

# Chapter 1

## Challenges in Modelling Healthcare Services: A Study Case of Information Architecture Perspectives

**George Leal Jamil**  
*Informações em Rede, Brazil*

**Augusto Alves Pinho Vieira**  
*Independent Researcher, Brazil*

**Liliane Carvalho Jamil**  
*Independent Researcher, Brazil*

**Antônio José Daniel Xavier**  
*Federal University of Minas Gerais, Brazil*

### ABSTRACT

*Information architecture and business models design have potential relationships when planning how one organization will plan and execute its operations. This relationship of these two conceptual constructs was the main objective of this chapter, analyzing how it can happen in healthcare services (HS) units. Understood as complex service units where data, information and knowledge are intensively produced and consumed, HS units are challenging contexts to observe this association, as several conditions and forces emerge to conform business models. Finally, motivations and considerations for managers and researchers were announced, allowing the continuity of this research, aiming to reach a strategic level for information and knowledge management for practical, service-oriented organizations.*

### INTRODUCTION

Information management and its intrinsic fundamentals, which can be regarded as fundamental information architecture (IA) aspects, offer possibilities not only to implement efficient business models, but also help to define such models, allowing for its simplifications, effectiveness

and optimization. In this chapter, a sector where information and knowledge are intensively produced and consumed – Healthcare services – is studied as an objective case, for a primary analysis about a potential bidirectional relationship where IA can be both improved by a business model (BM), can help to define a better BM, based on the principles of IA.

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Information architecture is presented as a set of disciplines that orient the design for planning, proposition and management of informational processes in organizations (IA Institute, 2014). Its comprehension extends for several areas, involving technology, design, interface projects, information science approaches, among others. Its “mapping” and “design” capabilities, which will deserve more deep attention in the theoretical development in the following sections, result in versatile, flexible and explanatory specifications that can help any organization to understand information impacts on its activities, may it be programmed, planned or even risk-oriented, sudden reactions. The relationship of these two concepts (which, indeed, identify two extremely relevant artistic, cultural, technological and social areas) information and architecture is difficult to study, if any researcher do not focus on the specific objectives, as both concepts and areas interact with our day-to-day lives in several ways. As cited by Richard Saul Wurman, IA sets a perspective for the “series of systems”, “systemic design” and “performance criteria” definitions, which will allow treating information, and its complex inter-related context, producing design artifacts for this purpose.

This chapter intends to develop this explosive and multifaceted conceptual relationship, observing some of its potential aspects and then study it on the arena of business models definition. It is aimed to understand, finally, how information architecture, as a composed knowledge of those two major constructs, can be applied to help, understand and implement information management (IM) and how IM can interact with business models definition. In order to improve this correlation, this research took into account Healthcare services (HS) as a focus investigation case. This area always offered perspectives for Information Science professionals, as it is a major producer and consumer of data, information and knowledge for various tasks and levels of decision – reaching from merely operational to critical ones.

The following text is organized in four main sections. This first presents an introductory motivation for the study. In order to provide the needed view of concepts and its formalization, a conceptual study follows, in the theoretical background section, both to define each concept but also to evaluate how they inter-relate. The third section explores these relationships, aiming to detail how it can produce wider contexts of comprehension of information architecture and for its immense promised application in real situations. Then, in the last section, a study of Healthcare services is held, observing opportunities and demands, and some intuitive applications of information architecture to produce more qualified business models that consider IA for its design with optimal results.

## **BACKGROUND**

This section has the objective to define a formal concept base to enable the chapter development. Here the main and accessory concepts will be discussed and affirmatively enunciated, granting chapter intended legibility, theoretical and practical works and, at last, the conclusive results.

### **Data, Information, Knowledge**

These concepts constitute the elementary base of several disciplines and scientific areas, such as Information Technology, Information Science, Management Information Systems, Production Information, among many others. They have been debated over years by several academic fields, expanding the observation not only for themselves, but also over its complementarities and dynamic relationships. It is intended here to present a view for these concepts and beyond to build a minimal relationship with it.

Various authors and sources define data, information and knowledge not only as isolated definitions, but also in terms of their relationships

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