

ITGovA: Proposition of an IT governance Approach

Adam CHEKLI
Hassan II University -
Mohammedia
Ben M'sik Faculty

Email: adamchakli@gmail.com

Sara AREZKI
Hassan II University -
Mohammedia
Ben M'sik Faculty

Email: sara.arezki@gmail.com

Abdelouahed NAMIR
Hassan II University -
Mohammedia
Ben M'sik Faculty

a.namir@yahoo.fr

Abstract—I To cope with issues related to optimization, rationalization, risk management, economic value of technology and information assets, the implementation of appropriate IT governance seems an important need in public and private organizations. It's one of these concepts that suddenly emerged and became an important issue in the information technology area. Many organizations started with the implementation of IT governance to achieve a better alignment between business and IT, however, there is no method to apply the IT governance principles in companies. This paper proposes a new approach to implement IT governance based on five iterative phases. This approach is a critical business process that ensures that the business meets its strategic objectives and depending on IT resources for execution.

Keywords—Information technology, IT governance, lifecycle, strategic alignment, value

I. INTRODUCTION

To get more competitive and to face an increasingly fierce competition, businesses restructure to streamline operations and jointly benefit from advances of information technology to improve their competitiveness and align with other companies. Focusing competitiveness and cost value push companies to trust information technology which become an essential pillar of the most company's strategy... However, to realize that IT projects can return value to the organization and increase its performance unless they may include various ethical risks can explain the relatively attraction for the IT governance.

IT governance is a mechanism to meet new challenges of IT resources management policy. It determines the rules, procedures, structures and behaviours, to a better relationship between the involved actors in the operation and information system administration within an organization. For many, the prospects that propose this approach are synonymous higher operating efficient systems designed to free up additional optimum performance capacity [2].

This paper proposes an approach to improve IT governance. This approach is based on phases allowing an initial assessment of company's IT governance maturity, followed by a definition of a realistic target to reach. The selected target will be translated into best practices actions plan composed of a hierarchical prior priority to

improve IT governance processes. Like any project, performance evaluation indicators will be established and accompany the project life cycle.

II. IT GOVERNANCE

Governance is a key concept for the information system and information technology. Today, IT can answer many crucial questions in this area [3]:

- How to manage the relationship between top management and IT department?
- What are roles and responsibility limits between the directions which use and manage the information of the company.
- How to improve information system efficiency?
- What are the key processes of IT department?
- How to manage and organize IT department?
- How to ensure a sustainable information system?

The emergence of IT governance issue is associated with the development of the following phenomenon [4]:

- The appearance of an enterprise IT department side of IT department branches.
- The questioning about IT value after a long period of IT investment.
- The rise of values such as transparency, accountability and precaution principle.

The ITGI [5] defines IT governance as « *an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives* ». This means that the IT governance is very important to the enterprise and needs to be treated by top management.

Robert Roussey [6] describes IT governance as « *a term which is used to describe the way how those in charge of governance in an entity will consider it in the supervision, monitoring, control and management. The way how this governance is applied in an entity will have an immense impact on the achievement of its objectives, vision and strategic goals* ». This means that the IT governance is an

important way to improve business and to achieve enterprise objectives.

IT governance must be an integral part of the overall corporate governance. Its objective is to ensure that[7]:

- IT function is provided with the organization that supports it.
- IT function allows company to exploit the opportunities and maximize the value.
- IT resources are used in a reasonable and responsible way.
- IT risks are managed in an appropriate way.

According to the ITGI [4], the IT governance is a management process based on best practices allowing the company directing the IT functions in the goal to:

- Support its objectives of creating value
- Improve the performance of IT processes
- Master the financial aspects of IT
- Develop IT solutions and skills that the company will need in the future.
- Ensure that the IT risks are managed
- While developing transparency.

After this brief presentation of IT governance and its concepts, the paper will detail the different phases of the approach lifecycle.

III. PRESENTATION OF THE PROPOSED IT GOVERNANCE APPROACH

This section will provide an overview of the proposed methodological approach of IT governance.

This method is based on IT governance concepts defined by the ITGI, best practice frameworks and feedbacks of companies that have already implemented an IT governance plan.

The methodological approach is in the form of phases declined in activities. Each phase is described by a sheet that has the following items:

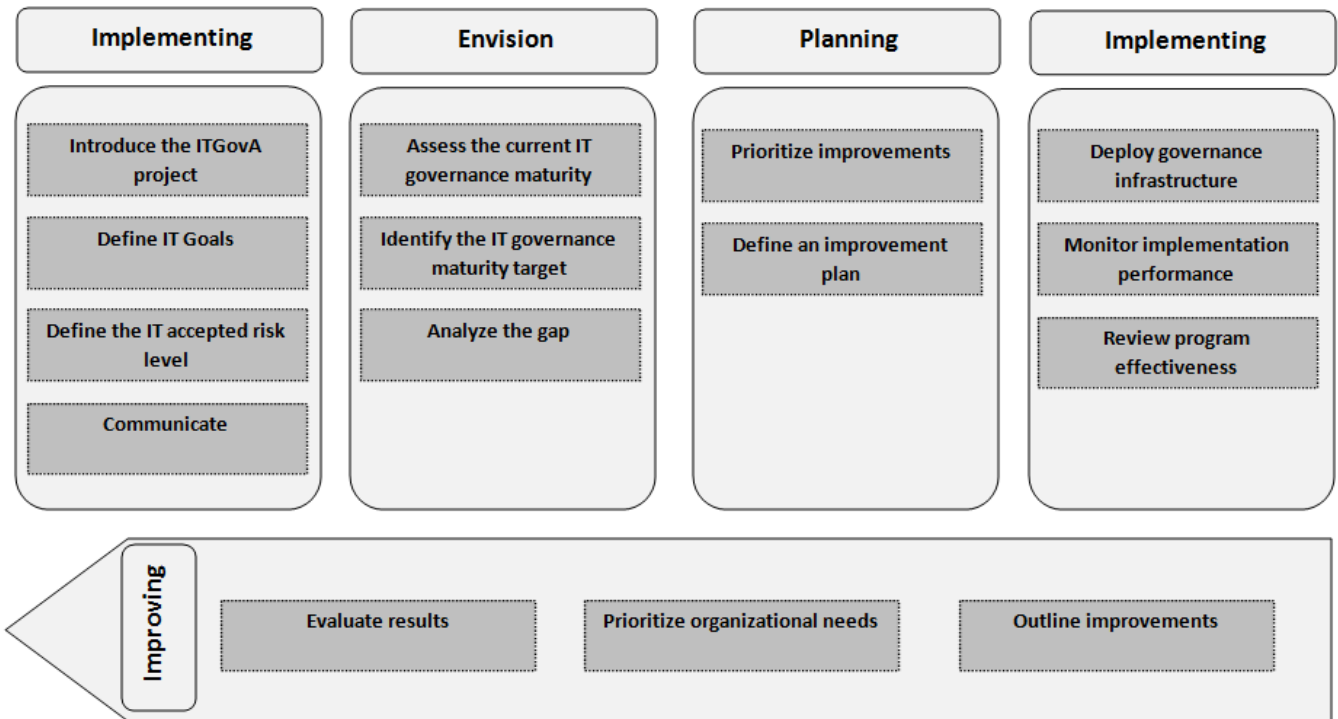
- Phase ranking in the process
- Phase description
- Phase objectives
- Input elements and deliverables
- Satisfaction condition
- Needed roles to achieve the objectives
- Major risks to consider
- Human and technical required skills
- Tools
- Presentation of the activities constituting the phase
- Remarks

Each activity is described by a sheet that includes the following items:

- Activity objectives
- Activity description
- Actions to do
- Input elements and deliverables
- Responsibilities
- Remarks

The proposed approach is not rigid. This is a set of methodological components built to be selected and integrated in order to form the best solution to a specific need in a specific situation. The strength of this approach is given in the way how its components are designed corresponding to the most common project management sequence. Figure 1 presents the phases of the proposed approach and its activities, roles and deliverables.

FIGURE I.
THE PROPOSED IT GOVERNANCE APPROACH



IV. THE PROPOSED IT GOVERNANCE APPROACH LIFECYCLE

A. Inception

The inception phase aims to understand the project scope and objectives and getting enough information to confirm that the project should proceed. In this phase, significant business and requirements risks must be addressed.

The objectives of the inception phase include:

- Establish the project scope and boundary conditions
- Obtain the agreement of stakeholders about the scope of the project
- Define the initial program business case
- Obtain the acceptance of the stakeholders about the initial cost and schedule estimates.
- Identifying, assessing, and accepting risk level
- Communicate about the IT governance project.

Define resources from the sponsor to all the stakeholders. Envisage any intern or extern training.

If the stakeholders agree that the project meets the above criteria, the project move to the Envision phase. If the

project fails in any area above, the project may be re-directed or cancelled outright.

Table 1 describes the activities of the Inception phase.

TABLE 1. THE INCEPTION PHASE ACTIVITIES

Activities	Description
Introduce the IT governance project	This activity of introducing the IT governance project aims to obtain an understanding of the IT governance program, background and objectives. Define the initial program concept business cases and to obtain the buy-in and the commitment of all the stakeholders.
Define It goals	The activity of defining goals aims to define IT goals based on business goals for IT while considering current and required future service and the enterprise architecture for IT
Define the IT accepted risk level	This activity of defining the IT accepted risk level aims to obtain an understanding of the enterprise present and future attitude toward risk and how it will impact the project
Communicate	This activity aims to ensure that all parties are involved. Committed and knowledgeable about the objectives of the project

B. Envision

Before implementing the IT governance program, a good assessment of IT governance maturity is needed. This gives all stakeholders a clear view of the current state. After evaluating this current state, a definition of a target maturity of each IT governance process is needed followed by a gap analysis between the current and the target state allowing a translation of the differences into improvement opportunities.

Table 2 describes the activities of the Envision phase.

TABLE 2. THE ENVISION PHASE ACTIVITIES

Activities	Description
Assess the current IT governance maturity	The activity of assessing the current IT governance maturity should determine the current capability maturity of all processes. This assessment should be based on questionnaires, interviews and studies of existing documents.
Identify the IT governance maturity target	This activity aims to define a capability maturity level to achieve. This identification can consider market best practices already done by other companies in the same sector.
Analyze the gap	This activity aim to analyze the difference between the two states (current and future) of maturity. It's essential to transform differences in good opportunities.

C. Planning

The Planning phase is the third phase in the approach lifecycle. It involves creating a set of plans to guide the project team through the execution and closure phases of the project. Plans help to manage time, cost, quality, change, risks and issues. They will also help manage staff and external suppliers, to ensure that you deliver the project on time and within budget.

The objectives of the Planning phase are:

- Translate improvement opportunities into justifiable projects
- Prioritize and focus in the high impact projects
- Integrate the improvement projects into the overall program plan

Table 3 describes the activities of the Planning phase.

TABLE 3. THE PLANNING PHASE ACTIVITIES

Activities	Description
Prioritize improvements	This activities aims to translate improvement opportunities into justifiable projects. Prioritize and focus on high impact projects.
Define an improvement plan	This activities aims to integrate the improvement opportunities into the overall program plan

D. Implementing

The Implementing phase concerns the design and the deployment of the IT governance solution. The Implement phase is decomposed into two parts: deploying and monitoring.

The implementing phase has the following objectives:

- Establish a set of requirements for the design of the governed process
- Design and document the governed process including:
 - Role responsibilities for the execution of specific governed processes
 - Detailed descriptions of the activities required in support of the governed process.
- Deploy the governed process
- Ensure the successful deployment of the operationlized governance solution
- Transfer skills to practionners to manifest organizational change
- Audit skills to practionners to manifest organizational change
- Manage exceptions to processing based upon the needs of the business.

Table 4 describes the activities of the Implementing phase.

TABLE 4. THE IMPLEMENTING PHASE ACTIVITIES

Activities	Description
Deploy governance infrastructure	This activity of deploying governance infrastructure Implement the detailed improvement project, leveraging enterprise program and project management capabilities, standards ad practices
Monitor implementation performance	This activity aims to Integrate the metrics for project performance and benefits realization of the governance improvement project into the performance measurement system for regular and ongoing monitoring
Review program effectiveness	The activity of reviewing programm effectiveness Assesses the result and experience gained from the program. Record and share any lessons learned

E. Improving

The Improving phase provides formal feedback to the board of directors, lines of business, and projects, based

upon the predefined goals that are substantiated in the business case of governance. The results are evaluated based upon the key performance (KPIs) and key goal indicators (KGIs) that are defined during the inception phase.

The objectives of the improvement phase are:

- Evaluate the performance criteria of your IT governance solution against its fulfillment of the
 - The measures or metrics that are used for control of the governance process
 - The measures or metrics that are used for the control of the management process
- Prioritize the current organization needs as a function of updating the current measures or process of either the management or governance functions.
- Identify and provide the business justification, outlining the potential improvements that can be realized by altering the existing processes

Table 5 describes the activities of the Improving phase.

TABLE 5. THE IMPROVING PHASE ACTIVITIES

Activities	Description
Evaluate results	This activity engages the Governance board in the examination of the baggregated metrics from source measures that were based upon the KPIs and KGIs that were defined during the Implementing phase. Evaluation of results is performed by comparing current results to a predefined baseline metric.
Prioritize organizational needs	The activity of prioritizing organization needs takes place when analysis of the operational and quality metrics is completed. This assessment activity critically evaluates the baseline metric to the gathered results for the identification of operational and quality improvements. It does this along with critical examination of the measures and metrics themselves to assess their applicability to the problem space that is being measured.
Outline improvements	This activity treats the critical task of documenting the objective data, and analysis results to specify suggested changes to the target systems. These changes are either within the governance process or to the management process that produces the product output. These suggested changes close the feedback loop on the governance process and the management process.

F. RECOMMENDATIONS

Implementing ITGovA approach requires discipline, commitment and support of all stakeholders. IT

goals and objectives set during the Plan and Implement phases.

- Evaluate product quality goals and objectives that are established during the Plan and Implement phases.
- Identify any required changes to the following items:
 - The governance process itself
 - The management process

governance should be adapted to any organizational structures, culture and overall business strategy.

Several success factors are emphasized for the success of the project:

- Commitment of the top management: The support and commitment of project stakeholders is a cornerstone to its success. If no instructions are issued by the top management, the project will experience failure at any moment;
- Develop the organizational structure: The human capital is very important for the implementation of the process of IT governance, hence the importance of developing organizational governance structure first and also provide the required skills and seek external expertise to build teams;
- Develop processes: The prioritization process to implement must be well justified. This justification must take into consideration several factors such as the budget, the availability of resources; etc. Two options: Implement per-process or develop in lots of simultaneous processes. Use a method of iterative incremental development work;
- Don't start from crash: Use existing reference market. These standards are the result of a large expert and so they include a variety of good useful for the implementation of the approach practical reflection;
- Communication: The process of governance of information systems is new to the company. It must be well explained and continuously reinforced to win the commitment of all stakeholders. The approach should always be measured by performance indicators and targets are met. These measures should always be

updated to determine the impact of the process on the company.

G. CONCLUSION

This new approach is flexible and has an adaptable architecture that is designed to maximize the effectiveness of the developed IT governance solution. It describes what needs to be done in order to implement effective IT governance solutions.

This method highlights the importance of aligning the business, IT organizations and enterprise architecture to establish a basis from which strategic business value may be realized. The approach highlights also the relation between top management, staff and auditors in planning, designing, implementing and evaluating the IT governance project.

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