

# Towards the Strategic Alignment of Corporate Services with IT, applying Strategic Alignment Model (SAM)

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## Abstract

In a context of increasingly demanding and eager users for the use of the technology, the areas of information and communications technology (ICT) acquire a leading role in the organizations due to the support and input that they provide. The constant and innovative growth of ICT generates in the organizations a difficult dynamic to align with their strategic objectives. This causes a gap among the strategy, the corporate objectives of the organization and the administration of IT services. In this article, a conceptual framework is proposed from a heuristic point of view concerning to the alignment of business processes with IT, using and modifying the Strategic Alignment Model (SAM) of Henderson and Venkatraman in order to achieve a value chain implemented through requests and services with the aim of aligning the strategies of the Corporate Governance, Enterprise Governance and IT Governance. A case study is presented to display how a corporate request is transformed into an IT request within the framework of the strategic objectives.

**Keywords:** Alignment Strategic, Corporate Governance, Enterprise Governance, IT Governance, Services.

## 1. Introduction

The evolution of computer technology has allowed it to be incorporated in all the social and business scopes. The successful corporations are distinguished by their ability to take advantage of the resources in the transformation processes of their organizations [1][2].

In this context, the use of technology to automatize the processes – without direct alignment schemes – with the business' objectives makes to squander the great potential of IT and generates unnecessary expenses. The IT area must deliver

benefits of strategic and innovative value that give added value to the corporate requests.

The aim of this article is to establish a heuristic conceptual framework that allows the analysis of the processes and components of the organization structure. Thus, identifying the responsibilities of various stakeholders into the corporate governance and their roles, and defining the corporate services aligned with the TI services, is formalized and covered by this framework.

The analysis of the IT Governance seeks to identify the services that help to ensure the decisions and IT support to the business requests.

A context, where the Corporate Strategic Components and of IT will be identified for the support of business objectives, will be proposed utilizing the concepts of corporate governance of Weill and Ross and proposing a modification to the SAM Model of Henderson and Venkatraman.

## 2. Corporate Governance

It is essential to analyze the Business Government and its two dimensions in order to achieve an identification of the organization components [6]:

- The Compliance which is associated with the Corporate Government and ensures the responsibilities and practices performed by the board of directors [3][4] who dictate the rules and policies to be followed in the corporation.
- The Dimension of Performance included in the Business Government which runs the operational tasks with the aim of providing a strategic direction, ensuring that the objectives are achieved [5] and verifying that the organizational resources are used responsibly [8].

It is seen in these two dimensions that the Enterprise Governance involves the Corporate Government component which dictates the executive guidelines by which the company is controlled, and the Business Government that runs the operational tasks that help to achieve the corporate objectives. Therefore, the Enterprise Governance with its

components can be clearly visualized in the following graph:



Fig. 1 Structure of the Enterprise Governance and its relation to the Corporate and Business Structure.<sup>1</sup>

Both the Corporate Governance and the Business Government have their processes well-defined. They are classified in [4][7] as follows:

<b>Corporate Governance: Conformity Process (Responsibility-Security)</b>
President—CEO— Non-executive directors
Audit Committee—Compensation Committee—Risk Committee—Internal Audit
<b>Business Government: Implementation Process (Value Creation- Use of Resources)</b>
Strategic planning and aligning
Strategic decision making
Strategic risk management
Integral frame of control
Strategic systems of the business
Continuous improvement
Necessities of the business

Fig. 2 Processes of Corporate Governance and Business Government.

There are several types of supportive processes and processes related with the governance in the figure 2. These ones will help to identify which serve to align the Corporate Governance and Business Government, and define where the related with the IT Governance are located.

### 3. IT Governance

The IT Governance involves the appropriate decision making about the use of IT to enable an effective contribution to the corporate objectives [6][9][10].

Nowadays, companies have a high dependency on IT due to their undeniable contribution of various services that provide to the users. This produces a high demand because the normal course of the business is attached to the continuity of these services. Some fusions could be achieved by applying good IT strategies [11] with the business to optimize key processes of the organization and allowing IT to move from internal and external service provider to strategic partner of the corporate governance.

<sup>1</sup> Modified figure of [4][6].

In many cases, it is evident the frustration that the executives feel when they do not understand about IT and the IT staff is not able to understand the problems of the business [7]. This lack of alignment puts pressures [6] on the IT areas. This area supports many demands of different complexity that require a quick solution. This situation causes a loss of the alignment with the organization and a focus on solving specific problems. It is essential to obtain joint strategic plans between the corporation and IT [12].

The problem within the organizations between the corporate governance and IT government arises due to the fact that the structures of each one have developed in parallel with each other and it is not possible to visualize the corporative necessities and the potential strengths of IT [3].

### 4. Relations between Corporate Governance and IT Governance.

One of the alignment mechanisms between the IT Governance and Business Government is related [13] to the degree of congruence between IT strategy and the strategic objectives and business infrastructure.

The corporate governance presents a first approach that comprises the following objectives [14][15]:

- To provide a strategic direction.
- To ensure the achievement of the objectives.
- To establish that the risks are adequately managed.
- To verify that the Resources of the Company are used responsibly.

The second approach identifies the following IT Governance elements [16][17][18]:

- IT Strategic Alignment.
- Derived Value from IT.
- Risk Management.
- Measure the Performance.

The components of corporate governance and business government from the figure 2 can be related to the strategic IT components of the previous two approaches, and they could be aligned as follows:

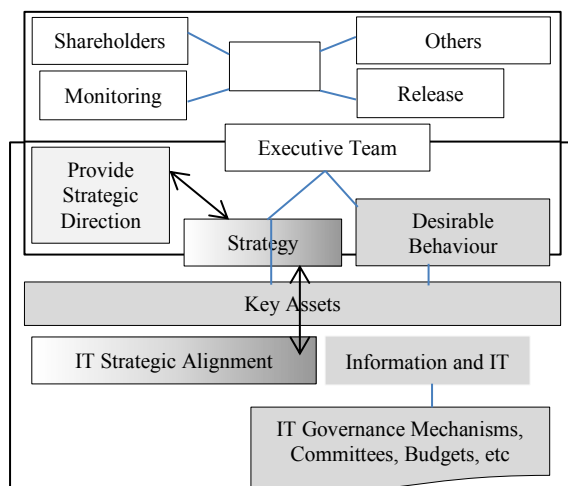


Fig. 3 Corporate Governance Adaptation [15]

The Strategic Planning and Strategic Alignment are seen in the given chart through the key assets which are the ones that relate the Corporate Governance to the IT Governance.

According to [19][20][21], the strategic planning is the process through the managers lead the key objectives that the organization has.

The structure of SAM will be reviewed through these defined components in order to locate in the corporate services that help to align the business strategy and the information technology through these SAM enterprise architectures in order to achieve the business objectives.

### 5. Service Structures such as support for the SAM Domains.

SAM provides the theoretical and conceptual foundations of strategic planning. It does not propose tools for its implementation. SAM allows structuring the overall strategy of an organization through four key domains [1]:

External approaches:

- Business Strategy.
- IT Strategies.

Internal approaches:

- Organizational Processes and Infrastructure.
- IT Processes and Infrastructure.

The guidelines that are given in this model help to define relationship strategies between the domains

that span the entire structure of the organizations such as administrative processes, IT and business. These relationships allow visualizing the influences between each one of the domains without neglecting any of them because their involvement is transversal.

In the Domain of Business Strategy, the managers of the organization define the guidelines and strategies that allow them to make decisions and guidelines in order to achieve their goals.

In this model, the Strategy of the business is the essential concept. The concept of strategy is wide; however, it can be explained within this context into three definitions: scope, distinctive skills and business government.

The business scope is the selection of product offerings that will be given to the market. It may be an energy supplier, an educational service or a technological service company. It may be public or private.

The distinctive competencies are attributes of the strategy what makes it different from the competition generating a value for the organization. These competencies contribute to the generation of a comparative advantage with the competence, that is, what distinguishes the organization. They are directly related and aligned with the compliance strategy.

The Business Government is made possible by structural mechanisms that support the operations such as the strategic alliances, agreements and the ability to access to credits or subsidies.

The Domain of Organizational Processes and Infrastructure is determined by the structure of order and internal optimization that have the processes to face a quickly and timely delivery of corporate services. It is defined by the administrative infrastructure (organizational structure, roles, responsibilities), the processes and the skills that are the capacities of the human resources to perform the tasks defined in the context of business strategy.

The IT Strategy Domain defines technological process tactics that modernize the organization. This domain distinguishes three dimensions: IT scope, systematic or system competencies and IT Governance.

The scope of IT is the group of systems and capacities that IT has the possibility to offer in the business framework.

The competencies of the systems are those that are distinctive for the business; for example, availability, IT investments at low cost and risk. These skills contribute to the corporate strategy. They must align with the distinctive strategies of the Corporate Governance context.

The IT Governance is defined as the multiple mechanisms used by IT to enable the required capabilities. This framework defines the right

technology according to the guidelines of the governance of the business.

The Domain of IT Processes and Infrastructure is represented by three dimensions: the architecture as a whole and the combination of applications, data, and so forth; the own processes of IT as maintenance and development, control, monitoring, and so on; and the abilities as knowledge combination and capacities to improve IT according to the expectations of the organization

It is worth it to show that the abilities stated in the business strategy framework are directly related to the one that must have the individuals in the framework of that strategy. The skills in IT Domain are the ones that are directly related to IT.

The Model of Henderson and Venkatraman is summarized in the following figure.

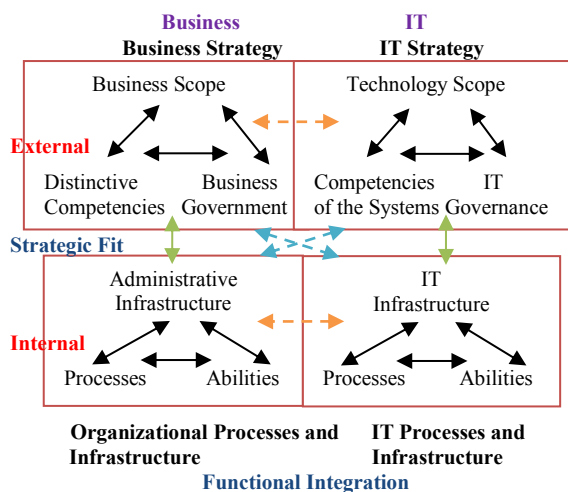


Fig. 4 Model of Strategic Alignment SAM [1].

This article intends to adapt this model to a service-oriented approach with the aim of achieving the relationship with IT services and then propose its alignment.

This requires analyzing a new topic which is the service on the Domains.

The reference [22], defines Service as the way to deliver value to the customers. This value lies among other benefits, in reducing costs and risks as customer's benefits. Usually, the term customer is related to the concept of a final user. However, in an organization, internal relations are established which ones have the request – execution dynamic of the request. These dynamics are equivalent to the concept of customer – server maintaining the concept that the server is the person who attends.

When the shareholders and other stakeholders put their expectations in an organization, these expectations can be economic or with the aim of

achieving a common good (in the case of a non-profit organization). Any of these expectations is channeled in requests which once accomplished will achieve these expectations too.

This request – satisfaction relation is just a representation of the customer – server relation. The Corporate Governance becomes in shareholders and other stakeholders who are assumed as customers due to their requests. The Corporate Governance offers its corporate services.

At the same time, the Corporate Governance will state its requests to the Business Government in the context of its conformity. These policies are channeled into strategies. They are not operating requests but they must fulfill the conformity conditions.

The Business Government will transform the requests of the Corporate into requests to the IT Governance within the context of diverse competencies which are stated in previous paragraphs.

In this chain of services, when there are requests for the IT Governance, the Business Government becomes the customer.

The IT Governance has defined its strategy and described it in terms of systems competencies which are defined in previous paragraphs.

Finally, the IT Governance is the customer of its processes services and infrastructure.

The relation between services and Domain are stated in the figure 4.

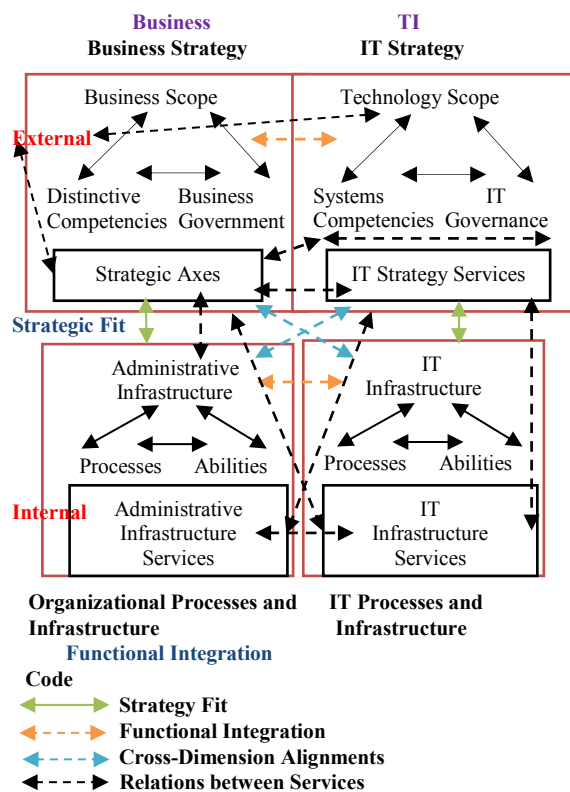


Fig. 5 Strategic Alignment Model base on Domain services.

Each service requested by the Corporate Governance could generate various administrative processes and could involve several processes of IT.

The objectives are channeled in a service chain where the requests that the Corporate Governance requests to the Business Government and to IT Governance must be planned and justified in the framework of a strategy.

The service delivered and received by each Domain involves several strategy edges such as:

- Service strategy to achieve corporate impact.
- Processes optimization strategy related to the service.
- Strategy to separate the IT service components related to the administrative and corporate services.

The original SAM structure and the diagonal strategy between domains, which enables the maximum relation between them helping to establish related processes controls, remain in the figure 5.

The Corporate Governance maintains its status of control over the entire organization based on the requests that the Business Government request and should be resolved in sequential order.

The requests not only from the main managers of the corporation but also from the operational levels produce input and output processes.

Every government according to its competencies establishes guidelines that provide value-added to the services which will provide the guidelines to satisfy the business objectives.

It must be taken into account that the input and output service identification strategy of each domain belongs not only to the directors of the Corporation but also to all the people involved in the processes of the other domains. In addition, it is necessary to plan how the corporation is seen through the provision of external and internal services with well supported and optimized processes; and the support of IT components to each one of the administrative and corporate services.

With these defined concepts, the following case study will go over the relations between domains.

## 6. Case Study

A case study of a university institution will be applied in order to reinforce the concept that the model is applicable to all types of profit, non-profit, public or private organizations. For example, a technology center within a high education institute.

The Director of the Center requests the innovative department to develop the improvement

in the allocation and use of IT resources. It should be mentioned that each one of the areas is the Data Center.

The following stakeholders are identified:

- Corporate Governance: Administration and Board of Directors.
- Business Government: Department of Technological Innovation.
- IT Governance: Management of Information and Communications Technology, and its computer center components.
- Corporate Objective 1: Fulfillment of Strategic Axes

This request generates different initiatives. One of them will be oriented to the optimization of the resources in the organization Data Center.

### 6.1. Analysis of Process and Services Flow in their different Domains.

It is part of the analysis of services identification of corporate objective #1.

Corporate Objective 1: Fulfillment to Strategic Axes

Services and Requests related to Objective 1.

Corporate Government Request:

- Fulfillment to Strategic Axes.

Request of the Business Government:

- Request: Availability and Efficient Use of the Resources.
- Delivery to Administrative Infrastructure and IT Government: Administrative, economic and human resources.

IT Governance Services:

- IT Strategy, IT Infrastructure.

### 6.2. Requests delivery by the Corporation.

The processes flow sequence (F) for the delivery of the Corporate request to IT and Business domains with responsible coordination and related processes are stated as follows:

Table 1 Processes Flow Sequence for the delivery of the Corporative request to IT Business domains.

F1	The Corporate Governance defines Strategic Axes: External Scope: To protect the interests of the company and to their shareholders. Internal Scope: Effectively use of the resources.
F2	The Corporate Government and Business Government define Distinctive Competencies on the Strategic Axes: Availability and Efficient Use of the Resources. The Strategic Axes will be identified with these parameters.
F3	The Business Government analyzes a strategy to define a value chain that aligns Strategic Axes with the well Management of IT and Business Processes.
F4	Business Government: It coordinates with the IT Governance the resources of IT Infrastructure and Information Systems that serve as a support to strategic axes of availability and efficient use of the resources.
F5	The Business Government define a strategy to make available all administrative, economic and human resources in order to have a good Management of Business Processes.
F6	The Business Government analyzes which indicators allow the adequate monitoring of the progress and performance of the company resources use.
F7	Business Government defines that the monitoring will be performed based on two features: . Costs . Added Value of the solution to Strategic Axes.
F8	IT Governance defines the IT External Scope in the IT Strategy: IT Resources Availability Level that the costumers require.
F9	IT Governance defines the IT Internal Scope in the IT Strategy: Analysis of the current status of IT Infrastructure Administration and Information Systems.
F10	The IT Governance analyzes the competencies of the systems: Level of performance with the current infrastructure and information systems costs in production.
F11	IT Governance examines the external technology companies that exist in the market and are related to the one existing in IT of the University. These companies are the ones that give support in case of any emergency.
F12	Business Government: It coordinates with the people responsible for the Strategic Process Management of support to Strategic Axes.
F13	Administrative Infrastructure defines the best processes flow to give support to the Strategic Axes.
F14	Administrative Infrastructure defines which support processes for the Strategic Axes are the management indicators based on the decrease of time in IT operations
F15	Administrative Infrastructure coordinates improved IT Services with IT Strategy and IT Infrastructure that enables resource optimization with minimal costs.
F16	Administrative Infrastructure ensures that the Strategic Axes are achieved based on the IT Strategy and IT Infrastructure.
F17	IT Governance define strategies to IT Infrastructure and IT Support, and solutions to achieve what is required in the Strategy Axes.
F18	IT Infrastructure recommend implementing virtualization on their servers, this solution will allow it to align with the resource optimization.
F19	IT Strategy and IT Infrastructure coordinate workflows tests with users to access virtual

	machines.
F20	The workflow is determined as follows: Every time that Support requests deployment of virtual machines, IT Infrastructure will prepare and deploys them according to the order.
F21	Support uses agile methods to perform faster deployments. It also has several distribution requests from virtual machines to IT Infrastructure.
F22	Bottleneck 'in IT Infrastructure. The staff of this area is not enough to attend all the requests.
F23	IT Infrastructure develops a strategy to attend the requests with agility.
F24	IT Infrastructure utilizes DevOps to develop a continuous integration strategy.
F25	IT Infrastructure automatizes the deployment of virtual machines with Chef tool.
F26	Support requests a virtual machine and Chef deliveries automatically the ip address of the machine with resources included for Support.
F27	IT Governance evaluates the impact of the solution.
F28	IT Governance, Administrative Infrastructure and Business Government go over the requests fulfillment of the Corporate Governance based on costs and added value of the solution according to Strategic Axes.
F29	If it were not fulfilled, more effective solutions or Strategic Axes would be reconsidered.

### 6.3 Obtained Results.

- IT Governance
  - R1: IT Infrastructure carries out virtual machines with Vagrant and Chef.
  - R2: IT Support asks for resources of virtual machines and receives automatically the IP address of its resources.
  - R3: Deployment times of necessary resources for the support area are optimized.
- Corporate Government
  - R4: Satisfaction in the request: Resources improvement.
  - R5: Satisfaction in support to Corporate Service: Availability and efficient use of the resources.
- Business Government
  - R6: Satisfaction in support to Business Objective: Indicators with optimal response times.

### 7. Conclusions

The detailed description of processes flow of the case study presented might suggest that this proposal does not provide the agility and dynamism that the IT area requires in its solutions. It may be annoying

to respect those interrelationships and justifications of the actions to carry out. But when an organization knows and follows the strategic objectives in the corporate and business framework, it is not complex to involve their actions in these objectives.

This interconnection allows visualizing results and establishing the level of demand and feasibility of the objectives set out by the corporation.

The components of Enterprise Governance, Corporate Governance, Business Government and IT Governance have been identified. Furthermore, they have been related to the Corporate Strategic Plan and to the IT Strategic Plan with their respective Strategic Axes. Each Government has participated in the abstraction of its components on the SAM Model Domains.

It has been analyzed that the requirements make Domains into clients when there are several requests and the results are given according to the distinctive competencies of each Domain.

There is a need to convert the strategic objectives into requests that must be attended by the different services. The services have been included in each Domain in order to identify the key requests according to the responsibilities of each domain of the organization.

The Analysis of Processes and Services Flow has been realized with these parameters in a different Domains Case Study that has delivered the requirements of the Corporate Domain to the IT and Administrative Infrastructure Domains. This reduces costs because it also reduces risks in the delivery of services. What is more, it works directly with the corporate requests. The fulfillment of the corporate objectives depends on establishing strategies that could be transformed in hierarchical requests that go through the different domains using process flows.

In this suggestion, the IT spending becomes an investment.

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