

IT Governance and Management as an enabler of growth and sustainable success in organizations

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ABSTRACT

This literature review article was established to highlight the importance of implementing IT governance and management in organizations to enhance their growth and success, in line with SDG-8. The main purpose was to analyze and understand scientific literature whose thematic axis was IT governance and management in the period 2016 to 2023. Specifically, three objectives were addressed based on defining and differentiating IT governance and management, exploring its benefits and highlighting the importance of the use of policies and good practices in its implementation. The results obtained determined distinctions in terms, benefits replicable in any sector and authors that highlight the adoption of the frameworks. It was concluded that it is crucial to clarify and differentiate IT governance and management, that knowing its benefits drives its implementation and that it must follow a reference framework to be successful.

Keywords: IT Governance; IT Management; Information Technology, organization, IT investment.

INTRODUCTION

One of the particularities of contemporary society lies in the accelerated way in which information technologies are developing, their evolution has made them a resource that plays a crucial and indispensable role for continuous growth both at the individual level and in the environment of organizations, whether public or private (M. Zambrano and D. Zambrano, 2023). The strategic use of this resource allows an organization to have the possibility of obtaining numerous benefits such as greater productivity, profitability, efficiency, and improvement in processes (Oliva et al., 2018; Burau et al., 2016), resulting in standing out in a widely competitive organizational world.

It should be noted that the achievement of these benefits implies the need to ensure that the technological resources available to the organization are aligned with its objectives (Peña & Anías, 2019). In this context, adequate alignment, direction, and control refer to the use of policies and good practices in IT governance and management within the organization (Valencia et al., 2018).

Macas Ruiz et al. (2018) argue that nowadays companies need to make use of Information Technologies in order to develop and achieve optimal performance in their processes, which leads these organizations to invest considerable amounts of money in order to generate added value in IT and through the proper use of them obtain quality products. Considering the above, we can infer that a competent governance and management of these tools generates great benefits for organizations and therefore allows sustainable economic growth and a decent work environment (SDG-8).

Cedeño and Townsend (2021) in their research evaluated IT management models that allow SMEs in the Guayaquil canton to develop competitiveness by investing in this asset, pointing out that it is one of the most precious, but at the same time one of the most challenging to evaluate in terms of its impact within the organization and concluding that if an organization aims to be competitive and have a place in the market it must consider investing in ICTs both in infrastructure and in human resources related to them.

For their part, Valencia et al. (2018) conducted research in order to determine the progress made with respect to IT governance in government institutions in the main cities of the Coffee Triangle, Colombia; where they concluded that despite the fact that there is motivation on the part of the central government for public entities to advance in IT governance, the progress shown is significantly weak due to the lack of support for an adequate adaptation and training of the referents proposed by the central government of Colombia designated in the Strategic IT Management Model (IT4+).

One of the persistent problems when talking about IT Governance and IT Management is that, despite the fact that the first term is widely used, it is not understood and applied in organizations, in addition to the fact that being associated with the second is also confused with it; Such confusion may have as its origin the diversity of definitions that the academic community has been developing and the existence of different frames of reference. In addition, it could lead to a strategic IT management model that may not be aligned with international benchmarks, as happened to Colombia with IT4+ (Valencia et al., 2018). For this reason, it is important to understand the difference between the two terms clearly, and to achieve this, we must first master their concepts as established in principle number 4 of COBIT 2019 (Amun and Zindon, 2020).

On the other hand, Yudatama et al. (2019) in their research point out that for the implementation of IT Governance within organizations there is a diversity of methodologies and good practices; however, they do not clearly know the specific contribution of each of them. In addition, he highlights that IT governance is important, but that many organizations are not fully aware of the benefits obtained and the obstacles that may arise, resulting in the expected performance of such implementation not reaching the most optimal level.

In this context, the following research questions were addressed: What is the difference between the concepts of IT Governance and IT Management? What benefits can be obtained if IT is properly governed and managed within an organization? and How important is it to implement policies and good practices in both government and IT management?

The following research was justified in the social field, helping organizations to know the benefits they can achieve through the strategic alignment of IT with their organizational objectives, having as a key factor to promote an adequate implementation of IT governance and management within their structure; in the theoretical field, it contributed to understanding the impact of good IT governance and management within an organization, as it generates added value with respect to the use of the technological asset, allows it to enhance its growth and achieve sustainable success (Amali et al., 2021; Joshi et al., 2022) and in the methodological field, it contributed, through a literature review, to consider the methodologies, policies and good practices associated with IT management and governance that have been adopted within organizations in order to know how they have impacted them, what scope it had and what challenges were presented, which will make it possible to develop new strategies and solutions, or improve current ones, regarding the implementation of quality IT governance and management within organizations.

Based on the above, this research had the following objectives: To know the difference between the concepts of IT Governance and IT Management, to identify the benefits generated by the implementation of good IT governance and management and to know the importance of the use of policies and good practices in relation to IT management and governance in organizations.

METHODS

According to Vera (2009), a review article is a selective and critical study of essential information about a specific topic. This article was built on a literature review, adopting a descriptive approach, which has allowed to collect, select and analyze the most relevant information regarding IT Governance and IT Management in organizations in relation to the objectives of the research. To this end, the methodology suggested by Gomez et al. (2014) was considered as a

reference, who consider that once the research problem(s) have been defined, the following phases should be continued: search for information, organization of information, and analysis of information.

Searching for information

Considering the research questions asked and the objectives to be achieved, multidisciplinary databases such as Scopus, SciELO and ScienceDirect were consulted, taking into account as first selection factors that the documents found are review or research articles, that the period of their publication is between 2016 and 2023, that are written in Spanish, English or Portuguese, that are open access and are related to the search criteria that are aligned with the research topic: IT Governance, IT Management, benefits, policies and good practices.

For this purpose, the following search equations were used:

Table 1. Search equations used

Database	Equation	Results
Scopus	"IT governance" OR "IT management"	212
	"IT management" OR "Government of Information Technology"	80
	"IT governance" AND "IT management"	10
	("IT governance" OR "IT management") AND "benefits"	31
	("IT governance" OR "IT management") AND ("policies" OR "good practices")	16
	"Information Governance" Technology	76
ScienceDirect	"Information Management" Technology	139
SciELO	"Information Governance" Technology	13
Total		577

From Table 1 we can see that 8 search equations have been used, which, despite the slight distinctions they have, have generated different results.

Organization of information

To organize the results, the Mendeley tool was used to manage the bibliographic references found, in such a way that 132 duplicate articles could be eliminated, in addition to grouping the references into 8 groups according to the database and the equation used.

Information analysis

In order to analyze the organized information, a detailed exploration of the title, abstract and key words was carried out in order to exclude those documents that were not relevant to the research objectives, and 67 articles were identified as being of greater interest. Subsequently, a thorough reading of the complete articles was carried out in order to select 40 articles that met all the necessary criteria to be the object of study and analysis.

It should be emphasized that, during the analysis of the information, it was also considered important to perform a reverse search, which consists of analyzing the bibliographic references of some selected documents and thus be able to identify the most influential authors and/or new sources of information (Amezcu, 2015), finding 5 articles that are relevant. Therefore, after completing the analysis, there were 45 articles aligned with the research objectives, and which were used for the elaboration of the research.

RESULTS

In this section, the results obtained in the research were analyzed as a result of the thorough review of the selected articles that address in a concrete and well-founded manner the proposed objectives. The use of tables was used to present the information in an orderly manner and thus facilitate its understanding.

Difference between the concepts of IT Governance and IT Management

Before going into the analysis and discussion of the findings of the objective of interest, it is crucial to highlight the importance of clearly understanding the definitions associated with each of the key terms related to it.

Didactically seen, knowing what it means or what is being studied consists of is a crucial requirement in processes such as research and education, since it facilitates the understanding of the content and its subsequent application in practical and/or theoretical contexts (Feria et al., 2021). In this sense, for the development of the present objective, clarifying the definitions will provide us with the necessary foundation to develop solid research and a deep understanding of the concepts in question. Therefore, in this section we will focus on exploring and precisely defining the two key terms that are fundamental to our analysis.

In order to maintain an order that allows an easy understanding and quick location of the information, it has been considered convenient to distribute the results obtained in tables containing the definitions of each term, together with its author and the database in which the article was found (see details in Table 2 and Table 3); subsequently, and based on the interpretation of the reading of each article, the difference between the two terms will be discussed.

IT Governance**Table 2.** IT Governance Definitions

Definitions	Author(s)	Year	Database
IT Governance is a component of corporate governance that focuses on IT systems, performance and risk management. It involves structured management of IT resources and processes to ensure their proper implementation to achieve organizational objectives, optimizing benefits, controlling the use of resources, and managing IT-related risks through stakeholder involvement to ensure IT success (Yudatama et al., 2019).	Yudatama et al.	2019	Scopus
Information Technology Governance (ITG) constitutes a planning and control mechanism responsible for directing the conversion of investments made in IT to business value (Turel et al., 2019).	Turel et al.	2019	Sciencedirect
IT governance deals with the new ways of governing based on information; in addition to the changes generated by the new information flows that arise in the information age (Valencia et al., 2018).	Valencia et al.	2018	Scopus
IT governance is defined as a subordinate of corporate governance, whose responsibility lies with the top	Cardoso da Silva et al.	2018	Google Scholar

management of the organization and should not be under the exclusive responsibility of the IT team, as it involves the definition of processes that can ensure support for organizational objectives and strategies (Cardoso da Silva et al.).

IT governance is defined as a relational structure between IT and the business, along with processes and stakeholder relational mechanisms. Its purpose is to coordinate and direct the organization for the achievement of its goals, providing added value through the use of IT (Govindaraju et al., 2018).

Govindaraju
et al.

2018

Scopus

IT governance refers to how the IT organization is managed and structured; it also provides mechanisms that enable the development of integrated business and IT plans, assigns responsibilities within the IT organization, and sets priorities for technology initiatives (Rubinho et al., 2017).

Rubinho et al.

2017

Scopus

IT governance is defined as the system through which the present and future use of IT is directed and controlled. In addition, it refers to the added value to the business provided by IT and the mitigation of IT risks (Lunardi et al., 2017).

Lunardi et al.

2017

Scopus

IT governance refers to the organizational capacity exercised by public and private organizational leaders to direct the creation and execution of IT strategies, which enable the integration of business objectives with IT (Jiménez-Pitre et al., 2017).

Jiménez-Pitre
et al.

2017

SciELO

IT governance can be defined as the responsibility of top management and is an integral part of corporate governance, encompassing decision making and accountability with the aim of ensuring that IT promotes desirable behaviors regarding the use of IT (Bergeron et al., 2016).

Bergeron et
al.

2016

Scopus

IT governance (ITG) is defined as the structure that facilitates the alignment between the organization's strategic goals and the actions required to achieve an acceptable level of risk. ITG encompasses

Alreemy et al.

2016

ScienceDir
ect

the principles, actions, roles and responsibilities of employees within the organization. Consequently, it assists any organization in overseeing and leveraging the benefits of IT practices and investments (Alreemy et al., 2016).

Table 2 consolidates the existence of several definitions for the term IT governance mentioned in previous paragraphs; after analyzing the documents, we consider that the fact that the scientific community does not agree on a single definition may be justified by the focus and complexity of their research. However, it is important to highlight that the definitions found do not move away from what is established by the IT Governance Institute and the ISO/CEI 38500:2008 standard, where the objective of IT Governance in an organization is to align the use of IT with its business goals (IT Governance Institute, 2003; International.

Comparing our results with those obtained by Joia & Salvador (2022), who after an exhaustive review of the existing literature between 1999 and 2014 present 13 definitions of IT Governance, we can reaffirm that, despite the fact that the term has been the thematic axis of several researches in previous years, there is no consensus in relation to the establishment of a single definition.

On the other hand, it is also important to highlight that in the findings obtained, the authors share the idea that IT Governance is a structure that allows the alignment between the IT infrastructure of an organization and its business objectives. In addition, it includes a series of processes, practices and frameworks that, adapted according to the organizational structure in which it is implemented, ensure the fulfillment of strategic goals through the optimal return on IT investments (Turel et al., 2019; Govindaraju et al., 2018; Rubinho et al., 2017).

IT Management

Table 3. IT Management Definitions

Definitions	Author(s)	Year	Database
IT management works within a context delineated by the IT governance framework, following the guidelines established by the governing body or its designated representatives. Consequently, IT management is responsible for addressing specific aspects related to tactical and operational planning, implementation and operation of the organization. (Juiz et al., 2022)	Juiz et al.	2022	Scopus
Refers to the techniques and frameworks used to manage IT resources in alignment with the strategic objectives and operational needs of an organization. (Siu et al., 2022).	Siu et al.,	2022	Scopus
Information Technology Management (ITMG)	Alsalm	2020	Scopus

encompasses the management of IT infrastructure and resources required to plan, develop and deliver IT services and products that meet business requirements. (Alsalim, 2020).

It is the discipline that focuses on managing the people, processes and technologies that work together to ensure the quality of IT services. (Quezada-Sarmiento et al., 2018)

Quezada-Sarmiento et al.

2018

Google Scholar

IT management is a system focused on the administration and execution of an organization's day-to-day technology strategy, with a particular focus on the internal provision of IT services. (Valencia et al., 2016).

Valencia et al.

2016

Google Scholar

From the findings obtained and presented in Table 3, it should be noted that the number of definitions of the term IT Management found in articles published during the period 2016 - 2023 was not as expected, since only five explicit definitions of the term could be found; which leads us to infer that the scarce literature on this purpose may be one of the causes for not having a marked differentiation between this term and IT Governance.

Comparing the findings with those obtained by Marulanda et al. (2017), who in order to clarify the focus of their research offer definitions about the terms addressed in this objective, it is essential to highlight the scarce amount of explicit definitions about IT Management that they mention in comparison with those of IT Governance; both terms being the thematic axis of their research. This fact added to a quick search of literature published in years prior to our chosen period in order to find other definitions of IT Management, allows us to take knowledge of the scarcity of literature related to this purpose.

It is worth noting that the authors considered in Table 3 coincide in highlighting the importance of managing IT resources so that they are aligned with the organization's strategic and operational goals; this involves the effective management of IT, IT staff and operational processes. In addition, they emphasize the critical role of IT management in ensuring that IT services, especially those delivered within the organization, are of quality.

Difference between IT Governance and IT Management

Mohamad & Toomey (2016) point out that of the various definitions of IT Governance in the literature, some focus on how the board and senior management handle IT governance, while others focus more on the role of technology IT managers and staff in that governance; thus suggesting, that the lack of a consensus on the definitions of IT Governance and IT Management leads to confusion in both theoretical production and actual application, compounding the situation when both terms are used

For Valencia et al. (2016) IT governance is understood as the direction and control of the present and future use of IT while IT management is focused on the administration and implementation of the day-to-day technology strategy. Meanwhile Lunardi et al. (2017) states that there is a significant distinction between IT management and IT governance, understanding that management directs IT-related operations within organizations and efficiently provides it with IT services and products, while governance is much more complex and is focused on the development and transformation of IT to meet the needs the current and future needs of the organization.

In summary, the governance body oversees, directs and evaluates the IT mechanisms present in the organization, while IT managers are responsible for planning, building and executing IT-supported business strategies (Juiz et al., 2022).

Benefits obtained by a good implementation of IT Governance and IT Management within organizations

In order to understand the benefits generated by the implementation of IT governance and IT management, the benefits were mapped through the interpretation of the reading of each article related to this research objective. The review of 11 articles allowed the identification of 8 benefits (see detail in table 4).

Table 4. List of Benefits

Benefit	Authors	Year
Facilitates better alignment between business and IT objectives (Huygh & De-Haes, 2016; Zhang et al., 2016; Lunardi et al., 2017; Ilmudeen, A., 2021; Joshi et al., 2022; Utomo et al., 2022).	Utomo et al.	2022
	Joshi et al.	2022
	Ilmudeen, A.	2021
	Lunardi et al.	2017
	Zhang et al.	2016
	Huygh & De-Haes	2016
Improved return on IT investment for organizations (Raymond et al., 2019; Ilmudeen, 2021; Joshi et al., 2022).	Joshi et al.	2022
	Ilmudeen, A.	2021
	Raymond et al.	2019
Improvement and control of services provided to customers (Kajo-Meçe et al., 2020; Alansari & Al-Sartawi, 2021).	Alansari & Al-Sartawi	2021
	Kajo-Meçe et al.	2020
Achievement of the organization's mission and objectives in an effective manner (Alansari & Al-Sartawi, 2021).	Alansari & Al-Sartawi	2021
Improves organizational performance (Huygh & De-Haes, 2016; Raymond et al., 2019).	Raymond et al.	2019
	Huygh & De-Haes	2016
Mitigation of risks associated with IT use (Al-Hila et al., 2017; Lunardi et al., 2017).	Al-Hila et al.	2017
	Lunardi et al.	2017
Improve the level of e-learning within the organization (Al-Hila et al., 2017).	Al-Hila et al.	2017

Positively impacts on the Romanova et 2017
increase of the organization's al.
competitiveness and
strengthens its position in the
market. (Romanova et al.,
2017).

From the literature review it is important to highlight that the most frequently found benefits are a better alignment of IT with the business and the improvement of an organization's return on IT investment. Likewise, Ilmudeen (2021) points out that the IT investment made by organizations aims to obtain as many benefits as possible; however, this is not possible without the implementation of a structured IT governance. In such a context, the establishment of effective IT governance provides organizations with substantial benefits that positively affect business performance, competitive growth and strengthening the position they occupy in the market (Romanova et al., 2017).

If we compare our findings with those obtained in the research of Tjong et al. (2017), who, under the rigorous analysis of information sources published in years prior to 2017, expose that they have found 11 benefits related to the implementation of IT governance in higher education institutions, but which are not alien to the other business areas; we can reaffirm that the alignment of IT with the strategic objectives of the business is a recurring benefit in organizations after the implementation of an effective IT governance; so is the effective use of IT resources product of an efficient IT management.

It should be noted that many of the authors agree that after the implementation of IT governance the organization, regardless of the sector to which it belongs, obtains benefits. Similarly, the authors considered in the study also agree that for the implementation of IT governance to be successful, the use of an IT governance framework that suits the organization and that provides it with knowledge about policies and good practices regarding the governance of its technological assets should be considered.

Policies and best practices in IT Governance and Management in organizations.

For Alreemy et al. (2016) it is very clear that for a successful implementation of IT Governance and Management it is necessary to adopt different standards and frameworks that aim to guide such implementation according to the determined scope and should consider the size and requirements of the organization.

COBIT 5, ITIL and ISO are examples of frameworks that contribute to the successful implementation of IT Governance and Management. COBIT 5 being one of the most significant frameworks regarding the implementation of IT Governance and Management in organizations, whose content states that its generalized use is possible, i.e., it can be applied by any organization regardless of the size or sector to which it belongs (Alsalem & Husin, 2023; Huygh & De-Haes, 2016). To maximize the benefits obtained by the IT investment, the organization must periodically evaluate its IT governance, finding in COBIT an ally that allows it to carry out this process efficiently (Kurnia & Fernandes, 2019).

Amali et al. (2021) argue that a proper implementation of IT governance can be understood as an important component of organizations, in which continuous improvement and the achievement of strategic goals are its main objective.

For Barreto et al. (2019) the implementation of IT management is important because it is focused on the services provided and provides support to the establishment of IT Governance, such implementation can be supported by one of several existing models (COBIT, ISO, SEI CMMI and ITIL) being the last one more used and focused on the management and continuous improvement of IT services.

In this context, the existence of various frameworks and policies that provide adequate guidance for implementing effective IT governance and management demonstrates the interest of the scientific community and organizations.

DISCUSSION

As described above, it is important to differentiate between IT governance and IT management, with the purpose of contributing to the academic community and based on the findings obtained, we define IT Governance in a more basic but significant sense as a set of processes, structures, policies and best practices that control and guide the strategic and effective use of IT to achieve the organization's objectives. In a different way, IT Management is defined as the system in charge of planning, executing, monitoring and controlling IT resources to support operational processes and the achievement of the IT Governance objective.

That is why the knowledge of the potential benefits that can be obtained by considering IT Governance and Management in an organization promotes the interest of organizations, especially their leaders, regarding its implementation.

Finally, it is essential that such implementation is guided by one of the existing standards or frameworks as they will ensure effectiveness in achieving the strategic objectives, supported by IT, of an organization, which, consequently, positively impacts its growth and achievement of success.

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