Chapter 12
SOA Governance
Considerations for Successful Project Management

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ABSTRACT
Information Technology (IT) projects are more and more aligned with business goals. Service Oriented Architecture (SOA) was introduced to achieve this, align business with IT, and increase IT flexibility, reuse of services in more manageable way. Unfortunately, healthcare organisations that have adopted SOA have yet to benefit from their investment. Industry analysts and academics agree that SOA Governance is a critical success factors for SOA projects. Addressing the substantial research gap, this chapter investigates longstanding challenges and proposes a SOA Governance framework as a way to improve IT/SOA success and guide the alignment of IT and business. The authors present a systematic synthesis of the latest research findings and professional experience on SOA Governance considerations for successful IT projects.

INTRODUCTION
Implementing an IT project in a healthcare organization can have many advantages e.g. improve patient safety, work efficiency, resource allocation and quality of care (Buntin, Burke, Hoaglin, & Blumenthal, 2011; Ludwig & Doucette, 2009). Yet healthcare systems have challenges that can result in failure (Heeks, 2002; Kaplan & Harris-Salamone, 2009). In the past, HIS failures have caused the death of patients (e.g. London Ambulance Service Computer-Aided Dispatch) (Avison & Young, 2007). Furthermore, in many cases, investments of millions of Euros resulted in heterogeneous and fragmented Health Information Systems (HIS), that still face difficulties in terms of interoperability, operation, safety and management (Maenpaa, Suominena, Asikainenb, Maassb, & Rostilac. I., 2009; Mantzana, 2006). In addition to this, medical errors that occur through

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the non-integrated HIS are estimated to have resulted in the loss of 23,000 persons per year in United Kingdom (Khoubati, Themistocleous M., & Irani, 2006).

To overcome these drawbacks organizations considered the adoption of paradigms such as Service Oriented Architecture (SOA). SOA is an architectural paradigm that supports reusability and emphasizes on breaking business processes into smaller blocks of functionality (e.g. services). These small blocks are well defined, self-contained modules that provide standard business functionality and are linked together to build an integrated business process (Papazoglou, Traverso, Dustdar, & Leymann, 2008). Organizations that adopt SOA can: (a) reduce costs, (b) provide higher return on investment (c) reuse and integrate services and legacy systems, (d) reduce time to market and (e) better align business with IT (Koumaditis & Themistocleous, 2011; Marks, 2008; Mueller Benjamin, 2010).

Regardless of SOA advantages, Heffner (2009) explains that, 41% of SOA users in the Global 2000 firms believe that: (a) SOA has delivered less benefit than expected, (b) 17% claim they face problems and (c) will not expand SOA use. This reveals that even thought SOA is considered a valuable architectural paradigm its application, efficiency and performance are affected by various factors. This a serious observation, as the aforementioned statistics point out that almost half the companies that implement SOA have not figured out how to benefit from their projects. This can be accredited to unclear or weak governance planning (Stephens, 2008). To shed some light on the issue, the authors investigated the SOA Critical Success Factors (CSFs) and identified that SOA Governance needs to be highly prioritized in order to improve projects’ success rates and align IT with business strategies (Koumaditis & Themistocleous, 2012; Koumaditis, Themistocleous, Mantzana, & Souliotis, 2012). Furthermore, the authors proceeded in rigorous literature review to identify and review the primary cases that will support the design a SOA Governance Framework (Koumaditis & Themistocleous, 2013). The motivation to propose a new SOA Governance Framework arises both from personal experience and industry indicators. One such indicator is illustrated in a recent research on the global status of IT governance standards and models (like COBIT, ITIL/ISO20000 etc.), in which the findings indicate a tendency to adopt such frameworks, but also a lack of a clear “winner” amongst them. For example, amongst 834 business executives, from 21 countries and 10 industries reveal that ISO20000 or ITIL is referred in 28% of them, while COBIT in 12% (ITGI, 2011). Yet, out of the 839 respondents, only 10% have been healthcare executives, thus the percentages drop lower regarding their focus on IT governance in healthcare.

The aim of this chapter is to present the address HIS’s challenges and propose Service Oriented Architecture (SOA) Governance as a way to improve IT projects’ success rates and alignment with business strategies.

This Section sets the introduction and initial arguments, Section 2 portrays HIS/IT challenges and SOA Governance solutions, Section 3 IT and SOA Governance, Section 4 the proposed SOA Governance Framework and finally Section 5 conclusions and future plans.

HIS/IT PROJECT’S CHALLENGES AND SOA GOVERNANCE SOLUTIONS

This section summarises how HIS challenges are transformed to motivations to employ the SOA paradigm. To this end, the authors review the normative literature and identify the challenges faced by HIS. The potential and current challenges are categorised into four main categories, such as: (a) complexity, (b) globalization, (c) integration and (d) medical errors. These challenges are summarised in Table 1, where the challenge,