

# IT Governance implementation in developing countries: applying the Spanish ITG4U framework to four Tunisian HEIs

Beatriz Gómez<sup>1</sup>, Carlos Juiz<sup>1</sup>

<sup>1</sup>University of Balearic Islands, Department of Computer Sciences, Carretera de Valldemossa, Km. 7,5, 07122 Palma, Spain, {b.gomez, cjuiz}@uib.es

## Keywords

IT Governance, ITG framework, developing countries, HEIs.

## 1. Abstract

IT governance (ITG) is not a choice anymore since it is gaining more and more attention by board members in order to better direct and control their IT assets. To better align business needs and strategy with IT, several frameworks are raising trying to adopt best practices to obtain more value from IT. In the specific case of the universities, the adoption is still scarce, but efforts are increasing mostly in developed countries. Due to the specific situation and needs in developing countries, some adaptations are needed before the adoption of those existing frameworks. Under the scope of a project, we have developed four ITG frameworks for four different developing countries universities, adapting the ITG4U Spanish framework to their aspects. In this work, we show the implications, similarities, and differences among universities from a developed country (Spain) and universities from a developing country (Tunisia).

## 2. INTRODUCTION

Information Technology (IT) is not only a very important aspect for organizations and enterprises as it plays a very important role in business activities but also a competitive element and of wide social impact. In this sense, higher education institutions (HEI) do not fall behind, since in their three main activities, teaching, research, and administration, IT is present and most needed. As in any other kind of organization, boards of these intuitions are more and more aware that IT is a strategic tool for their institutions. On the other hand, not only managing but also governing IT is getting attention from the practitioner and research side, given the need to align the organization's strategy and objectives with IT. IT governance (ITG) helps to set clear expectations, to gain participation, open communications, establish accountability and provide executive management oversight. Thus, it is important to consider ITG and the alignment with business strategy for HEI (Khouja, Bouassida Rodriguez, Ben Halima, & Moalla, 2018).

Problems in IT governance are not particular of a given country or continent. Taking this into account, IT governance artifacts can be common to almost all country in the world. However, special needs in the deployment of IT governance frameworks are purely local (i.e. dependent on the University teaching portfolio, the ownership of the HEI, the level of knowledge on the topic, the local governance rules, the governance culture, etc.). This leads to the fact that already implemented approaches in ITG for Universities in developed countries can be used as inspiration for a "Glocal" Tunisian initiative. Previous success case studies and current competence on the topic will lead to a better ITG setup.

## 3. GOVERNING IT IN HEIs

Governing bodies should govern IT through three main tasks, represented in the Figure 1: IT Governance model (source: ISO/IEC 38500): evaluate the current and future use of IT, lead the preparation and implementation of strategies and policies to ensure that the use of IT is aligned with

business objectives, monitor compliance with norms, rules, and laws, and measure strategy performance development.

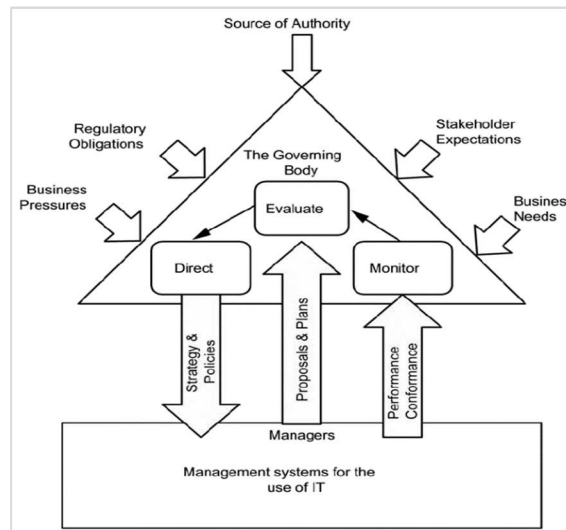


Figure 1: IT Governance model (source: ISO/IEC 38500)

These three activities applied to any kind of organization are not different for a university and should not be different for any university in the world. The previous work performed in Spain proposed the ITG4U framework to design improvement actions that may be implemented in each university in order to reach a higher IT governance maturity level (Fernández & Llorens, 2009). As the model is mostly general, the authors claimed that other universities could use it without making significant changes. Thus, we adopted and adapted this framework to the specific situation of four HEIs in a developing country. The objective is twofold: first to improve the IT governance in their institutions and thus change how ITG is discussed as well as the strategic focus of his asset as important for the ITG of the HEI, and second to better study the aspects related to a developing country taking into account the aspects used in a developed country.

#### 4. APPLYING ITG4U FRAMEWORK TO DEVELOPING COUNTRIES: TUNISIA

Under the scope of the European project Erasmus+ KA2 IT Governance for Tunisian Universities (ITG4TU), four European Universities from three different countries (Spain, Germany, and Norway) adopted and adapted the ITG4U Spanish framework to four Tunisian universities (Gómez, Juiz, Colomopalacios, & Fernández, 2018). After several pieces of training in order to set a minimum knowledge on IT governance in general and applied to universities in particular, the definition of a framework for IT governance in the Tunisian HEIs and its deployment and results monitoring were done. This was divided into the following sections:

- IT Governance environment: it consisted of the study of experiences in other countries, study international ITG frameworks and a description of the Tunisian ITG group.
- IT Governance best practices: it consisted on the adaptations of the IT governance framework best practices, a self-assessment of the organizational ITG maturity level in best practices and the review of their organizational ITG maturity level in best practices.
- IT Governance maturity model: it consisted on the adaptations on IT governance framework maturity model, the review of the adaptation of the maturity model to their organization, the maturity level current situation and the maturity goal selection.

Since several problems were common in both Spanish and Tunisian HEIs like lack of clear ITG principles, budget limitations and lack of a method for selecting the ITG framework, special needs were purely local and that is why several adaptations were made to better fit with their situation, as it is shown in Figure 2.

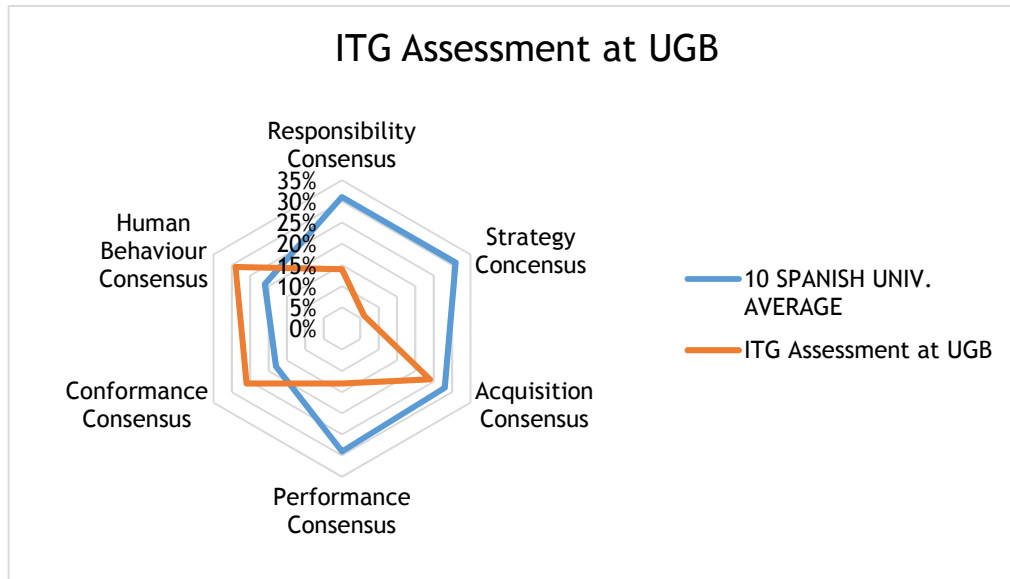


Figure 2: ITG assessment at a Tunisian HEI against 10 Spanish HEIs average

## 5. REFERENCES

- Fernández, A., & Llorens, F. (2009). An IT Governance Framework for Universities in Spain. *EUNIS 2009 Conference*, 1-13.
- Gómez, B., Juiz, C., Colomo-palacios, R., & Fernández, A. (2018). Information Technology Governance for Tunisian Universities ( ITG4TU ): a real experience of IT governance framework capacity building from European Universities. In *EUNIS 2018 Conference* (p. 12). Paris.
- Khouja, M., Bouassida Rodriguez, I., Ben Halima, Y., & Moalla, S. (2018). IT Governance in Higher Education Institutions: A Systematic Literature Review. *International Journal of Human Capital and Information Technology Professionals (IJHCITP)*, 9(2), 16. <https://doi.org/10.4018/IJHCITP.2018040104>

## 6. AUTHORS' BIOGRAPHIES



**Beatriz Gómez** received the B.Sc. and M.Sc. degrees in Informatics on 2011 and 2013 respectively from the University of the Balearic Islands (UIB), Spain. Currently, she is Assistant Lecturer at the UIB teaching in the area of Architecture and Computer Technology. Before joining the Department of Computer Sciences of the UIB, she served for two years as an analyst and programmer and thereafter participated as an engineer and researcher at the chair Telefónica - UIB of Digital Health and Sustainable Tourism. She is member of the ACSIC research group (<http://acsic.uib.eu>) in the Department of Computer Science at UIB. Her research interests are mainly about IT Governance and eHealth. Currently, she is the project manager of both Erasmus+ KA2 projects IT Governance for Tunisian Universities (ITG4TU) and IT Governance for Albanian Universities (ITG4AU).



**Carlos Juiz** is Full Professor of Computer Technology and Architecture at University of the Balearic Islands (UIB). He has a postgraduate degree on Office automation from the Polytechnic University of Madrid, Spain. He had several positions related with the computer systems industry. He was visiting researcher at Department for Computer Science and Business Informatics, University of Vienna, in 2003 and Visiting Associate Professor at Biomedical Informatics Research, in 2011, at Stanford University. Carlos Juiz is heading the ACSIC research group (<http://acsic.uib.eu>) and his research interest mainly focuses on performance engineering, green computing and IT governance. Carlos Juiz is senior member of IEEE, senior member of ACM and Academic Advocate of ISACA. He is the coordinator of the IT Governance WG within SC 40 at AENOR, the Spanish body in ISO/IEC. Currently, he is one co-editor in the ISO/IEC 38503 standard development.