

# Applying Soft Systems Methodology in Enterprise Architecture Creation Workshops

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## Extended Abstract

Lack of effective involvement of stakeholders is one of the common drawbacks of enterprise architecture development [1]. This paper, therefore, focuses on challenges associated with involving stakeholders in the enterprise architecture effort. These challenges are mainly caused by two issues, i.e.: (a) the success of collaborative sessions that involve enterprise architects and stakeholders mainly depends on the presence of a professional or skilled facilitator; (b) the lack of a clear, predictable, and repeatable way of managing tasks that require effective and active stakeholder involvement. Earlier attempts to overcome these issues involve using Collaboration Engineering to develop a process that enterprise architects can execute (by themselves) so as to manage tasks that require effective collaboration with stakeholders during enterprise architecture creation. Collaboration Engineering was chosen because it offers affordable facilitation to practitioners (in this case enterprise architects) of recurring high-value tasks (like enterprise architecture creation), by enabling the development of repeatable processes that practitioners can execute without hiring a professional facilitator [2,5].

According to [5], a collaborative process for a given task is designed using the following procedure: specifying the goal and deliverables of the process; defining the activities that participants must execute so as to achieve the goal; specifying the reasoning phases participants must undergo in order to achieve the goal; and describing detailed facilitation support for each activity. Facilitation support is specified by articulating: (a) the Group Support System (GSS) tools that should be used (or alternative techniques) during the collaborative sessions; (b) how the tools should be configured; and (c) the message prompts that

should be followed [2]. This design approach was adapted when formulating the collaboration process for effectively involving stakeholders during enterprise architecture creation. This process is herein referred to as Collaborative Evaluation of Enterprise Architecture Design Alternatives (CEADA). The earlier version of CEADA was evaluated in a field study (of five organizations) where it was effective in supporting activities that required stakeholders to brainstorm, prioritize or rank or rate concerns and requirements for the architecture; and perform multi-criteria evaluation of possible enterprise architecture design alternatives. However, CEADA was still lacking adequate support for stirring vigorous and rigorous discussions when executing activities that required stakeholders and architects to reduce and organize aspects from brainstorming activities; and assess possible interrelationships and implications. This was reflected in the feedback from stakeholders who participated in the sessions supported by CEADA; the facilitator; and the observer of the sessions.

Since the main focus of this research is to offer effective stakeholder involvement in architecture creation, in this paper we address the above weakness by supplementing CEADA with techniques for enhancing the creation of a shared understanding and vision during execution of activities that involve organizing and discussing brainstormed aspects. We focus on adapting Soft Systems Methodology (SSM) because of its reputation for managing complex and ill-structured organizational problems through structuring rational thinking about them [3]. SSM techniques can be adapted to supplement the design of the collaboration process with support for triggering discussions and creating a shared understanding and vision among stakeholders. We also adapt the cause-effect analysis diagram (or Fishbone or Ishikawa) technique because of its support for thorough problem analysis [4]. Since SSM offers implicit facilitation support for collaborative workshops or discussion debates among problem owners and solver(s), Collaboration Engineering is further used in designing the facilitation script that shows how SSM and Ishikawa techniques can be used in enterprise architecture creation. Thus, in this paper CEADA is extended by a script that provides facilitation support for using SSM and Ishikawa diagram techniques to execute activities that require the use of clarify and organize patterns of reasoning.

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