

Chapter 59

Information Architecture For IS Function: A Case Study

Nelson Carriço

*The University of Trás-os-Montes and Alto
Douro, Portugal*

João Varajão

University of Minho/Centro Algoritmi, Portugal

Vítor Basto Fernandes

Polytechnic Institute of Leiria, Portugal

Caroline Dominguez

*University of Trás-os-Montes e Alto Douro,
Portugal*

ABSTRACT

Today's complex, unstable and competitive society raises several difficulties to organisations. In this context, Information and Communications Technologies (ICT) and information itself have become resources of vital importance. The pressing need for Information Systems (IS) to meet several business requirements, in addition to the complexity involved in technology and business management, turns the IS Function one of the main areas of influence for success of modern organisations. Through its capacity of representing activities, management objects and corresponding relations, the Information Architecture of the Information Systems Function (IAISF), a technique derived from the well-known Information Architecture but exclusively focused on the Information Systems Function (ISF), allows not only the conceptualization and understanding of the ISF itself, but also of its interactions with other areas within organizations. This paper presents the main results of a case study related to the application of the IAISF technique in a computer service centre of a University.

1. INTRODUCTION

The Information Systems Management (ISM) focuses on information resource management and on the management of all related resources involved in Information Systems (IS) planning, development and exploitation. By other words, it

is responsible for the management of the Information System Function (ISF) (Amaral, 1994). At the CI-UTAD (Computer Service Center of the University of Trás-os-Montes e Alto Douro), the need to supply computer services with guaranteed service levels, requires the effective management of all resources and activities, as well as the moni-

DOI: 10.4018/978-1-4666-8619-9.ch059

toring of performance, in order to deliver efficient and effective services to the organization's units which depend on IS and Information and Communication Technologies' (ICT) infrastructure.

Therefore, an architectural view of the ISF turns to be very useful and necessary, to allow the characterisation of this function and the systematization of its reality.

This work presents the process of construction of the Information Architecture of the Information Systems Function (IAISF) (Varajão, 1997; Varajão, 2002; Varajão, 2005) of CI-UTAD. The performed activities and corresponding management objects are identified, reflecting the overall integration of the Information Systems Planning (ISP), the Information Systems Development (ISD), the Information Systems Exploitation (ISE), and the Information Systems Management (ISM) processes.

Next, in Section 2, it is presented the background; section 3 is dedicated to a generic presentation of CI-UTAD construction process and to the results obtained in the CI-UTAD IAISF case study; finally, some considerations on the conceptualisation process and about the case study are reported.

2. THE INFORMATION SYSTEMS FUNCTION AND THE CHIEF INFORMATION OFFICER

There is no doubt that information systems (IS) are the backbone of today's organizations (Muhic & Johansson, 2014). ISF is seen as the functional area in an organization, responsible for the information resources and for the planning, development, exploitation and management of the IS. It is considered a key area due to the increasing importance of information technology (TI) and to the strategic opportunities promoted by IS and ICT.

ISF includes a set of features and activities that must be tuned to organization's size, culture,

structure and to several business issues like, for instance, environmental aspects. ISM must address all these aspects.

ISF can be conceptually described by four main groups of activities (Varajão, 1998; Varajão, 2005): Information Systems Planning (ISP); Information Systems Development (ISD); Information Systems Exploitation (ISE) and Information Systems Management (ISM).

The ISP is responsible for the identification of systems that the organization need, preceding the ISD which is responsible for their development. The ISE follows, being responsible for ensuring the correct use of the IS. ISM coordinates all the ISF activities.

The ISP allows the creation of a long term vision, identifying the potential systems to be created and defining management policies.

It is assumed that ISP is aligned with business planning, taking into account that ISP itself is a way of planning organisational changes, reachable through ISD (Varajão, 2002).

ISF activities must be "tuned" to each organisation (and its IS), according to its own idiosyncratic, most suitable models, methods and techniques (Reis, 1987).

Due to its nature, ISF can be seen both as cyclic and as continuous (Varajão, 2005): its activities feed each other mutually in every system generation cycle, in a tightly coupled way.

The Chief Information Officer (CIO) is the main responsible for the ISF.

The CIO's profile requires technical skills in the areas of ICT and IS, as well as an in depth knowledge of the organization itself (Trigo, Varajão et al., 2007).

The CIO's importance is today well recognised. It is demonstrated by the position CIOs occupy in most organizations: CIOs report their decisions and activities, to a large extent, to the organisational top manager (CIOMAG, 2007).

Gottschalk and Taylor (Gottschalk & Taylor, 2000; Gottschalk, 2002) identify six types of re-

10 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/information-architecture-for-is-function/137399

Related Content

Introduction to Performance Monitoring and Tuning: Java and .NET

B. M. Subraya (2006). *Integrated Approach to Web Performance Testing: A Practitioner's Guide* (pp. 234-269).

www.irma-international.org/chapter/introduction-performance-monitoring-tuning/23981

A TBGAV-Based Image-Text Multimodal Sentiment Analysis Method for Tourism Reviews

Ke Zhang, Shunmin Wang and Yuanyu Yu (2023). *International Journal of Information Technology and Web Engineering* (pp. 1-17).

www.irma-international.org/article/a-tbgav-based-image-text-multimodal-sentiment-analysis-method-for-tourism-reviews/334595

Social Network Analysis for Precise Friend Suggestion for Twitter by Associating Multiple Networks Using ML

Dharmendra Kumar Singh Singh, Nithya N., Rahunathan L., Preyal Sanghavi, Ravirajsinh Sajubha Vaghela, Poongodi Manoharan, Mounir Hamdi and Godwin Brown Tunze (2022). *International Journal of Information Technology and Web Engineering* (pp. 1-11).

www.irma-international.org/article/social-network-analysis-for-precise-friend-suggestion-for-twitter-by-associating-multiple-networks-using-ml/304050

Analysis of Crime Data Using Neighbourhood Rough Sets

Lydia J. Gnanasigamani and Seetha Hari (2020). *International Journal of Information Technology and Web Engineering* (pp. 61-75).

www.irma-international.org/article/analysis-of-crime-data-using-neighbourhood-rough-sets/258739

Development of Adaptive Social Network Based on Learners' Thinking and Learning Styles

Mahnane Lamia and Hafidi Mohamed (2018). *Handbook of Research on Contemporary Perspectives on Web-Based Systems* (pp. 90-107).

www.irma-international.org/chapter/development-of-adaptive-social-network-based-on-learners-thinking-and-learning-styles/203418