SOA Strategic Vision: Role in Establishing Strong SOA Governance

Emergent Research Forum Papers – Research-In-Progress

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Abstract

Today’s business climate requires the organizations to respond quickly to new business requirements. This could not be achieved only by having up to date technology. To remain competitive, organizations need to gain visibility into IT operations that allows them to remain agile and quickly respond to changes. Service Oriented Architecture (SOA) could be the answer for such agile architecture. For organizations to succeed in implementing SOA, they need to have SOA governance in place. SOA vision has been considered one of the most critical aspects when implementing a SAO governance framework. The purpose of this research is to increase our understanding of SOA governance and the ways SOA governance frameworks are used in practice in different organizations. Based on a literature review, this study first proposes a list of SOA aspects to be considered when implementing SOA governance. By adopting an interpretive research methodology – based on interviews with professionals and practitioners in the fields of IT governance and SOA governance – this research paper examines the positioning of SOA vision and its role in implementing a SOA governance framework; it focuses on the assessment of the importance and usage of SOA vision as seen by SOA practitioners.

Keywords

Service Oriented Architecture, SOA governance, governance framework, SOA vision, strategic vision.

Introduction

Increasing competitiveness, globalization and ever-faster innovation are what characterize modern business economies (Maclennan and Van Belle 2014). These characteristics cannot be achieved without competitive technologies. For that, large organizations adopt different systems from different vendors and end up with heterogeneous networks of enterprise systems that do not easily communicate with each other (Tewary and Kosalge 2013). For organizations to remain competitive, they require a high degree of flexibility that allows them to move quickly and change their business strategies (Maclennan and Van Belle 2014). The challenge to achieve this goal is driven by the ability to adapt to changing circumstances. The business ability to respond to changes requires a very agile architecture. To meet the level of agility required, organizations are adopting Service-Oriented Architecture (SOA). Since Information Technology (IT) can only create business value if the alignment between IT and Business is achieved, the transition of an organization to SOA should be guided by solutions that can provide a means to reduce risk, increase business alignment, and show the value of SOA investments to business. These solutions are referred to as SOA governance (Keen et al. 2007). “SOA governance is about establishing a strategic vision for SOA, aligning that business and IT vision, sponsoring and funding that vision, providing responsible oversight and controls, and ensuring governance mechanisms are in place to support the vision” (Laningham, 2007). By adopting an interpretive research methodology, this research paper focuses on the role of the strategic vision of SOA as an essential aspect of a SOA governance framework. It empirically analyzes the position of SOA vision and its importance to SOA governance according to SOA practitioners. This paper is structured as follows: the second section provides a background on SOA vision, states the research gap and addresses the research question. The third section presents the methodology used to address the research question. The fourth section presents the preliminary findings to date while the last section addresses the conclusion and future work.
SOA Vision Related Research

The difference between SOA and other IT architectures is in its emphasis on Information Systems (IS) agility which enhances business agility (Choi et al. 2010) - Information Systems agility is defined as “the ability to quickly make changes to IT applications in response to changing business conditions” (Choi et al. 2010). The big challenge that organizations should consider is to make changes without spending astronomical amounts of money. Therefore this agility should be accompanied with an organizational strategic vision. This vision shows to which degree implementing a SOA governance framework can provide a clear SOA vision for the enterprise. Its role is to make sure SOA is compliant with the governed processes.

Based on an extensive literature review on SOA and IT governance frameworks, this research initially proposed a list of key SOA aspects based on previous researches (Hojaji and Shirazi 2010; Niemann et al. 2008; Varadan et al. 2008). This list considered the following aspects: SOA vision, SOA roadmap, SOA maturity, Service lifecycle management, Service Portfolio Management, SOA Business capabilities, Governance processes, Organizational change management, SOA Governance Board (and Centre of Excellence - CoE), Open boundaries management, Enterprise Service Bus (ESB), Service performance analysis, Policy management, Best practices deployment, SOA Governance Technology, Infrastructure capability, Process monitoring and evaluation, Service transparency control, and Service security control.

The literature review on SOA governance and IT governance shows that there is a lack of research on the role of SOA vision in the organization. Out of seven SOA governance frameworks proposed by researchers - that we are not going to mention in this paper due to size limitation, only two of them stated the aspect “SOA vision”. Varadan et al. (2008) mentioned the important role of SOA vision in their framework, discussed its added benefits and how it can drive the scope towards SOA governance, while Sangroya et al. (2010) concluded that the role of the vision on SOA is to formulate or revise long term goals for SOA. To the best of our knowledge, most of the vendor-based SOA governance frameworks (Oracle, IBM and SoftwareAG) limitedly addressed SOA vision in their framework. None of them addressed the vision in details or tried to demonstrate its role in implementing an efficient SOA governance framework.

This research paper will only study the role of the SOA vision aspect in building strong SOA governance in an organization. The research question that it will address is: “How does SOA vision play a role in implementing a strong SOA governance framework within the organization?”

Methodology Used and Data Analysis

This research uses an interpretive qualitative research methodology based on interviews as a first phase to address the research problem. This phase involves conducting interviews with experienced industry professionals who have experience with SOA governance in multiple companies and who participated in several SOA projects. Twenty eight interviews were conducted after the participants were selected and recruited through professional networks of SOA/IT governance professionals. The interviews took the form of face-to-face, Skype or phone interviews. Contacts were made in advance by email and one page summary of the research was sent upon request. Each interview has taken from 55 minutes up to 2 hours. Most of the participants had a decision-making role in their organizations and their experience with SOA/IT governance varies from 4 to 25 years. They have worked with a minimum of two organizations and on different SOA projects in different sectors. Table 1 shows a snapshot of the participants' demographics. The first three interviewees conducted were pilot interviews that helped to adjust and evaluate the interview questions in order to capture additional empirical data and to try to achieve the aims of this research. They also helped in timing the interviews. Participants 19 and 20 decided to participate by email.

A broad set of questions were asked regarding the participants’ background, their experience with IT and SOA governance, the role of each of the SOA aspects when implementing a SOA governance framework, the importance of the SOA vision and its relationship and impact on other aspects, and the strategy to be followed before implementing the governance framework. This paper only presents the views and findings about the aspect “SOA vision” and its role in building an efficient SOA governance framework.
Thematic analysis helps the researcher to build a systematic account of what has been observed and recorded (Ezzy 2002). The data analysis occurred over two stages: manually in the first stage and then using the qualitative data analysis software NVivo in the second stage. The manual data analysis helped in understanding the data codes and concepts and identifying new concepts. The research is still under development and at the finale stage of the data analysis.

Table 1 - Participants demographics

The interviews’ transcripts were analyzed using Thematic Analysis - which is one of the more widely accepted methods of analyzing qualitative data. The analysis was done by first coding interesting ideas, topics, and concepts and then organizing them into themes and identifying links among them. Coding in Thematic analysis helps the researcher to build a systematic account of what has been observed and recorded (Ezzy 2002). The data analysis occurred over two stages: manually in the first stage and then using the qualitative data analysis software NVivo in the second stage. The manual data analysis helped in understanding the data codes and concepts and identifying new concepts. The research is still under development and at the finale stage of the data analysis.
Preliminary Findings to Date

As mentioned above, the interviews discussed extensively the list of SOA aspects listed earlier and the role of the “SOA vision” and its impact on other aspects. For each aspect, participants were given the opportunity to express their opinion about its importance by categorizing it as “extremely not important”, “not important”, “moderate”, “important” or “extremely important”.

SOA Vision has been considered extremely important by the majority of participants. The terms corporate vision, strategic vision and SOA vision have been mentioned extensively during the interviews. Participant 13 preferred to use the term strategy alignment and participant 15 used the term SOA vision and strategy instead. Participant 17 unintentionally used the terms vision and strategy interchangeably during the discussion and participant 25 preferred to use the term SOA strategy. Participants 2, 4, 19, 22-28 discussed exhaustively their views on SOA vision and its role in building an efficient SOA governance framework. Participant 11 for example argued that “from an enterprise architecture perspective, SOA means working with the necessary components to achieve an interoperability vision.” On another question regarding the relation between corporate governance, IT governance and SOA governance, participant 11 claimed that corporate governance is responsible for delivering a vision, and SOA is a means to achieve this vision. However and on the practical side, most participants claimed that SOA vision is not being used properly inside the organization for different reasons. In large organizations for example, business units could be seen as separate entities. Therefore it is nearly impossible and unrealistic to have one single service that could be commonly used by these business units, and that’s where SOA starts to be problematic according to participant 8. Participants 11 claimed that some organizations rely on their IT governance to optimize their corporate vision and that’s where they fail.

On another hand, there have been few key points mentioned by participants regarding the role of SOA vision in implementing an efficient SOA governance framework. These key points are:

- Business responsibility: All participants agreed that many organizations depend on their IT to deliver business benefits. However, the IT should be only seen as the enabler and the business unit should be responsible for optimizing the corporate vision according to participants 11 and 13.
- Education: The vision should come from a senior level in the organization. Senior executives have to persuade their employees that they have a view at both the business and IT side. Persuading business and IT happens by educating them, because people are afraid of making changes according to the majority of participants: 2–19 and 22–28.
- Communication: SOA requires change from the business side as much as it requires deployment of different emerging technology. Communication between business units becomes essential and has to occur early according to participants 2, 4–19, 22–27. The corporate strategy requires changes to the business side to occur simultaneously when the technology solution is implemented and not after; this should be achieved by communication.
- Team work: According to participant 7, SOA vision should be the most important aspect in the SOA governance framework. It is important to have a clear vision propagated through the organization claim according to participants 7, 11 and 12. This is because SOA governance is seen as an additional work to everyone in the organization; the clear vision will assist in realizing the benefits of SOA governance. This could be achieved by involving most divisions in the organization and get them to work together, from developers, to testers, to architects, to analysts and also operational management teams. Participant 12 called these groups a Tribe who understands the SOA values.
- Role definition: According to participant 4, 8, 11–13, 17, and 25–26 SOA vision should include a formal role definition and authority delegation to be achieved especially in large organizations.
- Executive sponsorship: The vision should be driven and then propagated in the organization through the executive level sponsorship. Without executive sponsorship for the SOA vision, people continue to do what they have been doing and avoid the SOA governance processes and more importantly the change that is being injected in the organization according to participants 17 and 23.
- SOA vision dependencies: SOA vision was found to have dependencies on other aspects. Participants 2, 4–19, 22–28 pointed to the relationship between SOA vision, SOA roadmap and SOA maturity. With the presence of SOA vision, it is expected that SOA maturity goes up as time goes on. According to participants 5, 9 and 19, the maturity is assessed as follows: what is the current situation of the organization? and where does the organization want to go?. The roadmap is to take the organization
from the current position to the new expected one. Other SOA governance aspects were also seen depending on the SOA vision: Policy management was mentioned by participants 11 and 12, best practices by participant 11 and SOA Business capabilities by participant 8, 16 and 25.

SOA vision is not a delivery mechanism but a strategy alignment question as claimed by participant 11. While SOA vision has been considered extremely important by the majority of participants, it was seen as not well considered and used by organizations. This is because there is misunderstanding of alignment for strategy by organizations. If organizations want to do SOA right, they should not rely on their IT department to deliver the business benefits. Communication between different units, education and role definitions are among the most considered key points for strong SOA governance.

Conclusion and Future Work

The aspects of SOA governance listed in the second section of this paper were examined by the participants of this research. The key focus was to determine the role of each of these aspects in building effective SOA governance during SOA adoption and the importance of SOA vision in establishing strong SOA governance. It was importantly considered by the majority of participants that SOA vision has a strong impact and dependency on other major aspects: SOA maturity, SOA roadmap, SOA Business capabilities and others. The findings cited in this paper regarding the role of SOA vision in building strong governance inside the organization would help organizations employing a successful SOA governance framework from the beginning of the SOA implementation and not after the technology is applied.

When Phase I of the research is completed, two organizations will be selected for Phase II – an in-depth field research study: one organization that has been highly successful with SOA governance and another one that is starting to implement SOA governance. Comparing and contrasting the results of the two phases will provide grounding for the development of substantive theoretical claims regarding the importance and role of SOA strategic vision as an essential aspect in building an effective SOA governance framework. On the theoretical level, this study is expected to contribute to conceptualizing the aspects of SOA - especially SOA vision and it role in building strong governance - shown to be effective in practice (grounded in empirical studies). On the practical level, the results should help in assessing the practical deployment of SOA governance frameworks and their effectiveness; it will help SOA Governance Boards to evaluate and update their governance frameworks. It will also provide guidelines for organizations when they consider adopting a SOA governance framework.

References


