

Intellectual Capital, Knowledge Management in the Interaction of Government and Management of Information Technologies from COBIT 5 Perspective

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This article provides a reflection on Intellectual Capital and Knowledge Management out of a COBIT (Control Objectives for Information and Related Technology), 5 framework proposal stating the importance to achieve strategic objectives and to obtain an ideal quality level, through efficiency, efficacy and effectiveness in the whole area of processes and procedures oriented to Organizational Development; thus, the objective is to present these concepts through a documentary investigation analyzed in data bases, Google Scholar, on-line catalogs and repositories. The COBIT 5 framework proposal is described in its Principle 4 "Enabling a holistic approach". In the explanation, each enabler and its interaction with the Intellectual Capital and Knowledge Management is detailed, in which the viability to achieve the institutional objectives and goals is observed, ensuring and closing the gap between Information Technology Management and business objectives. From the analysis, it is concluded that the participation of these two concepts in all the processes is very active and important, so its explicit definition is proposed in the Governance models.

Keywords: information technology governance, information technology management, intellectual capital, knowledge management, ISO/IEC 38500: 2015, COBIT 5.

INTRODUCTION

In today's society, knowledge associated with human capital as an intangible asset is a key success factor to make organizations more competitive. The management of this knowledge is based on the evolution of Information Management towards the generation of Value; this is the motivational point for the proposal, understanding that the objective of any institution is framed in survival, profitability and growth.

According to Steward (1998) Knowledge Management (KM) is the set of processes that make the company's Intellectual Capital (IC) grow. IC is gaining importance day by day as an approach for measuring intangibles, especially in the context of the growth of the knowledge-based economy, about which Akpınar & Akdemir (1999) point out that economic wealth is currently based on knowledge and no longer on the production process.

Regarding technology, the main objective of the Information Technology Governance (ITG) is to achieve the alignment between the business strategy and the Information Technology (IT) strategy. Closing this gap is fundamental for the Information Technology Management to fulfill its primary function of generating value for the stakeholders, minimizing risks and optimizing resources. Rodríguez, Aguilar and

Raudales (2017) state that, in order to order, it is plausible to control QA by implementing certifications in the company, making use of standards such as COBIT 5 (2012) or International Organization for Standardization (ISO) standards. In version 5, COBIT differentiates in more detail the Governance of IT Management. By following this framework, companies ensure the achievement of their objectives; however, in COBIT 5 and the current ITG standards, the participation of IC and KM is not explicitly defined. It is proposed that only understanding and considering from its conception in the framework, as well as in the ISO/IEC 38500: 2015 norm centered in the government and derived in the IT management, this one is consolidated, so that the execution is successful.

The objective is to present a preliminary study of reflection on the concept and relationship of the IC, QA in IT Governance and Management, under the perspective of COBIT 5 through its seven enablers. For which the following have been considered as specific objectives:

1. Defining concepts such as: QA, IC, IT Management, COBIT 5 is approached tangentially to focus on principle 4 and the 7 enablers, detailing how people, QA and IC are involved in their actions.
2. Build on COBIT 5, as it provides businesses with a comprehensive framework that helps them achieve their goals for IT governance and management.
3. Determine how QA influences organizational development, which is shown in table 1
4. Analyze and synthesize the literature review related to QA linked to IC, also identifying what input or method they use, which is described in table 2.
5. Analyze the seven enablers of COBIT 5 and identify their relationship to QA, IC with Human Capital (HC), Structural Capital (SC) and Relational Capital (RC), as detailed in table 3.
6. Identify, locate, and show how QA/IC is in each task, activity, and process, which is presented in the findings.

Method

This work is a document review research, which explores the literature on IC, KM, and IT governance frameworks such as: ISO/IEC 38500: 2015 (Calder-Moir, 2013), as well as the COBIT 5 relating to the Government and Management of IT.

The method used was:

- a) Place the subject of analysis (taxonomy) in:
 - Association for Computing Machinery (ACM)
 - Applied computing
 - Enterprise computing
 - IT governance
 - Institute of Electrical and Electronics Engineers (IEEE)
 - M.7.0 Governance
 - M.7.0.c Norms and regulations
 - M.7.0.d Policies
 - M.9.0 Architecture
 - M.9.1 Bridging business and IT
 - M.9.1.1. IT architectures
 - M.9.1.2. IT governance
- b) The selection of the bibliographic and documentary material was supported by Google Academic for COBIT 5 and other theoretical foundations. For KM, IC, as well as for ITG, in repositories, digital libraries and databases such as: Scielo, ACM, PROQUEST, ELSEVIER, ScienceDirect.
- c) Inclusion criteria. We considered publications of articles, books and other reading material from the last six years in the area of the above mentioned subject; also, in the search for information we used key words such as intellectual capital, knowledge management, information technology management, COBIT 5, Knowledge management, government, Intellectual capital and management of information technologies.

- d) Of all the literature presented, nine articles served as the basis for the work and construction of the corresponding tables, which were complemented with digital books, physical books and articles from indexed journals as detailed in the bibliographic references, which founded the theoretical framework of the study.

Table 1 shows the importance of QA in organizations. Table 2 identifies the selected items and their relationship to IC and/or QA; it also describes the method and contribution. Table 3, based on COBIT 5, relates the enablers (7) to QA and IC; this analysis by each enabler specifies how or where the concepts are involved: IC and CG.

The intention is to show that the concepts of IC and QA are present and play a very important role, and the reference frameworks of IT Governance and Management do not explicitly state their contributions.

On the other hand, of the nine articles as a basis for the study, 88% strictly comply with the inclusion criteria. We must specify that the article by Vidovic (2010) has not been submitted for review or formal approval; but it has already been cited by articles that are in PROQUEST as well as master's thesis among others, which is why it is considered valid as a reference source in this study.

INTELLECTUAL CAPITAL (IC)

It is also known as the new invisible asset and the most widely used definition of IC is "the knowledge that gives value to an organization" or as Villegas, Hernandez and Salazar (2015 p. 184) refers to it, knowledge is a primary source that promotes the creation and generation of competitive advantage and wealth in organizations. From this definition it is concluded that KM generates IC. Therefore, the survival and competitive success of companies will depend a lot on the strategic management of their IC compared to financial resources. In the knowledge-based economy, to be a developed nation and to maintain the developed state, having a high quality human capital is a priority. In addition, to increase an organization's competitiveness, the workforce must become more efficient, adaptable, and competent. For this reason many organizations, and even countries, have understood the urgency of its implementation and it is a major agenda item under the Ninth Malaysia Plan and the new economic model of 2010.

IC is as important as capital investment for businesses. Therefore, country governments should balance these investments, especially developing countries (Chen, Cheng & Hwang, 2005). According to Bontis & Richardson (2000), there are three main elements of the IC which are: Human Capital (HC), Structural Capital (SC) and Client Capital also called Relational Capital (RC), and it is through this combination that value is created for the organization, the corresponding analysis of the IC is to determine its intellectual wealth.

Companies that have all the components of Intellectual Capital are in a better position to compete in the business (Amrizah & Rashidah, 2013).

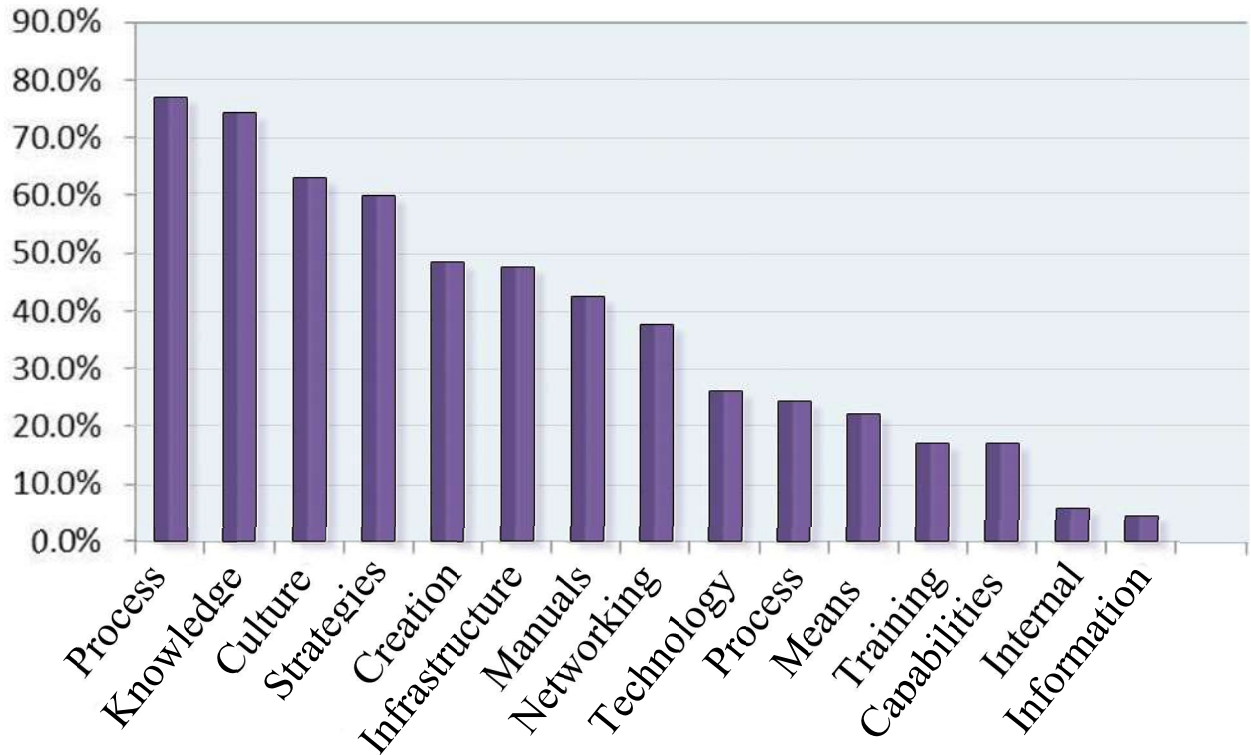
According to Wiig (1997) knowledge and IC are related concepts, but, in their management, their objectives and scope are different; both are the most important assets of an organization. IC management basically concentrates on renewing and maximizing the value of the organization's intellectual assets; KM focuses on facilitating and managing knowledge-related activities (creation, capture, transformation and use); its function is to plan, implement, operate and monitor all knowledge-related activities and programs required for effective IC management (Wiig, 1997).

Human Capital (HC) as an element of intellectual capital, according to Fitz - Enz (2009) mentions that this is a combination of three factors: a) the character or nature that is brought to the job; for example, intelligence, energy, positive attitude, reliability and commitment, b) the person's abilities to learn, such as intelligence, imagination, creativity and c) the talent's motivation to share information or knowledge, team spirit and goal orientation.

Another element of intellectual capital is Structural Capital (SC), which is the infrastructure that supports employees in creating optimal performance, including the organization's ability to reach the marketplace, hardware, software, databases, organizational structure, patents, trademarks, and any organizational capacity to support employee productivity (Bontis, et al., 2000). The concept of the existence of SC enables the creation of ICs and human resource liaison-processing. According to Gogana et al.,

(2014), there are 15 key concepts that define SC, created by people in their daily work in the organization (see figure 1).

**FIGURE 1
FIFTEEN KEY WORDS TO DEFINE SC**



Source: (Gogana et al., 2014)

These words should be capitalized on through QA. Enabling and ensuring the development of organizations

The third element of intellectual capital is the Relational Capital (RC), also called Social Capital, which is the result of the competitive and social intelligence consubstantiated by the value of the relations and actions of the company shared with external or social agents (IADE-CIC., 2003). According to Bontis (1999), it is the individual knowledge of market channels, customers and suppliers, as well as the knowledge of the impact of government or industry associations. An example of this is in the relationships with employees; the IC not only includes the contents of the mind or the mind of the employees, but also includes the intangible and complex structure among them to carry out activities and organizational functions.

According to Trimurni & Erlinac (2015) Social Capital significantly affects governance through the development of social capital, which is the ability to organize, build a network of cooperation and participate in society. A very important tool for business management is the scorecard. This instrument, introduced by Kaplan and Norton (1992) makes the task of evaluating the IC less subjective.

KNOWLEDGE MANAGEMENT (KM)

QA is a new and controversial term that has many different definitions. It was first introduced at the European Management Conference in 1986. The American Center for Productivity and Quality defines QA as the strategies and processes of identifying, capturing, and using knowledge (Atefeh et al, 1999, p. 172).

On the other hand, Knapp (1998) defines it as the art of transforming information and intellectual assets into lasting value for client organizations and their people. According to Marulanda, Giraldo and Lopez (2013) define QA as the systematic process of searching, organizing, filtering and presenting information with the objective of making it understandable to people in a specific area of interest and from this to determine what is evaluated. Other authors define it as a process that involves creating, applying and transferring knowledge in the organization, in order to achieve competitive advantage in accordance with its objectives (Wiig, 1997; Alavi & Leidner, 2001).

Darroch (2003) defines it as the process of creating, sharing, distributing and using knowledge in the organization. Other researchers have identified different QA processes: i) Creation, transfer and application (Spender, 1996), ii) Capture, transfer and application (De Long, 1997), iii) Identification, capture, development, distribution, dissemination, application and storage (Probst et al, 2000).

All these processes, according to the research carried out by Tarí & García (2009), give rise to the dimensions of knowledge: a) Creation (Organizational Learning), b). Storage and transfer (Organizational Knowledge) and c) Application and use (Learning Organization).

In this way, capturing, storing, sharing and distributing knowledge allows for innovation (Baptista et al., 2006).

According to Vidovic (2010) the advantages of QA over Organizational Performance are shown in table 1.

TABLE 1
KNOWLEDGE MANAGEMENT RESULTS

Result group	Results
Employee performance	Better decision making
	New or better ways of working
	Improved communication
	Improved employee skills
	Greater collaboration
	Share best practices
Organizational Performance	Increased profits
	Cost reduction
	Increased employee empowerment
	Increased employee retention/attraction
	Increased Productivity
	ROI of Knowledge Management efforts
	Increase in shares
Market Performance	Increasing the size of the market
	Largest shared market
	Improved product or service quality
	Creating more value for the client
	Entry to different types of market
	Better Customer Management

Own elaboration

Source: Anantatmula & Kanungo, (2006, p.29)

Likewise, it is relevant to sustain the importance that QA has for the organizations, according to Tarí & García (2013), QA influences the operational, financial, and innovation results in the organizations; according to Arteché (2011), it states that QA has some challenges that must be met. For example: how the organization can transform itself into an intelligent organization; he also refers that its success factor is a

function of determining which is the right model. In this adaptation, it is ideal to rely on a knowledge management system (KMS) that allows unifying the QA strategy and the process strategy of the business organization in order to achieve the organizational objectives. Considering that the SGC are

...a class of information systems applied to manage organizational knowledge and developed to support and improve processes of knowledge creation, storage, retrieval, transfer and application" (Alavi & Leidner, 2001, p. 107).

Anantamula & Kanungo (2006) insist on the importance of measuring knowledge management and cite three reasons for measuring the success of a knowledge management system: 1) to provide a basis for assessment, 2) to stimulate management focus on what is important, and 3) to justify investments.

GOVERNANCE AND MANAGEMENT OF INFORMATION TECHNOLOGY

To make clear the terms that refer to Governance, corporate governance and IT governance, some definitions that specify these aspects are described below.

Corporate Governance, according to the Committee of Sponsoring Organizations of the Standards Commission (COSO, 2013) and the Organization for Economic Cooperation and Development (OECD, 2004) mention that it is; the provision of the structure to determine the objectives of the organization and to monitor performance, in order to ensure that the objectives are met; according to ISO/IEC 38500: 2015, Corporate Governance focuses on six principles: responsibility, strategy, procurement, performance, compliance and human behavior, and three functions that are to evaluate, direct and monitor.

ICT Governance ISO 38500 - COBIT / Val IT, state that it is the specification of the framework of right to decision making and high responsibility to encourage desirable behavior in the use of ICT.

Corporate governance, for Haji, & Ghazali, (2013), is a system or a way in which companies control themselves to be responsible for their stakeholders, also relating the IC to the attributes of corporate governance.

With respect to IT Governance, the ideal governance is based on the principles of corporate governance for the management and use of IT to achieve business objectives. For TIC-CRUE (2016) it is a system that allows to direct and control the use of current and future IT; through the direction and evaluation of plans of use of these and at the same time they serve as support to the organization. In addition, they are intended to meet external demands (from customers) in a future time horizon (Peterson, 2003). For Toomey (2009) the focus of IT Governance leads directly to the most basic business model: Plan, Build and Execute (see left area of figure 2).

**FIGURE 2
MAIN IT MANAGEMENT SYSTEMS.**



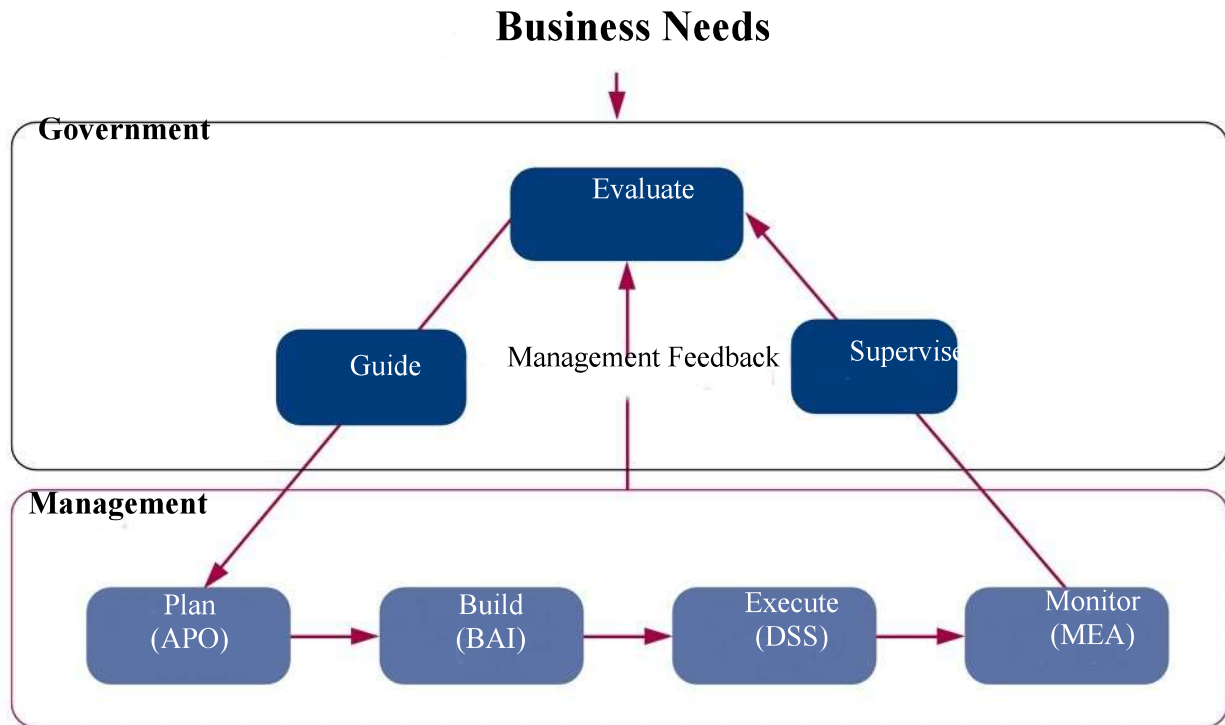
Source (Toomey, 2009).

Information Technology Management

According to Pham (2005), the important role of IT Management is its capacity to support communication, collaboration, knowledge search and enable collaborative learning; for Palau (2010), IT Management is the structure of relationships and processes to direct and control the company towards the achievement of its objectives by adding value and time, achieving a balance between risk and return on IT and its processes. ITG integrates and institutionalizes good practices to ensure that IT in the company supports the business objectives, facilitates the company to make the most of its information, maximizes benefits, capitalizes on opportunities and gains competitive advantages.

Figure 3 shows the explicit difference between the Government and IT Management, from the proposal of COBIT 5.

FIGURE 3
KEY AREAS OF IT GOVERNANCE AND MANAGEMENT PROPOSED BY COBIT 5



Source: (COBIT 5-frame, 2013, p. 32)

IT management is closely integrated into the processes and activities of the entire company, including IT units and business units, and is the decision maker for IT assets (Teece, 2000). It is more focused on internal supply and has its temporal orientation in the present, focusing on managing and implementing strategies on a day-to-day basis, while the government would be responsible for setting those strategies along with the policy and culture of the organization. On the other hand, the IT management has a system that goes from the development of strategies that allows to define the business vision of the organization, the planning which is the prioritization and allocation of resources to deliver and operate business systems; the implementation which is the prioritization and allocation of resources to deliver and operate business systems allowed by IT and the operations that allow the execution of business activities for IT (see right area of figure 4).

Therefore, in dynamic environments, IT management is expected to play an even greater role, as it has the power to mobilize diverse IT assets (Chen et al, 2014).

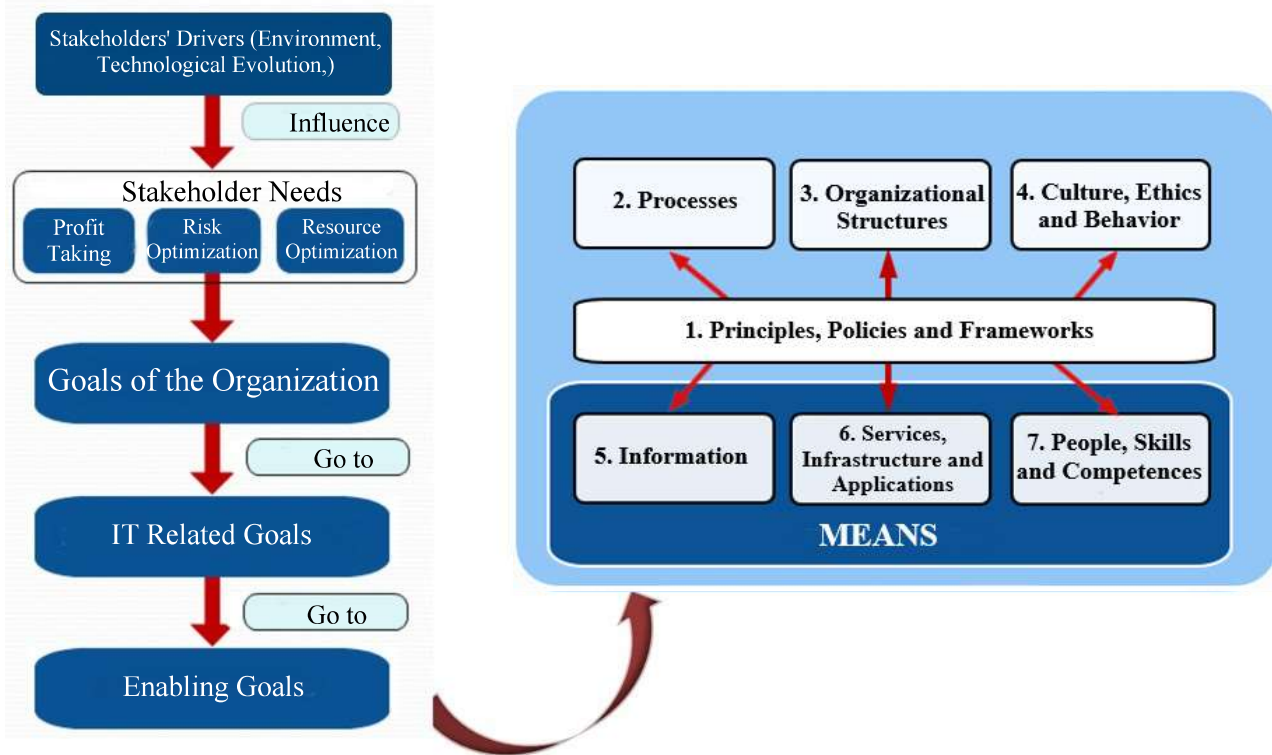
COBIT 5 Proposal for Intellectual Capital, Knowledge Management in the Interaction of Government and Management of Information Technologies

For the Dependency Theory, organizations are affected by their dependence on the resources that form the main unit behind competitiveness and performance. According to Barney (1991) resources are all the assets, capabilities, processes of the organization, the attributes of the firm, information, knowledge etc. The resources are all the assets, processes of the organization, attributes of the firm, information, knowledge, etc., controlled by a company that allow it to conceive and implement strategies that improve its efficiency and effectiveness.

For ISACA (2014), the strategic objectives are refined to operational objectives; the cascading goals must be aligned and results will be achieved to the extent that resources are provided in quantity and quality in a timely manner and an appropriate framework is followed, (see Figure 4).

**FIGURE 4
CASCADE OF GOALS FROM IT GOVERNANCE TO IT MANAGEMENT**

COBIT 5 - Goals Cascade



Source: (ISACA, 2014, Page 7)

From this perspective, the proposal is based on principle 4 of COBIT 5 "Enable a holistic approach" and its 7 enablers, relating it to QA and IC; it is understood that IAWM, as well as IT management.

From the review of the literature, table 2 has been constructed in which, for each article, the contribution or method used by the author(s) is presented, as well as the presence in terms of their relationship, importance or requirement of both the IC or QA. It can be observed in column 3 that there is a dependency and a valuable contribution that both the QA and the IC offer in their management to create value that coincides with the objective of corporate governance.

TABLE 2
ARTICLE LITERATURE REVIEW

Reference	Item name	Relationship	Method/Contribution
Abd Rahman et.al., 2015	The level of awareness of Corporate Governance in Federal Statutory Bodies in Malaysia – 2015	Importance of QA in the Board of Directors	It examines management's level of knowledge about the concept, principles and practices of corporate governance (surveys).
Jameelah, et.al.,2015	The effect of intellectual capital on organizational performance	Effect of IC on performance	It uses 6 IC elements and analyzes their contribution to performance (other studies regroup it and it is 3)
Sadalia & Nurbaity, 2015	Discriminant Analysis of Intellectual Capital - Medan University	Corporate Governance has a great influence on the IC	Uses SPSS-supported discriminant analysis method
Todericiu & Serban, 2015	Intellectual Capital and its relationship with Universities	Relationship IC in the Universities	It seeks to investigate the role of the IC in today's modern organizations and, in particular, its relevance to educational institutions.
Gogana, et.al., 2014	Structural Capital - a proposed measurement model	Structural Capital	It identifies the elements of SC that help ensure the success of the organization.
Mahfoudh & Izah, 2012	Performance characteristics of intellectual capital and the GCC Board of Banks	IC and performance, measures the performance of IC through the value-added IC method (VAIC) developed by Pulic (1998)	Examines the relationship between the characteristics of the board of directors (diversity in educational background, diversity in nationality, board of directors' encumbrance, board size, and number of independent directors) and performance
Vidovic, 2010	Linking Quality of QA to Financial Performance: The Case of Croatia	Choice of QA and performance	Uses ROS and ROA as measures of organizational performance
Sayyed, et. al., 2011	Examining the Impact of QA Facilitators on QA Processes	Impact of QA Facilitators on Core Processes	Find a direct relationship
Beinborn, et.al., 2009	Proposal of a theoretical model for IT Governance and business alignment with IT	When explaining the alignment it is supported on the IQ: HC, RC, SC	Develop a model that will be explained and empirically evaluated on alignment

Source: Own elaboration

Table 3 lists the seven enablers and associates them with IC and QA. It can be seen that all the enablers are related to QA (column 3) and only some are associated with IC (columns 4, 5, and 6), according to the analysis carried out.

TABLE 3
ENABLERS AND THEIR RELATIONSHIP WITH QA AND IC

Catalyst	Interaction between Government and IT Management in COBIT 5	KM	IC		
			HC	SC	RC
Principles, Policies and Frameworks	They are the links through which the decisions of the Government (establish guidelines) are executed in the management.	√		√	+
Processes	In the catalytic processes, a distinction is made between Governance and Management processes, including practices and activities for each, including the RACI matrix.	√		√	+
Organizational Structures	In each company several organizational structures are defined according to their composition and scope of decisions.	√		√	+
Ethical Culture and Behavior	Behavior is a catalyst for good Government and Management, it is established at the highest level.	√	√	√	+
Information	The process model describes the I/O of the different processes, based on practices of other processes, including the information exchanged between the Government and Management processes.	√	√	√	+
Services, Infrastructure and Applications	Services supported by the applications and infrastructure are required to provide adequate information to the governing body to direct, evaluate and monitor.	√		√	+
People, skills and competences	Governance and management activities require a different set of skills. These are required to successfully complete all activities and to make the right decisions, as well as to carry out corrective actions.	√	√		+

Source: Own elaboration

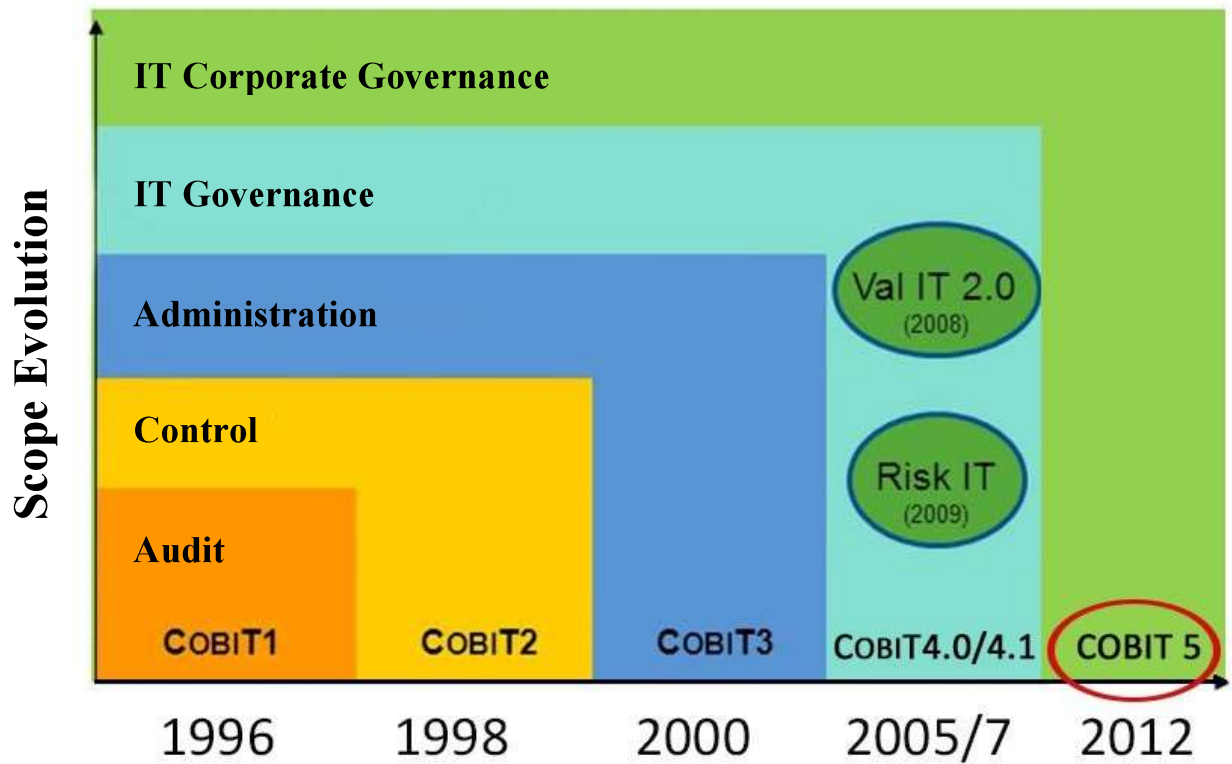
According to COBIT 5-frame (2013) at all times organizations and their executives are making efforts to

- Create and maintain quality information to support business decisions.
- Generate business value from your IT-enabled investments; that is, achieve strategic goals and business improvements through the effective and innovative use of IT.
- To achieve operational excellence through the efficient and reliable application of technology.
- Maintain and control IT-related risk at acceptable levels
- Optimize cost and IT services, among others.

These concerns need to be put into context and differentiate the roles they play. Achieving value for stakeholders requires good governance and management of IT assets and information.

COBIT 5 provides this comprehensive framework that helps organizations achieve their goals and deliver value through effective IT governance and management, as shown in Figure 5.

**FIGURE 5
ISACA'S BUSINESS FRAMEWORK**



Source: (Marco-empresa, 2012).

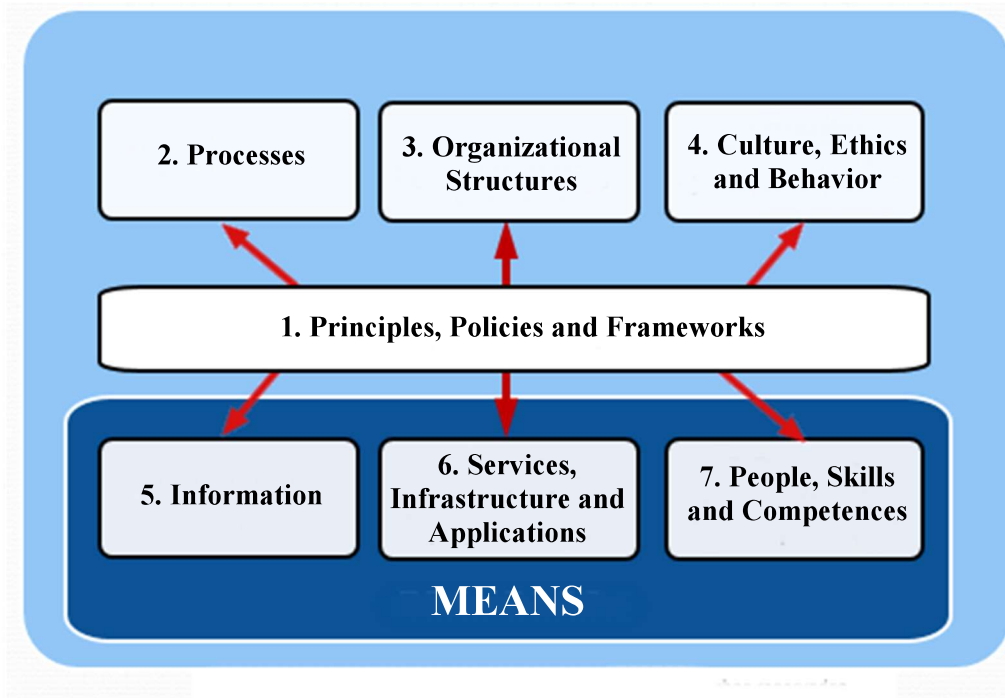
COBIT 5 brings together the five principles that enable an organization to build an effective governance and management framework based on a holistic set of seven enablers that optimize investment in and use of technology and information for the benefit of stakeholders. The principles and enablers of COBIT 5 are generic and useful for organizations of any size, whether commercial, non-profit, or in the public sector. Based on five principles and seven enablers, COBIT 5 uses governance and management practices to describe actions that are examples of best practice in their application.

The five principles of COBIT 5:

1. Meeting the needs of stakeholders.
2. Covering the company in a comprehensive manner.
3. Apply a single integrated frame.
4. Enable a holistic approach.
5. Separate the government from the administration.

The seven enablers are schematized in figure 6, as well as their relationship.

**FIGURE 6
COBIT 5 BUSINESS ENABLERS**



Source: (COBIT 5, 2012, p. 27)

ENABLERS AND THEIR ANALYSIS RELATED TO KM AND IC

According to the proposal, each of the seven enablers in use of COBIT 5 is detailed below.

Principles, Policies and Frameworks (1)

"They are the vehicles for translating desired behavior into practical guidelines for day-to-day management" (COBIT 5, 2012). These are determined by the highest management body, it is based on the normative part (defined in its strategic plan and the good practices according to reference manuals), the policies and the organizational culture that correspond to the CS and the execution is done by the people (HC); but that human interaction is called RC, which is given according to the best practices using the relevant tools, etc. (SC).

Processes (2)

"They describe an organized set of practices and activities to achieve certain objectives and produce a set of results that support the overall IT-related goals" (COBIT 5, 2012).

It is understood that there are processes at the government level, as well as at the management level, each with its own inputs and outputs. They are supported by the respective manuals of each institution where the description of the automated or non-automated processes are stated. This documentation corresponds to the CS and is the result of knowledge generation and registration in its combination phase (Nonaka & Takeuchi, 1995).

Organizational Structures (3)

"They are the key decision-making entities in an organization" (COBIT 5, 2012) It corresponds to a dynamic adaptation of the organizations in order to achieve their strategic objectives. These structures must

be defined in the Organization and Functions Manual (MOF) where positions, hierarchical dependencies, etc. are described. This corresponds to the CS.

The model proposed by Tallon, et al. (2013) associates ITG using Information Governance artefacts; the dominant focus of ITG literature has been how companies govern physical IT artefacts (hardware, software and networks). The goal of the model is to extend the theory of the ITG by discovering the structures and practices used to govern information artifacts. It incorporates and looks at how Information Governance practices can unlock the value of growing data within organizations. It is specified that the information assets are within the SC.

Culture, Ethics and Behavior (4)

"Individuals and businesses are very often underestimated as a factor of success in governance and management activities" (COBIT 5, 2012).

We can talk about organizational ethics, determined by the values that the company has defined and individual ethics related to each individual (CH). We could even talk about team ethics.

Culture and ethics lead to a desired behavior of people which must have as a horizon the institutional objectives. The culture is based on the CS and the ethics and behavior are associated with the CH.

The Information (5)

"It permeates the entire organization and includes all the information produced and used by the company. Information is necessary to keep the organization functioning and well governed, but at the operational level, information is very often the key product of the company itself" (COBIT 5, 2012). And this is present throughout the environment of any organization; on the other hand, information is the source where knowledge is generated when it is incorporated into the individual (internalization or socialization of the process of knowledge generation). The information is registered in different media, therefore, it corresponds to SC; also the knowledge is registered in the mind of the people; but when it is expressed it is information, reason why it corresponds to HC and in the case that it has been registered in some system based on knowledge it would be in the context of the SC. The information is also the input that facilitates interaction between agents, allowing them to obtain the RC.

Services, Infrastructure and Applications (6)

"They include the infrastructure, technology and applications that provide the enterprise with information processing services and technology" (COBIT 5, 2012).

The information integrated and stored in some technological support (infrastructure) related to some application to achieve some institutional objective is translated to that environment as a service allowing to interact, communicate etc. to achieve the planned objective.

In the interest of improving customer confidence there is an experiment by Huang et al. (2011) using IT applying COBIT; in this paper the authors develop and test a new factor in their model, confidence in e-commerce: Internet banking. The internal control of Internet banking is very consistent with the high levels of trust factors such as security, privacy and other risk issues. However, this type of partnership has not yet been widely recognized as a model of trust from the point of view of the e-commerce consumer. This study tries to create new factors in the ITG of COBIT where the authors consider the virtual trust seal as the trust seal of the Government of IT of COBIT, it is proposed to extend the links of the company with a new service (e-commerce) and the important thing is to give it the confidence and security, which passes for creating a culture in both entities, manifesting the RC, while the infrastructure, culture and service correspond to the SC.

People, Skills and Competencies (7)

"They are related to people and are necessary for the satisfactory completion of all activities, for correct decision making and for corrective action" (COBIT 5, 2012).

This enabler corresponds to the CH, the knowledge resides in the people who have the abilities, capacities and competences to carry out the change that the institution requires and that is manifested by

means of the pragmatic behavior in the execution of the directives and accomplishment of the good practices with ethics to be able to carry out that organizational change that allows it to be more and more competitive and sustainable to the organization.

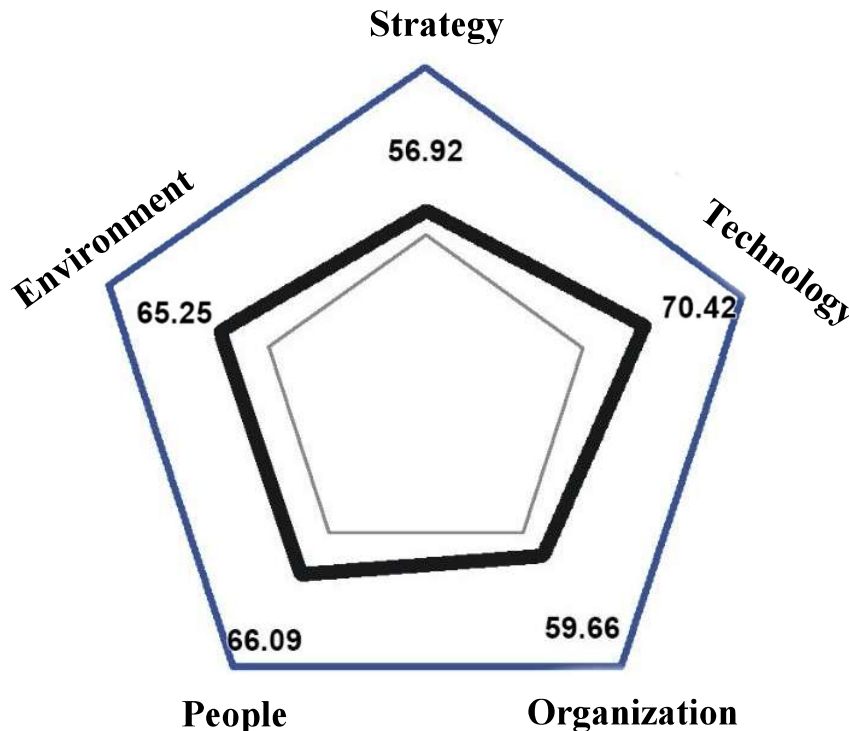
A determining factor is the organizational culture, according to Robbin (2004) culture is a set of values, beliefs, norms, procedures and meanings shared by the members of the organization.

From the review of the literature it is observed that for the evaluation of the ITG in the organizations already is considering to the KM as the motor for that expected change, can be confirmed in the approach of Bin-Abbas, H. & Bakry, S. (2014) that this is an edge of the pentagon of the method STOPE (Strategy, Technology, Organization, People and Environment); for the integration of the different domains they are using the Management of the Knowledge (people with 64.9% and these are integral part of the human capital (CH)).

This method allows the integration of different domains where the authors Bin-Abbas & Bakry (2014) integrate it with the principles of QA as an added value and the phases of Six Sigma as a cyclical improvement process. He also argues that the problems with the use and application of available ITG recommendations, assessment references, etc., are diverse and in some cases long and complicated. He also considers that these recommendations do not provide sufficient attention to the principles of QA. Therefore, there is a need to unify and simplify the governance assessment, and to improve such assessments taking into account the QA principles. The STOPE approach, which they develop to overcome these drawbacks, groups it into five domains in which special attention has been paid to the human factor in IT management through two main considerations:

- 1) QA is directly associated with human behavior; and
- 2) The consideration of an independent domain for people among the five main domains of the considered ITG area (figure 7).

FIGURE 7
PERCENTAGE OF IT GOVERNANCE PERFORMANCE APPLYING STOPE



Source: (Bin-Abbas, H. & Bakry, S., 2014).

With this simplicity and defined competencies, people can easily develop the skills to achieve institutional objectives, following established guidelines and frameworks.

CONCLUSIONS

Intellectual capital is as important as capital investment for companies. IC Management must be part of the body of knowledge and use of Corporate Governance and consequently in IT Management. It is suggested to take care in the concepts of corporate governance, IT governance, ITG in order to have a clear and precise vision regarding its scopes and contributions.

Organizational governance refers to the overall accountability framework that coordinates all management activities with respect to all stakeholders, while corporate governance is primarily the responsibility of the board of directors, executive management team and shareholders. IT governance, on the other hand, focuses on the use of technology to meet the organization's objectives set by management. As such, corporate governance includes aspects of IT governance, since without effective IT management those charged with corporate responsibilities could not perform effectively (Fink et al., 2006).

The results of the QMS are produced and observed in the long term; this scenario could be the reason why managers are unaware of the functioning of QA in their organizations, consequently there is no support or commitment to it or it is late.

It is recommended that the head of the IT/IS area be an integral part of the IT governance committee to ensure more effective alignment.

From the interaction between Government and IT Management, starting from ISO/IEC 38500: 2015 and COBIT 5 (based on the fourth principle and seven enablers) the strong relationship of QA and IC and how they are natural agents of change was identified.

The good use of QA by an organization makes it more competitive, the use of QA in the organization supported by technology makes it an intelligent organization. This intelligent organization aims at its development and sustainability and who ensures these achievements are the frameworks and good practices determined by COBIT 5, among others.

One of the problems with governance frameworks whether ISO/IEC 38500: 2015 or COBIT 5, even Calder-Moir (2013) states that they do not require the management of intangible assets as well as the benefits that QA can offer to facilitate their implementation of their directives.

It is considered that more research should be carried out and the subject should be deepened in order to understand and revalue the potential and contributions of the IC and QA.

As future work, it is recommended that a more comprehensive review be done regarding participation as change agents of QA and IC in any IT Management model or framework.

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