems : a tool for improving the quality of care

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ABSTRACT

Computerization of the care process is essential. It facilitates the traceability of care activity, which is the founding regulatory element of care safety, and the operational element of continuous quality improvement initiatives. This is why the implementation of traceability in the field now requires the development of responsive information systems based on information technology governance, and specifically the ITIL best practice framework. The deployment of ITIL will enable care processes to be mastered in real time, eliminating malfunctions and improving SIS performance.

Keywords: *healthcare information system, ITIL, IT governance, performance.*

I. INTRODUCTION

In an increasingly uncertain and complex environment, the development of a strategy to better achieve objectives, the elaboration of action plans, the verification of deviations from initial forecasts, the constant adaptation of policies, cannot be conceived without the use of information technologies to assist managers in their decision-making. With the globalization of markets, the organization must adapt, if possible anticipate, sometimes influence, and in any case react with agility. To achieve this in the right conditions, decision-makers need the right information, at the right time, to make the right decisions. Thanks to advances in information technology (software, databases, etc.), healthcare organizations today can collect, process, store and distribute large volumes of information, and all these operations are carried out ever more rapidly and at reasonable cost. But if information is no longer a scarce resource, as it was in the past, the governance in a database that enables it to be analyzed and used to improve the performance of healthcare information systems. In this context, our question in this article is how effective IT governance can also contribute to greater harmonization and consistency in terms of IT security levels, IT project management methods and, more generally, promote these technologies as an indispensable tool for strengthening and improving the quality of care and services. In the present work, we focus on the concept of IT governance. The research presented in this article will be divided into three parts. In the first part, we will conduct a bibliographical search on the concept of information systems governance. In the second part, we discuss best practices in IS

governance, in particular the ITIL tool. In the last part, we focus on the application of the ITIL tool in the health insurance sector. improve the SIS and make it more efficient. Finally, we discuss the conclusions of our work.

II. THE CONCEPT OF INFORMATION SYSTEM GOVERNANCE

A. The IT governance

The IT governance is to assure company management and shareholders that the information systems function is perfectly managed. The term IS Governance is now frequently used to refer to the guidance and control activities of an organization's highest administrative body, the one at the helm. IS Governance is seen as a management process, based on best practices, which enables the company to optimize its "information system" investments in order to achieve a set of objectives (contribute to its value creation objectives, increase the performance of IT processes and their customer orientation, control the financial aspects of the information system, develop the information system solutions and skills the company will need in the future, guarantee that information system-related risks are under control) while developing transparency [1]. IS governance" is the transposition of corporate governance principles to the IS level principles (as shown in figure 1).

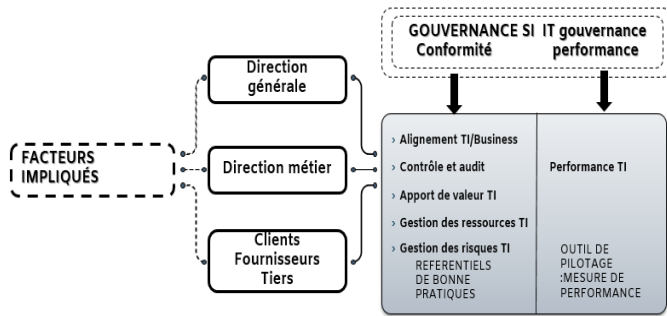


Figure 1. General IT GI framework [2]. (source : Florescu & al (2007)) [2]

The factors involved in the governance of a company's information system are:

- The shareholders (Patrimonial power), who set the objectives and ensure monitoring;
- Directors (managerial power), who are responsible for achieving objectives in terms of performance, compliance and transparency;
- Information Systems (IS Management), which manages IS resources and processes.

In the governance process, we call on best practice repositories (such as COBIT / ITIL) and management tools (such as IT Scorecard).

B. The principles of information system governance

IT governance is founded on five basic principles: strategic alignment, value delivery, performance measurement, resource management and risk management (as shown in figure 2).

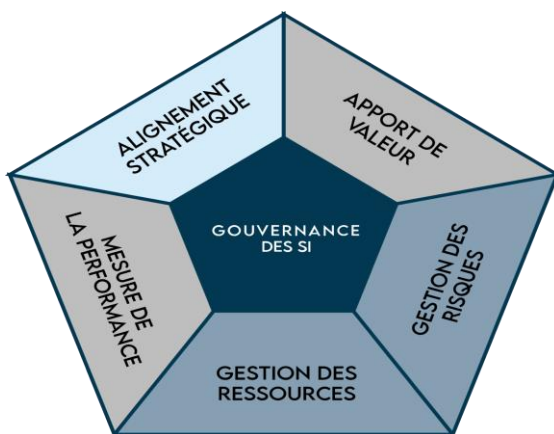


Figure 2. Principles of IS governance Source: Delavaux(2007) [3].

To achieve all these objectives, we need to put in place tools or systems. These are known as IT governance mechanisms.

- IT Strategic Alignment concerns the alignment of information system strategy with business strategy [4];
- IT Value Delivery is concerned with improving the value of the company's services through the information system [5];

- Performance Measurement involves the analysis of IT management and control practices (dashboards, reporting, etc.);
- IT Resource Management: this involves analyzing knowledge and management principles for hardware and software assets, human resources, as well as subcontracting and outsourcing policies;
- IT Risk Management: this involves analyzing the risks taken by the company through its IT systems (see IT risk mapping), in terms of business impact. The principles of information system governance are in line with fundamental managerial practices: establishing an effective strategy, using relevant steering tools, demonstrating the value and contribution of actions, knowing the risks incurred and managing IT assets.

III. BEST PRACTICE STANDARDS

A. Classification

The literature on information system governance cites a number of best-practice repositories of interest to IT governance:

- ITIL (Information Technology Infrastructure Library), developed by the British authorities and dedicated to optimizing IT services within the company;
- COBIT (Control Objectives for Business & Related Technology), developed by ISACA (Information System Audit & Control Association) and dedicated to the governance and audit of information systems;
- CMMI (Capability Maturity Model Integration), dedicated to systems and software development;
- ISO 27001, a standard for information system security.

In this research article, we focus on the ITIL framework, the most comprehensive and integrating.

B. ITIL: IT Infrastructure Library

The ITIL focuses on IT service management [6]. Its objective is to guide IT professionals, through best practices, in the efficient management of resources and the achievement of IT service quality. Using a clearly defined and controlled process approach, ITIL helps to improve the quality of IS and user support by creating the Service Center function, which centralizes and administers the entire management of information systems. Ultimately, ITIL is a kind of "internal regulation", a quality manual, for the IT departments of companies that adopt it. The benefits for the company are better traceability of all IT department actions. These traces serve as a basis for optimizing IT service processes to achieve maximum quality in terms of customer satisfaction. ITIL comprises five books, each dealing with a different perspective on IT services:

- Service strategy: addresses aspects of financial management, service project portfolio management and demand management. The aim is to ensure that

future services are aligned with business needs and create value for the company;

- Service design: these are seven processes to be implemented to manage service continuity and evolution. It proposes a set of indicators for measuring the alignment of service capacity with demand;
- Service transition: proposes four processes for managing changes, configurations, service deployment and knowledge;
- Service operations: proposes best practices for managing service level agreements (SLAs);
- Continuous service improvement: covers the supervision of alignment and implementation of the service improvement plan. Through these orientations, ITIL covers a broad field of IS governance, focusing on the notion of service and its quality. It exploits the notion of service contracts between service requestors and service providers.

IV. THE ITIL FRAMEWORK IS A PRIORITY AND A STRATEGIC ORIENTATION FOR THE DEVELOPMENT OF THE NATIONAL HEALTH INFORMATION SYSTEM

Through its defined and controlled process approach, the aim of the ITIL standard is to improve the quality of IT systems and service desks. The potential benefits are numerous. ITIL also provides a series of solutions to ensure that IT is increasingly aligned with business objectives, demonstrating its value and enabling a rapid and significant return on investment. The main benefit of implementing ITIL in the SNIS will be to exploit the full potential of technologies, making the most of IT investments made. The assignment of tasks must be clear, and the responsibilities and authority of the IT department must be recognized and accepted by the whole organization, as an indispensable service, generating the values necessary for the smooth running of the organization and the sustainability of its activities, leading it to become ever more efficient and innovative in a process of continuous improvement to develop a vision and a strategy for achieving universal health coverage. To strengthen health information systems, including civil registration, surveillance of risk and morbidity factors and health system performance, and to improve access to and rational use of essential drugs and technologies.

V. USING THE ITIL FRAMEWORK IN THE INSURANCE SECTOR

The medical insurance business regularly faces new challenges, with ever-increasing customer expectations and ever-changing regulations. It is therefore crucial to have an information system that can adapt quickly to changes in this business. In order to overcome the observations of its external auditors, improve its information system, and gain better control over the management of its various activities, the

managing body needs to set up an integrated and secure information system (IS) covering all its management areas and enabling it to perform its steering function in a professional manner.

Defining needs and maturity levels is a very good tool for determining which functions and processes to implement, and in what order. Given the evolution of the relationship between insurance companies and their policyholders, the considerable volume of information processed and the level of risk these companies are exposed to, we can conclude that the ITIL framework [7] presents a systematic, professional approach to IT service management in the insurance sector, since it:

- Facilitates decision-making tasks;
- Defines functions, roles and responsibilities;
- Improves service quality and reduces costs;
- Capitalizes on knowledge and experience;
- Improves member satisfaction by ensuring the availability of information.

VI. CONCLUSION

In recent years, information systems have taken pride of place in public sector organizations, and have become a lever for development and competitiveness. However, Morocco's Ministry of Health is lagging behind in implementing good governance of its information technologies. This topical issue has been at the heart of our work, so the installation of such a system may seem laborious and tedious. Its integration implies the training, support and involvement of all parties concerned, from management right down to grassroots level, thanks to appropriate communication. But standards are designed to ensure the highest possible satisfaction and a reasonable level of security, so they are necessary. ITIL, like all other management systems, is applicable to any type of organization, whatever its business or size. It is not there to judge, but to report. It proposes and the user disposes. It is therefore up to each organization to detect what is essential and what is accessory, and thus to consider the benefits and risks of the decisions taken. The organization will need to select, adapt and prioritize a set of "ITIL recommendations" according to the particularities of its activities. Such an implementation requires a significant degree of investment, but is indispensable.

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