

The Problem of Engagement in Enterprise Architecture Practice: An Exploratory Case Study

Completed Research Paper

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Abstract

Enterprise architecture (EA) is a collection of artifacts describing various aspects of an organization from an integrated business and IT perspective. EA practice is an organizational activity that implies using EA artifacts for facilitating decision-making and improving business and IT alignment. EA practice involves numerous participants ranging from C-level executives to IT project teams and effective engagement between these stakeholders and architects is critically important for success. However, the notion of engagement has received insufficient attention in the EA literature and the problem of establishing engagement has not been examined in detail. Based on a single in-depth case study, this paper explores the problem of achieving engagement in EA practice. Using the grounded theory method, we identify 16 direct and two indirect inhibitors of engagement and unify them into a holistic conceptual model. The model explains how the inhibitors of engagement undermine the ability to realize value from practicing EA.

Keywords: Enterprise Architecture, Stakeholders, Engagement, Problems, Case Study, Grounded Theory

Introduction

Enterprise architecture (EA) is a collection of special documents, typically called as artifacts, describing various aspects of an organization from an integrated business and IT perspective intended to bridge the communication gap between business and IT stakeholders, facilitate information systems planning and thereby improve business and IT alignment (Kotusev 2019; Tamm et al. 2015). EA practice is an organizational activity that implies using EA artifacts for facilitating IT-related decision-making and improving business and IT alignment (Ahlemann et al. 2012; Kotusev 2018a; Murer et al. 2011). EA practice includes defining an overarching strategic direction and moving towards this direction through implementing specific IT initiatives (Ahlemann et al. 2012; Kotusev 2018a; Ross et al. 2006). Participants of EA practices in organizations range accordingly from C-level executives to IT project teams (Kotusev 2018b; Niemi 2007; van der Raadt et al. 2010).

Effective EA practices require achieving engagement between architects and other EA stakeholders (Al-Kharusi et al. 2016; Fonstad and Robertson 2006; Levy 2014). On the one hand, different facets of engagement (e.g. communication, collaboration and partnership) are consistently found among the most critical success factors of EA practice (Ambler 2010; Bricknall et al. 2006; Schmidt and Buxmann 2011; van der Raadt et al. 2010). On the other hand, among various problems associated with EA practices (Ajer and Olsen 2018; Dang and Pekkola 2016; Kotusev et al. 2015), the challenges related specifically to establishing engagement can be considered as the most common and acute ones (Banaeianjahromi and Smolander 2017; Hauder et al. 2013).

However, despite the widely recognized importance of strong engagement between architects and other EA stakeholders, the notion of engagement received only limited attention in the EA literature (Al-Kharusi et al. 2016; Levy 2014). Although insufficient engagement is acknowledged as a major issue (Banaeianjahromi and Smolander 2017), the problem of achieving engagement in EA practice has never been systematically studied in the existing EA literature. In order to address this gap, this study uses the case study-based grounded theory approach to answer the following research question: “What factors hinder engagement between architects and other stakeholders in EA practice?”

This paper continues as follows: (1) we discuss EA practice and its stakeholders, the notion of engagement, two different types of engagement and motivation for this research, (2) we describe the research design, data collection and analysis procedures, (3) we present the set of identified inhibitors of engagement and the resulting theoretical model, (4) we discuss our findings in light of the existing EA literature, (5) we discuss the contribution of this study to the EA discipline and (6) we describe the limitations of this study and outline directions for future research.

Literature Review

In this section we define EA practice and the notion of engagement between architects and EA stakeholders. Then, we discuss the importance of effective engagement, two different types of engagement in the context of EA practice, problems related to EA practice and finally summarize the motivation behind the research question posed in this study.

Enterprise Architecture Practice and Its Stakeholders

EA practice is an organizational activity that implies using EA artifacts for facilitating IT-related decision-making and improving business and IT alignment (Fallmyr and Bygstad 2014; Kotusev 2017a). EA practice affects various activities related to business and IT alignment at different levels of the organizational hierarchy including strategic planning (Azevedo et al. 2015; Parker and Brooks 2008; Simon et al. 2014), IT portfolio management (Makiya 2008; Quartel et al. 2012; Riempp and Gieffers-Ankel 2007) and implementation of IT systems (Dale 2013; Foorthuis et al. 2012; Foorthuis et al. 2016). Specifically, EA practice implies defining an organization-wide strategic direction, then shaping a more detailed portfolio of IT investments and finally delivering all planned IT initiatives in an optimal manner (Ahlemann et al. 2012; Kotusev 2018a; Ross et al. 2006).

Unsurprisingly, EA practice involves many stakeholders in organizations working at various organizational levels. For instance, Fonstad and Robertson (2006) classify all EA stakeholders according to two orthogonal dimensions. First, EA stakeholders belong to business or IT stakeholders. Second, EA stakeholders can be related to corporate, business unit or project level. Thereby, Fonstad and Robertson (2006) articulate six main groups of EA stakeholders with different objectives as an intersection of these two dimensions. Put it simply, direct or indirect participants of EA practices range from C-level executives to IT project teams (Kotusev 2018b; Niemi 2007; van der Raadt et al. 2010).

Engagement in Enterprise Architecture Practice

Establishing strong engagement between architects and other EA stakeholders has been long recognized as one of the prerequisites of successful EA practices (Fonstad and Robertson 2006; Verley 2007). The term “engagement” in the EA context has no commonly accepted definition and is used rather loosely. For example, Fonstad and Robertson (2006, p. 2) understand engagement rather broadly as “negotiating, influencing, educating, socializing, and interacting in other ways across organizational levels and functional boundaries”, while more recent studies actively using this term (Al-Kharusi et al. 2016; Levy 2014) do not provide any explicit definitions of engagement whatsoever. For this reason, in this paper we define engagement specifically as an active communication between architects and EA stakeholders, conscious participation of stakeholders in EA-related processes, collaborative decision-making and mutual commitment to the planning decisions made collectively.

The vital importance of engagement between architects and EA stakeholders is widely acknowledged in the existing EA literature. For instance, effective communication, stakeholder participation and buy-in are consistently found among the critical success factors of EA practice (Bricknall et al. 2006; Schmidt and

Buxmann 2011). van der Raadt et al. (2010, p. 1954) argue that “active participation of EA stakeholders is one of the main critical success factors for EA”. These findings on the critical importance of engagement in EA practice also highly correlate with the earlier findings on business and IT alignment. For instance, many authors identified effective communication, mutual understanding and partnership between business and IT stakeholders as the most significant enablers of business and IT alignment (Chan and Reich 2007; Luftman and Brier 1999; Preston and Karahanna 2009).

At the same time, the consequences of poor engagement are also widely understood in the EA literature. In particular, the lack of adequate engagement is most often manifested as the so-called “ivory tower” syndrome, when architects exist separately from the rest of the organization and produce idealistic architectures distant from the actual business problems that eventually end up laying on shelves (Ambler 2010; Hauder et al. 2013; Levy 2014; van der Raadt et al. 2010). In light of this evidence, effective engagement can be considered as one of the most critical success factors of EA practice.

Strategic and Tactical Engagement

All comprehensive evidence-based EA sources in some or other form articulate two key processes that require engagement between architects and other stakeholders as part of EA practice: strategic planning and initiative delivery (Ahlemann et al. 2012; Kotusev 2018a; Murer et al. 2011; Ross et al. 2006). These two EA-related processes involve different groups of stakeholders and require different types of engagement, which we call strategic engagement and tactical engagement respectively.

On the one hand, the process of strategic planning implies making global long-term planning decisions, i.e. developing an overarching strategic vision for the entire organization (Kotusev 2018a; Ross et al. 2006; Simon et al. 2014). This process is integrated with regular strategic management and involves senior business leaders and architects. As part of this process business and IT leaders may establish a mutually agreed set of architecture principles or maxims (Broadbent and Weill 1997; Greefhorst and Proper 2011), develop a core diagram or desired target state (Ross et al. 2006; Tamm et al. 2015), highlight required business capabilities in capability models or maps (Burton 2012; Kotusev 2019) and develop more detailed investment roadmaps (Kotusev 2019; Tamm et al. 2015). Therefore, strategic engagement represents the loose collaboration of architects and senior business decision-makers at the level of organization-wide planning.

On the other hand, the process of initiative delivery implies making local short-term planning decisions in order to deliver separate IT initiatives aligned to the global strategic vision (Kotusev 2018a; Lux and Ahlemann 2012; Ross et al. 2006; Wagter et al. 2005). This process is integrated with a regular project delivery lifecycle and involves architects, project sponsors, business analysts and other members of IT project teams (Beijer and de Klerk 2010). The initiative delivery process is usually linked to the phases of the adopted project delivery methodology (e.g. concept, business case, design, implementation and rollout) where different EA artifacts inform decision-making at the respective approval gates (Kotusev 2018a; Lux and Ahlemann 2012; Ross et al. 2006). For example, as part of this process architects and other project stakeholders may explore possible solution options (Kotusev 2019; Lux and Ahlemann 2012), prepare a solution overview and business case (Lux and Ahlemann 2012; Wagter et al. 2005), approve the solution and secure necessary funding, then develop a more detailed solution design or project-start architecture (Kotusev 2019; Wagter et al. 2005) and finally implement the IT solution. Therefore, tactical engagement represents the tight collaboration of architects and various project stakeholders at the level of project implementation. The differences between strategic and tactical engagement discussed above are summarized in Table 1.

Table 1. Strategic and Tactical Engagement in EA Practice		
Aspect	Strategic engagement	Tactical engagement
Goal	Develop an overarching architectural vision	Deliver IT initiatives aligned to the global vision
Scope	Entire organization	Separate IT initiatives
Integration	Strategic management	Project delivery lifecycle
Stakeholders	Strategic decision-makers, e.g. C-level	Project teams, e.g. business sponsors, project

involved	executives, senior business leaders and heads of departments	managers, business analysts and various IT staff
Relevant EA artifacts	Principles, core diagrams, business capability models and roadmaps	Options assessments, solution overviews and solution designs
Type of teamwork	Permanent, broad and loosely coupled collaboration of many decision-makers	Temporary, small and tightly coupled teams formed to deliver specific IT initiatives

Table 1. Strategic and Tactical Engagement in EA Practice

Problems in Enterprise Architecture Practice

Various pitfalls associated with EA practice have been rather widely studied in the EA literature (Kotusev 2017b). A brief overview of the most notable recent academic publications studying problems and challenges in EA practice is provided in Table 2.

Table 2. Overview of Publications Studying Problems and Challenges in EA Practice		
Publication(s)	Methodology	Findings
Lohe and Legner (2012) and Lohe and Legner (2014)	Case studies of three European companies	Identify three major challenges related to the implementation of EA frameworks: effort regarding the initial EA documentation, existing EA artifacts remained unused and lack of acceptance of EA in the organization
Hauder et al. (2013)	Global survey of 105 EA practitioners	Identify 20 diverse challenges related to EA practice including a number of problems with engagement, e.g. conflicting interests and stakeholder unavailability
Dang and Pekkola (2016)	Case studies of local governments in three provinces of Vietnam	Identified eight generic root causes of the problems in EA practice: organization structure, legal rule and regulation, politics and sponsors, forming an EA team, ability and capability of an EA team, capabilities of users, conflicting benefits and EA basis
Banaeianjahromi and Smolander (2016) and Banaeianjahromi and Smolander (2017)	In total 29 interviews with experts from 15 large organizations	Identified eight main obstacles: lack of communication and collaboration, lack of management support, lack of knowledge among management, lack of motivation among personnel, lack of knowledge among personnel, personnel resistance to change, EA consultant-related issues and government-related political issues
Ajer and Olsen (2018)	Case studies of three Norwegian public sectors covering 18 different units	Identified 26 different challenges that can be grouped into five broader categories: complexity, objectives and benefit, organization, people and processes and understanding and trust

Table 2. Overview of Publications Studying Problems and Challenges in EA Practice

An examination of the existing studies of problems and challenges related to EA practice presented in Table 2 demonstrates that all of these studies explicitly recognize the problem of achieving engagement between architects and other EA stakeholders among the most prominent challenges of EA practice (though, in different forms and manifestations, e.g. communication, collaboration, partnership, integration, etc.). Furthermore, one of the recent and most comprehensive studies of obstacles in EA practice conducted by Banaeianjahromi and Smolander (2017, p. 20) “identified lack of communication and collaboration as the core obstacle that can explain most of the other obstacles”. In light of these findings, the problem of achieving effective engagement can be considered as one of the core issues related to EA practice, if not as the single most important issue representing a root cause of many other issues.

Research Motivation

The critical importance of engagement between architects and other EA stakeholders is widely acknowledged in the EA literature (Ambler 2010; Banaeianjahromi and Smolander 2017; Ross et al. 2006; van der Raadt et al. 2010) and no controversial findings regarding its importance have been reported by researchers. For instance, all the previous studies of EA-related problems (see Table 2) identify various aspects of engagement in some or the other form (e.g. establishing communication, collaboration and partnership, overcoming isolation, integrating EA-related processes with regular organizational processes, etc.) as one of the major challenges of EA practice.

However, the notion of engagement itself received only limited attention among EA scholars (Al-Kharusi et al. 2016; Levy 2014; Verley 2007) and currently no sound hypotheses related to engagement can arguably be formulated, with the exception that effective engagement is important for success of EA practice. Generally, the topic of engagement still remains essentially unnoticed in the current EA research stream (Kotusev 2017b). In particular, none of the studies of EA-related challenges (see Table 2) focused specifically on the problem of achieving engagement. Although these studies clearly recognize insufficient engagement as a major problem, they generally focus on broader issues troubling EA practice, but provide little or no suggestions regarding what specific factors may inhibit engagement within EA practice. For this reason, the underlying factors preventing effective engagement remain essentially unexplored.

Therefore, the research question of this study is: “What factors hinder engagement between architects and other stakeholders in EA practice?” Taking into account the distinction between strategic and tactical engagement (see Table 1), this study aims to address both types of engagement and explore the factors inhibiting each of these types separately.

Research Method

This study is qualitative, inductive and exploratory in nature because the question under investigation is arguably not described in the EA literature well enough to formulate any reasonable deductive propositions or quantitative hypotheses. For this reason, we selected the case study research method as the most suitable approach (Lee 1989; Yin 2003). We used a single case study as the EA practice within the organization selected had clear engagement issues and was therefore revelatory (Yin 2003).

Data Collection

In order to answer our research question, a case organization should (1) be sufficiently large and complex enough to have a genuine need and desire for full-fledged EA practice and (2) experience significant problems with establishing engagement between its architecture team and other EA stakeholders. According to these criteria, we have chosen a large government department in one of the Australian states with a developing EA practice as the case organization for our research.

Data in this study was collected from two sources: semi-structured interviews and documentation analysis. First, we took nine face-to-face one-hour interviews with representatives of all key participants of the EA practice: two with the architecture team manager, one with the CIO, one with an architect working at both the enterprise and solution levels, one with the engagement and innovation team leader, one with a program manager, one with a project manager, one with an infrastructure service delivery manager and one with a member of corporate IT services.

Second, we studied the EA documentation existing in the organization including the samples of all EA artifacts provided by the interviewees. During the EA documentation analysis we focused specifically on assessing the quality of EA artifacts and their fitness-for-purpose, i.e. their potential ability to facilitate the engagement between architects and other EA stakeholders based on the insights gained from the earlier extensive study of EA artifacts and their usage (Kotusev 2019). As a result, our analysis has confirmed and assured the adequacy of key EA artifacts used in the organization.

Data Analysis

Since the research question of this study addresses an insufficiently explored area of the EA discipline, the grounded theory method (Strauss and Corbin 1998) was selected as the most suitable approach to data

analysis. During the data analysis we followed the essential steps of the grounded theory method: open coding, axial coding and selective coding.

The first step, open coding, included reading the recorded text line-by-line and identifying significant concepts and categories relevant in the context of the studied phenomenon. This step resulted in a list of major concepts and categories including various direct factors preventing effective engagement and aggravating indirect factors. The second step, axial coding, included rereading the recorded text and establishing the relationship between various concepts and categories. This step resulted in the relationship network explaining the connections between all the concepts and categories previously identified during the open coding step. The final step, selective coding, included selecting engagement as the core category and unifying all the previously established concepts, categories and relationships between them around this core category into a consistent logical picture describing the studied phenomenon. This step resulted in the holistic theoretical model and accompanying theoretical propositions explaining the influence of the identified direct and indirect negative factors on strategic and tactical engagement. A number of less significant potential factors identified in data that were considered as weak, subjective or not strongly substantiated were omitted from the resulting model.

Research Findings

In this section we describe the studied organization, discuss the identified direct inhibitors of strategic and tactical engagement as well as the indirect aggravating factors influencing engagement, and finally present the resulting theoretical model explaining the problem of achieving engagement.

Description of the Organization

The case organization, referred to as GovDept (pseudonym), is a major government department in one of the Australian states. GovDept is controlled by the State Government and its ministers. It is responsible for a state-wide provision of important services of a social nature to the population of the whole state. In total, GovDept employs more than 14,000 people, including 250 IT staff.

GovDept has been formed as a result of a recent merger of two previously independent government departments with somewhat related and partially overlapping responsibilities. GovDept is a decentralized organization consisting of multiple diverse units fulfilling largely independent functions. Traditionally, different parts of GovDept worked autonomously and were rather loosely unified under common leadership.

From a technology perspective, GovDept can be considered as a late adopter of innovations. Its IT landscape consists of hundreds of applications many of which are currently viewed as legacy. Systems and databases in GovDept handle the information on millions of citizens residing in the respective Australian state.

Various IT services at GovDept are provided at three different levels: government-wide, organization-wide and local. First, government-wide IT services are provided by the external provider serving all government departments, including GovDept. These services include mostly the provision and maintenance of standardized IT infrastructure for information systems, e.g. datacenters, hardware and networks. Second, organization-wide IT services are provided by the central IT department responsible for developing and supporting major information systems for the whole organization, e.g. Customer Relationship Management (CRM), Human Resource Management (HRM) and Data Warehouse (DWH). Finally, local IT services are provided by separate teams of IT specialists located within corresponding business units. These services include the development and support of small unit-specific business applications of little or no organization-wide significance.

The central IT department of GovDept is headed by the CIO and consists of three key sub-units: architecture, development and service. GovDept's architecture function is governed by the architecture manager, who reports directly to the CIO, and employs four subordinate architects fulfilling the mixed roles of enterprise architects and solution architects, i.e. involved in both organization-wide and project-level planning. Although the architecture function in some form existed in GovDept at least for several years, its value has been periodically questioned by the leadership. Historically, architects struggled to demonstrate their worth and deliver tangible business outcomes. They were criticized for their

remoteness from the organization and considered largely irrelevant. For this reason, the previous EA team has been disbanded and reorganized.

Currently, different EA-related processes in GovDept have disparate levels of maturity. On the one hand, the initiative delivery process is reasonably mature and followed systematically, though not always smoothly. From the perspective of EA artifacts, this process employs mostly initiative proposals, options assessments and then detailed solution designs (EA on a Page 2018; Kotusev 2019). Tactical engagement associated with the initiative delivery process encompasses architects, business analysts, functional analysts, project managers and other team members from the IT department involved in project implementation.

On the other hand, the strategic planning process is less mature and systematic. As part of this process, architects are using a business capability model, enterprise systems portfolio, roadmaps and some other EA artifacts (EA on a Page 2018; Kotusev 2019). Strategic engagement associated with the strategic planning process encompasses the architecture team manager, architects and a vast circle of business stakeholders including senior managers from different units of GovDept, external auditors and commissioners, members of various government committees and even ministers themselves.

Inhibitors of Strategic Engagement

As discussed above, strategic engagement represents the loose collaboration of architects and senior business decision-makers at the level of organization-wide planning (see Table 1). The grounded theory analysis procedures described earlier identified 11 different direct factors inhibiting effective strategic engagement in GovDept, which can be grouped into five higher-level categories: structural factors, stakeholder factors, priority factors, financing factors and behavioral factors.

Structural Factors

Structural factors represent a group of related factors undermining strategic engagement that can be attributed specifically to the organizational structure of GovDept. These factors include the dynamic organizational structure and IT governance mismatch.

First, the dynamic structure of GovDept complicates strategic engagement because the entire organization is in a continuous state of flux. Historically, GovDept has been a subject of periodic splits, mergers and other structural manipulations initiated spontaneously from the outside. As a result, various organizational entities have been added, moved, removed and then returned back to the organizational structure in an unpredictable manner. These structural changes sometimes discourage the stakeholders from developing any clearly defined future vision or long-term architectural plans.

“It is hard to architect an enterprise when its structure, its boundaries and its purpose are continually churning” (CIO)

Second, an IT governance mismatch also complicates strategic engagement due to an evident conflict between the centralized structure of IT and decentralized structure of the business. On the one hand, the business of GovDept traditionally was highly decentralized and included multiple loosely related functions having significant local decision-making autonomy. On the other hand, its IT department has been centralized with an intention to leverage associated economies of scale. The resulting tension between decentralized business governance and centralized IT governance, including architecture governance, undermines the quality of engagement between respective business and IT leaders.

The structural factors described above can be summarized into the following proposition:

Proposition 1a: Dynamic organizational structure and IT governance mismatch inhibit the ability to establish effective strategic engagement

Stakeholder Factors

Stakeholder factors represent a group of related factors undermining strategic engagement that can be attributed specifically to the peculiarities of EA stakeholders within GovDept. These factors include the wide stakeholder circle and frequent leadership rotation.

First, a multitude of potential EA stakeholders complicates strategic engagement due to the necessity for architects to identify, involve and build trusting relationships with all these stakeholders. Most long-term planning decisions in GovDept do not have narrow, clearly defined groups of stakeholders, but rather are agreed among broader circles of decision-makers, including various working committees, compliance officers and financial overseers. Moreover, some of these stakeholder groups are external and do not belong to the organization formally, e.g. government auditors and parliament commissions. The multi-stakeholder environment of GovDept makes reaching agreements on some architecturally significant questions very difficult.

“There are so many stakeholders involved [in decision-making]. While it looks to be inclusive, it can actually become suffocating in getting decisions approved because there are so many parties that need to have some sort of appeasement in the process”
(Architecture team manager)

Second, the frequent rotation of political leadership in GovDept undermines strategic engagement because of the need for architects to periodically establish relationships with respective EA stakeholders anew. Moreover, the original sponsors of specific planning decisions sometimes get replaced and the corresponding decisions need to be renegotiated with their new stakeholders. As a result, previously agreed and approved initiatives may be stopped, delayed or even cancelled by the new leadership.

The stakeholder factors described above can be summarized into the following proposition:

Proposition 1b: *Wide stakeholder circle and frequent leadership rotation inhibit the ability to establish effective strategic engagement*

Priority Factors

Priority factors represent a group of related factors undermining strategic engagement that can be attributed specifically to chaotic priorities within GovDept. These factors include priority conflict and needs urgency.

First, conflicting priorities of stakeholders in GovDept complicate strategic engagement due to disputes regarding the most critical objectives for the whole organization. Different sub-units of GovDept focused on providing different services have their own understanding of the most important problems and priorities. As a result, priorities of different units get easily consolidated only in a state of crisis. The absence of a truly shared view of the organization-wide future discourages stakeholders from creating global strategic plans.

Second, susceptibility to urgent needs also undermines strategic engagement in GovDept by devaluing any long-term planning efforts. The directives and decisions of government ministers can be driven by current discussions in the media and in some cases may represent spontaneous reactions to the critical articles in newspapers. As a result, some unexpected needs having dubious intrinsic value can suddenly become the topmost priority for the organization. Such a focus on urgent critical needs questions the benefits from systematic long-term planning.

“The ministers are a little bit like children and that is not being derogatory, but they are very much driven by public perception. What is in the media at this point, that is what they need to adjust to” (Architecture team manager)

The priority factors described above can be summarized into the following proposition:

Proposition 1c: *Priority conflict and needs urgency inhibit the ability to establish effective strategic engagement*

Financing Factors

Financing factors represent a group of related factors undermining strategic engagement that can be attributed specifically to the financing processes in GovDept. These factors include shifting budget and lack of funding transparency.

First, shifting annual budget complicates strategic engagement in GovDept since the overall prospects regarding the volume of future IT investments may be unclear. GovDept’s annual budget is allocated from

the outside by the government and might be a subject of unexpected cuts or increases due to political motives or budget crises. In some cases, these increments or decrements may be rather considerable and have direct implications for the IT budget. The resulting lack of a sound budgetary forecast discourages strategic decision-makers from developing long-range plans for IT investments.

Second, lack of funding transparency also complicates strategic engagement since which IT investments might be approved and why cannot always be anticipated in advance. Even though GovDept has rather systematic investment evaluation processes and consistent approval criteria, the perceived importance of IT investments is sometimes based only on the subjective beliefs of the leaders proposing them. As a result, the approval of some IT investments still depends largely on how effectively they are pushed and “sold” to the ministers by their sponsors. Less than perfect transparency of investment approval procedures discourages business and IT leaders from developing agreed IT investment plans for the future.

“It is market forces or survival of the fittest. This is pretty much what happens in the department. Programs get up to the degree that individual directors and executives can push them and ministers are prepared to buy them. There is some magical alignment of the forces which gets them money” (CIO)

The financing factors described above can be summarized into the following proposition:

Proposition 1d: *Shifting budget and lack of transparency in funding inhibit the ability to establish effective strategic engagement*

Behavioral Factors

Behavioral factors represent a group of related factors undermining strategic engagement that can be attributed specifically to the behavioral features of people in GovDept. These factors include insufficient business acumen among architects, insufficient partnership and hierarchical stratification.

First, insufficient business acumen among architects complicates strategic engagement in GovDept since architects are not always capable of communicating with the business in a language they can understand. Specifically, architects are sometimes unable to explain the benefits of architectural planning to business audience and to build trusting relationships with their business stakeholders. As a result, architects cannot always easily integrate EA-related activities into regular business planning processes.

Second, the unwillingness to treat IT as a full-fledged business partner undermines strategic engagement since business leaders in GovDept are not always eager to discuss strategic questions with architects. In some situations, IT is considered more as a servant than as a trusted and equal partner to the business. In other words, in GovDept IT is somewhat inferior to business. For example, IT is not represented adequately at the board level. Moreover, some business executives view IT more as a way to reduce costs, than as a driver of innovative business approaches. This attitude towards IT reduces the quality of the strategic dialog between business and IT leaders.

“This particular organizational culture is one where they do not see IT as an enabler. [Business leaders] tend to have a perception that technology is not an enabler, but more a mandatory requirement on occasion to store information” (Architecture team manager)

Third, hierarchical stratification between employees occupying different levels of the organizational pyramid in GovDept complicates strategic engagement because it raises additional communication barriers between architects and other EA stakeholders. These barriers deteriorate the quality of vertical information exchange across the hierarchy of decision-makers. The ensuing effects make productive dialog and collaborative decision-making as part of EA practice rather problematic.

The behavioral factors described above can be summarized into the following proposition:

Proposition 1e: *Insufficient business acumen among architects, insufficient partnership and hierarchical stratification inhibit the ability to establish effective strategic engagement*

Inhibitors of Tactical Engagement

As discussed above, tactical engagement represents the tight collaboration of architects and various project stakeholders at the level of project implementation (see Table 1). The grounded theory procedures described earlier identified five different direct factors inhibiting effective tactical engagement in GovDept, which can be grouped into two higher-level categories: quality factors and teamwork factors.

Quality Factors

Quality factors represent a group of related factors undermining tactical engagement that can be attributed specifically to the quality of input provided by architects to project teams in GovDept. These factors include insufficient timeliness, insufficient decisiveness among architects and perceived over-complication.

First, tardiness of architects complicates tactical engagement in GovDept since the input provided by architects is sometimes considered by IT project teams to be unacceptably slow. For this reason, project managers might be motivated to avoid the involvement of architects in IT projects altogether to be able to deliver these projects on time. The intentional desire of some project managers to implement IT projects without architects naturally undermines the very meaning of project-level EA-related activities.

Second, insufficient decisiveness among architects complicates tactical engagement because architects in GovDept are sometimes considered by project teams more as analysts or observers, than as real decision-makers. Instead of identifying and focusing on the most reasonable implementation option, architects are sometimes trying to analyze all possible options without actually picking or recommending any of them. Moreover, in some rare cases architects may change their mind after a certain planning decision has already been made and agreed with the project team members. Such occasional indecisiveness reduces the value of cooperating with architects for IT project teams.

“It happened many times when you are trying to work with architects and they say: “Right, we will do some options”. But they never make a decision. [...] Very rarely you get a recommendation, very rarely, you have to force it. [Specific recommendations from architects] are very rare” (Program manager)

Third, perceived over-complication of solutions associated with the involvement of architects also deteriorates tactical engagement in GovDept. Unlike other project participants, architects are well-acquainted with the mandatory requirements of numerous legislative acts regulating the use of IT in governmental organizations and specifically in GovDept. For this reason, the presence of architects in project teams creates a false impression of adding an extra layer of complexity to seemingly simple IT systems. As a result, architects are sometimes undeservingly considered as blockers of simple approaches and quick solutions by other team members. This attitude essentially renders their involvement in IT projects undesirable.

The quality factors described above can be summarized into the following proposition:

Proposition 2a: *Insufficient timeliness, insufficient decisiveness and perceived over-complication inhibit the ability to establish effective tactical engagement*

Teamwork Factors

Teamwork factors represent a group of related factors undermining tactical engagement that can be attributed specifically to the poor teamwork within IT project teams. These factors include poor change management and insufficient trust between architects and project teams.

First, poor change management complicates tactical engagement in GovDept since the changes in the IT landscape are sometimes managed separately from the corresponding changes in business operations. In other words, the introduction of a new IT system in some cases is not accompanied by respective process changes. The implications of information systems in GovDept are not always considered in their full complexity from a multifaceted organizational perspective. This occasional incoherence between business and IT changes undermines the teamwork at the project implementation stage.

“Something that organizational change management here does not seem to have – there does not seem to be a focus on organizational change management. It is very much the technology is the silver bullet that will solve our problems, but there is not enough focus on the people and process aspects of things. It is only in the last six months or so we started to even talk about that” (Project manager)

Second, insufficient trust between architects and other members of project teams sometimes also undermines tactical engagement in GovDept due to the resulting conflicts within IT projects. When different parties accuse each other of low-quality work, unfulfilled commitments, wrong decisions and missed deadlines, the very feeling of trust and partnership within project teams gets undermined. Moreover, the overall morale in the organization suffers as well. The atmosphere of mutual blaming naturally complicates any collaborative project delivery efforts in GovDept.

The teamwork factors described above can be summarized into the following proposition:

Proposition 2b: *Poor change management and insufficient trust inhibit the ability to establish effective tactical engagement*

Indirect Aggravating Factors

Besides the 11 direct inhibitors of strategic engagement and five direct inhibitors of tactical engagement described above, the grounded theory analysis also identified two indirect aggravating factors influencing engagement. Although these factors do not reduce the quality of engagement directly, they still exacerbate the negative influence of all other direct factors on engagement. These factors include the troublesome history of EA efforts and skeptical attitude towards EA.

First, the history of failed architecture efforts in GovDept exacerbates all other direct inhibitors of engagement due to a disappointing and demotivating influence on the participants of EA practice. For instance, the previous architecture team in GovDept also had rather similar problems with engagement and suffered from the well-known “ivory tower” syndrome. It was characterized largely by the disconnection from the rest of the organization and often considered as an obstacle, rather than as a contributor. As a result, a large part of the former EA team was purged. This less than successful track record of EA initiatives undermines the faith of participants in the possibility of building working EA practice in GovDept.

“The department has always had enterprise architecture to some degree. If you go back to about 2012, there was a dedicated EA team that consisted of 3-4 guys. [...] The EA team reported directly to the CIO, but they did not engage well with the business and they were judged irrelevant. [...] So, EA was a bit too ivory tower, had trouble engaging, had trouble influencing” (Architect)

Second, the general skepticism towards architecture in GovDept exacerbates all other direct inhibitors of engagement via undermining the motivation of participants to cope with the existing engagement problems. On the one hand, this skepticism is partially caused by the earlier historical problems with the previous EA endeavors in GovDept described above. On the other hand, and more importantly, this skepticism is also constantly reinforced by the current inability of the organization to fully realize the value from practicing EA. Moreover, the overall skepticism in GovDept encompasses not only its business leadership, but even architects themselves.

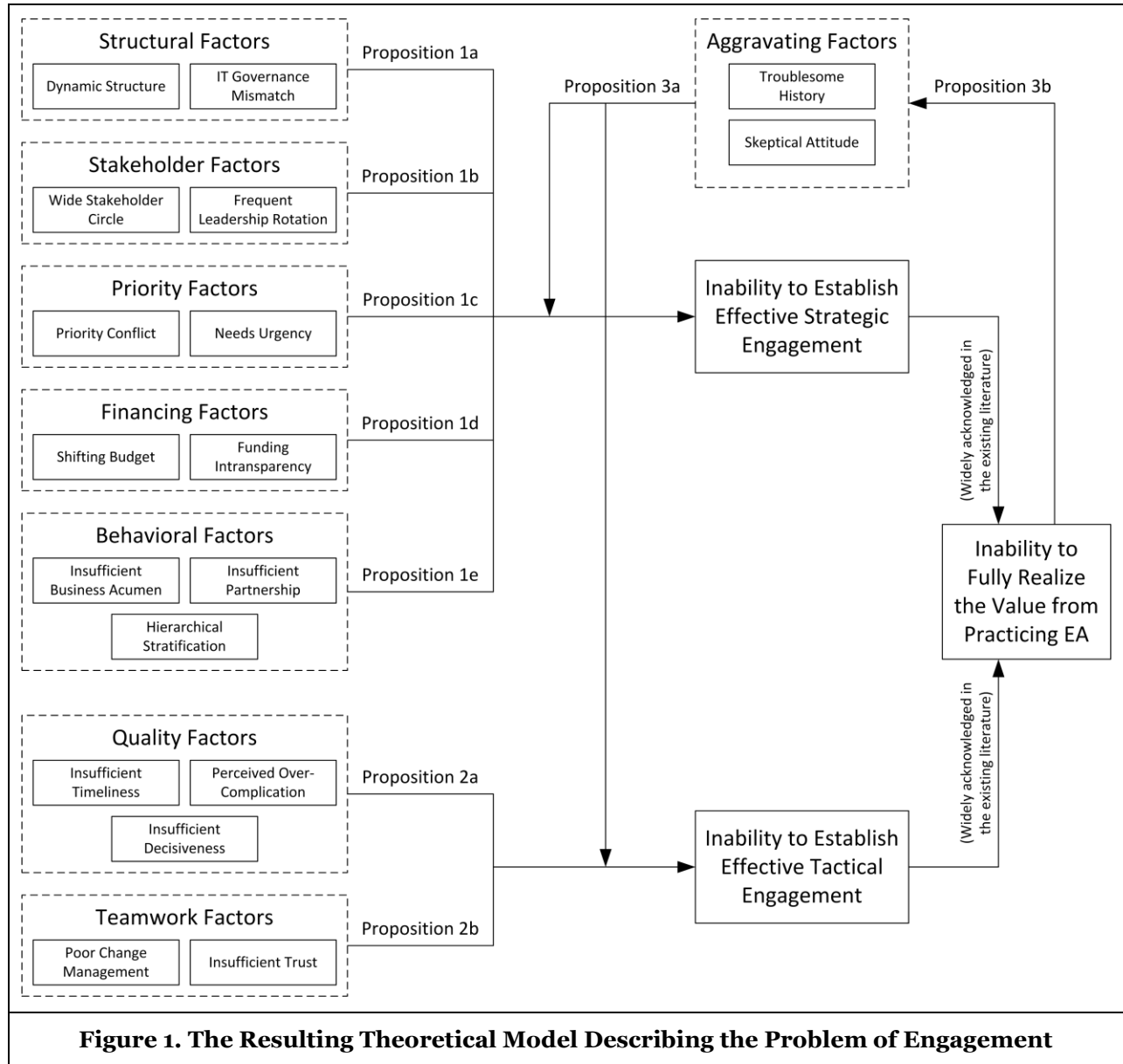
The indirect aggravating factors described above can be summarized into the following propositions:

Proposition 3a: *The troublesome history of EA efforts and skeptical attitude towards EA strengthen the negative influence of all other factors undermining strategic and tactical engagement*

Proposition 3b: *The inability to fully realize the value of EA practice reinforces the skeptical attitude towards EA and contributes to the troublesome history of EA efforts*

The Resulting Theoretical Model

Combining the identified direct inhibitors of engagement with the indirect aggravating factors and relevant cause-and-effect theoretical propositions, the findings of the study can be represented as a holistic theoretical model explaining the influence of various negative factors on engagement. The theoretical model describing the problem of achieving engagement that emerged from this study is shown in Figure 1.



Discussion of Findings

Based on a single in-depth case study, this paper explores key factors that hinder effective engagement between architects and other stakeholders in EA practice. Using the grounded theory analysis method, 16 direct and two indirect factors that inhibit the organization’s ability to achieve effective engagement between architects and EA stakeholders have been identified. These inhibitors have been unified into a holistic conceptual model with nine propositions as summarized in Figure 1.

The existing literature on the challenges related to EA practice identified numerous problems that complicate EA practices in organizations. However, the previous studies took a broader perspective on EA-related challenges and none of these studies focused specifically on the problem of engagement. Although some of the engagement inhibitors identified in this study have been recognized earlier in some or the other form as general impediments of EA practice (see Table 2), most of these inhibitors have not been mentioned previously in the EA literature and represent novel insights with multifaceted and far-reaching implications deepening our understanding of EA practice and its problems.

For example, the potential of significant hierarchical stratification to undermine strategic engagement between architects and EA stakeholders suggests that the effectiveness of EA practice may depend on the features of national culture since different countries rank very differently from the perspective of acceptable power distance (Hofstede et al. 2010). Likewise, the mismatch between business and IT governance as an inhibitor of engagement suggests that the efficacy of EA practice may also highly depend on the structure of IT governance arrangements, e.g. monarchy, duopoly or anarchy (Weill and Ross 2004). The negative consequences of non-transparent funding procedures for engagement between architects and EA stakeholders suggest that the effectiveness of EA practice may be enhanced via establishing more formal business case development and assessment processes (Maholic 2013; Ward et al. 2008). The presence of the frequent rotation of leadership among engagement inhibitors suggests that the efficacy of EA practice may directly depend on the adopted human resource management practices that can stimulate or discourage staff turnover (Mathis and Jackson 2010). The existence of the problem of shifting annual budgets as an inhibitor of engagement suggests that EA practices in organizations may benefit from a more literate “financial engineering” (Tufano 1996).

Furthermore, poor change management as a factor undermining engagement refers back to a “classic” problem of achieving organic and harmonious changes within the entire organization associated with the introduction of new information systems entailing necessary process, people and management-related changes (Benjamin and Levinson 1993; Laudon and Laudon 2013). Finally, the negative factors of insufficient decisiveness and tardiness of architects may imply the need for developing appropriate KPIs for individual architects by their architecture managers that facilitate the achievement of effective stakeholder engagement.

The studied organization can be considered a somewhat peculiar case of EA practice due to the specifics of governmental organizations (though at this stage of EA research this proposition is purely intuitive since no studies clearly explain the differences between EA practices in different industries, see Kotusev (2017b)). Hence, some of the identified engagement inhibitors seem to be clearly attributable specifically to governmental organizations.

For example, a multitude of stakeholders with the presence of external parties among them as a factor undermining engagement can arguably be attributed specifically to the fact that GovDept is controlled, monitored and audited by various governmental commissions, often external ones, who influence relevant decision-making processes within the organization. Similarly, the frequent rotation of leadership can be also attributed to the fact that the management of the studied organization is periodically reappointed after every elections by the winning party, which often results in a complete replacement of most GovDept’s senior executives. A shifting annual budget can be considered as a highly organization-specific factor as well since the budget of GovDept is controlled essentially from the outside of the organization and it may not depend on regular financial indicators (e.g. turnover) that are often used in commercial companies for budget forecasting purposes. These and some other identified factors should be normally absent in more “typical” commercial organizations.

Nevertheless, most other factors identified in this study can be considered as generalizable to other organizations and cannot be attributed to the specifics of GovDept. For example, IT governance mismatch, susceptibility to urgent needs, tardiness of architects, poor change management and many other factors can be present in any organization and arguably cannot be considered as government-specific. Therefore, the developed theoretical model (see Figure 1), though largely generalizable, certainly has some government “flavor” and may not be perfectly valid for organizations from other industries.

Contribution of This Study

Contextually, this study fits into the existing broad EA research stream (Mykhashchuk et al. 2011; Simon et al. 2013) and specifically into its sub-streams on EA-related problems and EA stakeholders (Kotusev 2017b). On the one hand, the findings of this study contribute to a more detailed understanding of potential problems associated with practicing EA via extending the subset of known problems related specifically to engagement. On the other hand, the findings of this study also deepen our understanding of EA stakeholders and stakeholder-related issues in organizations. Furthermore, this study makes both the theoretical and practical contributions to the EA discipline.

From the theoretical perspective, the developed model (Figure 1) represents arguably the first available theoretical model addressing the problem of engagement in EA practice and most factors included in the model have not been identified previously by other studies of EA-related challenges (see Table 2), as discussed earlier. More importantly, all the existing studies of EA-related challenges do not differentiate between strategic and tactical engagement and, therefore, mix various challenges of a diverse nature together in a common list of issues not associated with any specific context. On the contrary, this study explicitly distinguishes strategic and tactical engagement as separate areas of EA practice, clearly relates the identified inhibitors to these types of engagement and puts them into the context of relevant goals, activities, artifacts and stakeholders (see Table 1).

Furthermore, the finding of this study demonstrates that strategic and tactical engagements are actually impeded by rather different, non-overlapping factors. While some general, overarching problems like poor communication and stakeholder buy-in are certainly relevant to all types of engagement, other more fine-grained problems are relevant only to specific types of engagement. On the one hand, such widely recognized issues as conflicting priorities and susceptibility to urgent needs are actually relevant only to strategic engagement, but irrelevant to tactical engagement. On the other hand, such issues as poor change management and tardiness of architects are relevant only to tactical engagement. Hence, this study demonstrates a significant theoretical difference between strategic and tactical types of engagement (see Table 1) and establishes the importance of this difference for an in-depth understanding of EA practice, its activities and challenges.

From the practical perspective, the developed model essentially represents a “checklist” of potential engagement problems for practitioners to watch for. This list can be used as the basis for diagnosing troubled EA practices and developing appropriate organizational corrective measures. Moreover, the presence of such factors as insufficient decisiveness and tardiness of architects among engagement inhibitors indicates potential improvement areas and provides clear suggestions for individual architects regarding the aspects of their work to focus on.

Conclusion

This study focuses on the notion of engagement as one of the core issues of EA practice, which undeservingly received only limited attention in the existing EA literature. It deepens our understanding of engagement in EA practice and explicitly distinguishes between strategic engagement as the cooperation of business leaders and architects, and tactical engagement as the cooperation of architects and project teams. The primary outcome of this study is the list of factors undermining engagement identified directly from the empirical evidence using an inductive, grounded theory-based approach.

This study is exploratory in nature and, therefore, focuses on an in-depth analysis of a single organization. Findings from single cases cannot be considered as full-fledged theories or generalized beyond these cases to other organizations, but can be viewed only as theoretical propositions (Yin 2003). For this reason, the resulting theoretical model represents only an early attempt to conceptualize the engagement problem, or only the first step towards better understanding of engagement and its practical challenges. Moreover, the developed model can be also somewhat government-specific and some of its factors may not be applicable to all organizations, as discussed earlier. Due to these limitations, the resulting theoretical model of engagement-related problems cannot be considered as the ultimate model, but rather only as an initial model that needs to be enriched, refined and generalized with observations from other organizations and industries, more research is required. We call for future empirical research in this direction.

Finally, this study identifies the problems undermining effective engagement between architects and EA stakeholders, but it does not offer any specific solutions to these problems, while the existing EA literature provides only rather general suggestions for facilitating engagement (Al-Kharusi et al. 2016; Levy 2014; Verley 2007). For this reason, we also call for future research on the effective coping strategies for typical engagement problems.

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