TEACHING CASE:

What Went Wrong with the Enterprise Architecture Consulting Engagement?
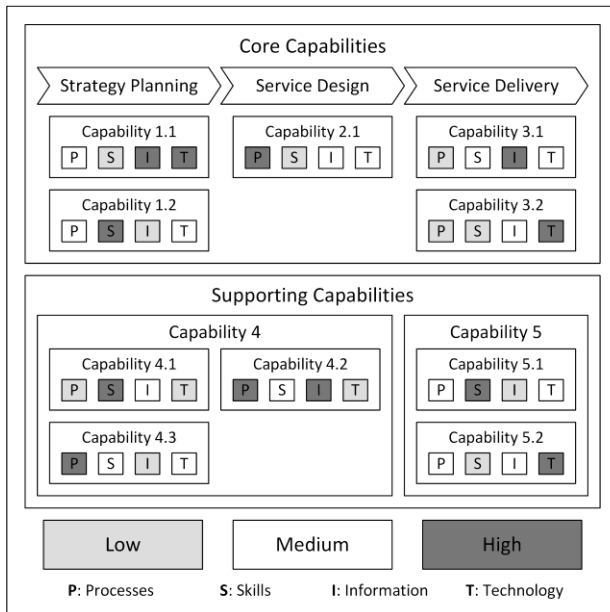
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Situation

GovDept is a mid-size governmental department providing important services of a social nature to the population of a large territory. From the technology perspective, the organization can be considered as a late adopter of innovations and characterized by relative underinvestment in IT, which has certain implications for both its IT landscape and respective management practices. On the one hand, GovDept's IT landscape is very heterogeneous and includes many legacy information systems and technologies some of which have been in use for decades. On the other hand, its IT-related management practices are also rather archaic. For instance, the relationships between business and IT leaders in the organization exhibit evident signs of "us and them" mentality, while new investments in IT are viewed by business mostly as a means to reduce costs of the existing operations.

GovDept has a centralized IT department headed by the CIO and responsible for developing and supporting information systems for all its business units. The IT department employs around 250 specialists and consists of three main functions: architecture, development and service. The architecture function includes a few architects focused predominantly on specific IT solutions. GovDept previously tried to uplift the maturity of its EA practice and extend the scope of architectural planning beyond separate initiatives, but these attempts did not succeed and respective architects had been made redundant.

Then, the CIO decided to undertake another deliberate effort to evolve GovDept's EA practice with the involvement of external consultants. For this purpose, the organization engaged a rather well-known boutique EA consultancy to help initiate a full-fledged EA practice. The consultancy formed a project team consisting of four architects specialized in different subject areas. This consulting team acted according to a detailed engagement plan agreed with GovDept's senior IT leadership. The plan stipulated in which sequence and when exactly various EA artifacts will be produced. In total, consultants worked for 2-3 months, analyzed the organization, interviewed numerous stakeholders and developed all the EA artifacts specified in the plan. Specifically, they started from analyzing GovDept in terms of current and desired maturity of its business capabilities and mapped existing applications to respective capabilities. Then, they captured all relevant data entities, documented all technologies used in the organization, depicted current and defined target application portfolios and created more detailed CRUD (create, read, update and delete) relationship matrices. Finally, they developed a comprehensive roadmap specifying what projects should be executed in the next 2-3 years and presented all these EA artifacts to GovDept's executives. Key deliverables created by the project team as part of the consulting engagement are shown schematically in Figure 1, Figure 2, Figure 3 and Figure 4.

Business Capability Models (Current and Target)

Core Capabilities

Strategy Planning → Service Design → Service Delivery

Capability 1.1 — P [S] [I] [T]
Capability 2.1 — [P] S I T
Capability 3.1 — P S [I] T

Capability 1.2 — P [S] I T
Capability 3.2 — P S I [T]

Supporting Capabilities

Capability 4

Capability 4.1 — P [S] I T
Capability 4.2 — [P] S [I] T
Capability 4.3 — [P] S I T

Capability 5

Capability 5.1 — P [S] I T
Capability 5.2 — P S I [T]

Low | Medium | High

P: Processes   S: Skills   I: Information   T: Technology

Capability Model with Applications Overlay

Core Capabilities

Strategy Planning → Service Design → Service Delivery

Application 1.1 | Application 2.1 | Application 3.1
Application 1.2 | Application 2.2 | Application 3.2
Application 1.3 | | Application 3.3

Supporting Capabilities

Capability 4

Application 4.1 | Application 4.2 | Application 4.3
Application 4.4 | Application 4.5

Capability 5
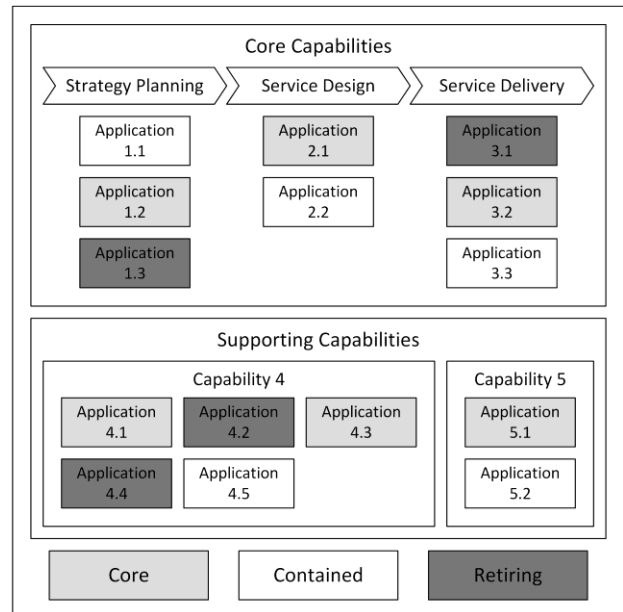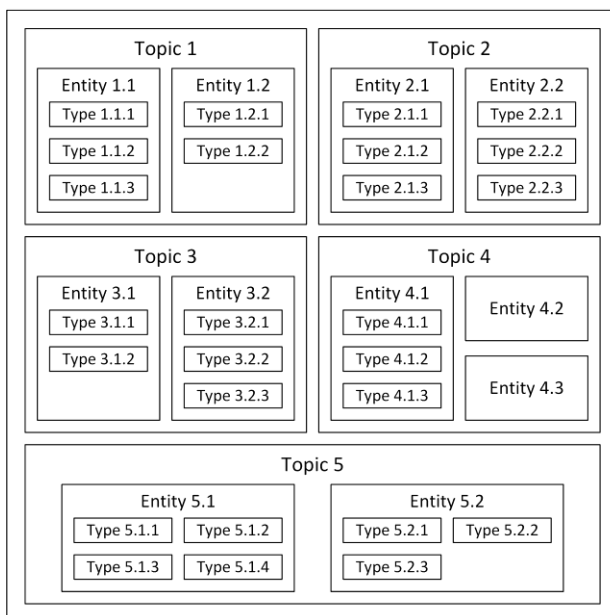
Application 5.1
Application 5.2

Core | Contained | Retiring

Figure 1. Business capability models and capability model with applications overlay

Enterprise Conceptual Data Model

Topic 1

Entity 1.1 — Type 1.1.1, Type 1.1.2, Type 1.1.3
Entity 1.2 — Type 1.2.1, Type 1.2.2

Topic 2

Entity 2.1 — Type 2.1.1, Type 2.1.2, Type 2.1.3
Entity 2.2 — Type 2.2.1, Type 2.2.2, Type 2.2.3

Topic 3

Entity 3.1 — Type 3.1.1, Type 3.1.2
Entity 3.2 — Type 3.2.1, Type 3.2.2, Type 3.2.3

Topic 4

Entity 4.1 — Type 4.1.1, Type 4.1.2, Type 4.1.3
Entity 4.2
Entity 4.3

Topic 5

Entity 5.1 — Type 5.1.1, Type 5.1.2, Type 5.1.3, Type 5.1.4
Entity 5.2 — Type 5.2.1, Type 5.2.2, Type 5.2.3

Technology Portfolio Model

Security Infrastructure
Technology 1.1
Technology 1.2
Technology 1.3

Application Services
Technology 3.1 | Technology 3.2
Technology 3.3 | Technology 3.4

System Services
Technology 4.1 | Technology 4.2
Technology 4.3 | Technology 4.4
Technology 4.5 | Technology 4.6

Access Control
Technology 2.1
Technology 2.2
Technology 2.3
Technology 2.4

Platform Infrastructure
Technology 5.1 | Technology 5.2
Technology 5.3 | Technology 5.4

Systems Development
Technology 6.1
Technology 6.2
Technology 6.3
Technology 6.4

Network Operation
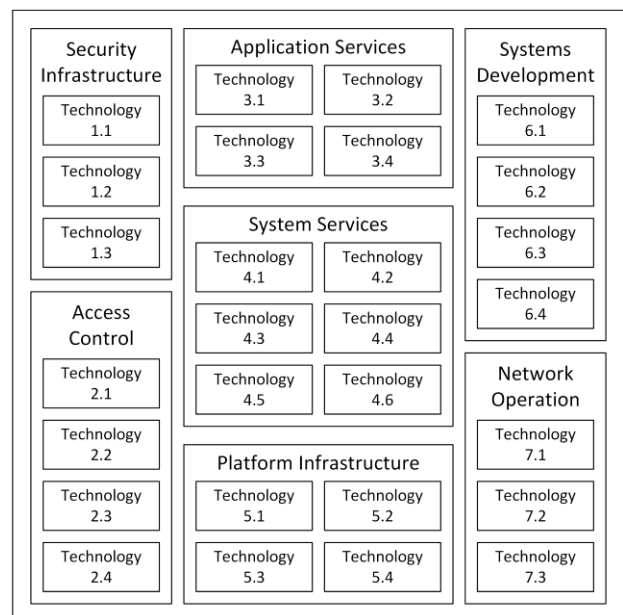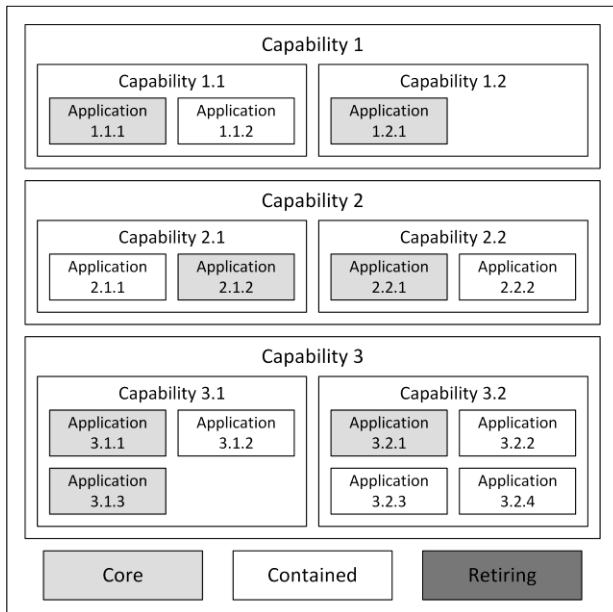Technology 7.1
Technology 7.2
Technology 7.3

Figure 2. Enterprise conceptual data model and technology portfolio model

Application Portfolio Models (Current and Target)

CRUD Matrices (Current and Target)

	App 1.1	App 1.2	App 2.1	App 2.2	App 2.3	App 3.1	App 3.2
Entity 1.1	RU	CRUD		CR			
Type 1.1.1	R	CRUD					
Type 1.1.2	RU	R		CR			
Entity 1.2			CRUD		R	D	U
Type 1.2.1			CRUD		R		U
Type 1.2.2			RU		R	D	
Entity 2.1	CRUD	R		R		R	
Entity 2.2		UD	C	R			R
Entity 3.1		R		CRUD		RU	
Type 3.1.1		R		R		RU	
Type 3.1.2				CRUD			

C: Create   **R**: Read   **U**: Update   **D**: Delete

Figure 3. Application portfolio models and CRUD matrices

Application Roadmap
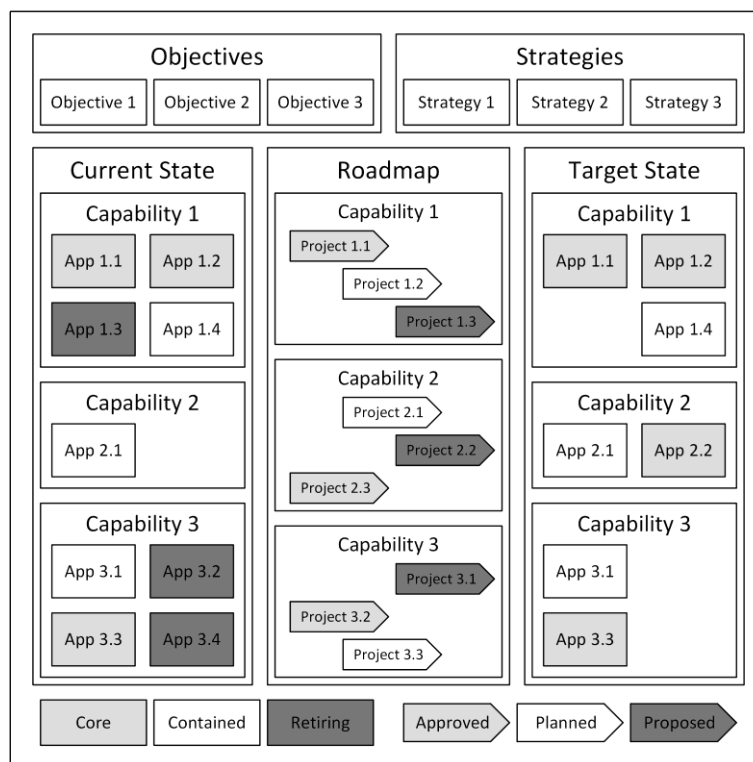
Figure 4. Application roadmap

The resulting EA artifacts met, or even exceeded, the original expectations and were considered as very high-quality deliverables by GovDept's IT leadership. Senior IT managers looked optimistically at their potential to inform future investment decisions. However, after the consultants left the organization, internal architects were largely unable to leverage these EA artifacts, embed them into regular decision-making processes and institutionalize their usage.

> *"We spent a quarter million dollars getting consultants in to do enterprise architecture models across our organization. That was an extremely well-executed, disciplined,*

insightful, robust piece of work, which produced a huge body of documentation, which I think has not been used at all, tragically", commented the CIO

Neither business nor IT managers had a genuine sense of ownership over the created deliverables and essentially nobody in the organization had any clear idea of how to use them or what to do next, no follow-up activities had been undertaken. Over time, as these EA artifacts became increasingly outdated, their relevance had diminished and general interest towards them had decayed.

> *"The business layer that the consultants did was theoretically correct, but nobody regarded it as endorsed or owned or anything other than a theoretical model of how our organization might conceive of its business architecture. Because actually you would struggle to find anyone in the organization who has any idea of what business architecture is"*, explained the CIO

As a result, in 6-8 months after the consulting engagement was finished most of the produced EA artifacts had been abandoned and shelved. Overall, the work of external EA consultants, though initially viewed as excellent, actually brought little or no lasting value, a full-fledged EA practice in GovDept had not been established. With the exception of short-term inspirational and educational effects, no systematic improvements in how the organization operated or how investment decisions were made had been realized.

Questions

Question 1: What went wrong with the EA consulting engagement in GovDept?

Question 2: What should the organization have done differently in this engagement or even instead of it?

Answers

Generally, GovDept made arguably the most classic mistake related to EA consulting: invited external consultants to develop some EA artifacts for the organization instead of educating internal architects and EA stakeholders regarding the development and usage of EA artifacts in decision-making processes. As a result, after the consulting engagement was finished, GovDept was unable to benefit from the created EA artifacts. Historically, such EA consulting projects wasted money of numerous client organizations over the last decades.

This situation can be analyzed from the "micro" perspective of separate EA artifacts as well as from the "macro" perspective of the organization as a whole. At the level of individual EA artifacts, any artifacts shaping the desired future (i.e. decisions EA artifacts) must be always developed *collaboratively* by architects and their stakeholders to have any real effect, but never by architects for their stakeholders. It is this collective process of their development that leads to the mutual alignment of interests between different stakeholders and constitutes the very essence of planning. However, stakeholder participation in the planning efforts during the consulting engagement was minimal. Stakeholders were involved only as information providers and then simply given the resulting plans as a set of rather sophisticated EA artifacts prepared for them by consulting architects without actively contributing to their development. Unsurprisingly, stakeholders were unable to appreciate these plans and maybe even to understand them, let alone take ownership of these plans and genuinely consider them as "their plans". It is also worth discussing separately the quality of deliverables created in the consulting engagement. Although these deliverables generally looked adequate, two problematic issues can be noted. Firstly, the set of developed EA artifacts included relationship matrices depicting the usage of various data entities in different applications (see Figure 3). Relationship matrices as a form of information representation, though have been promoted by virtually all architecture planning methodologies from BSP to TOGAF for decades,

actually proved inconvenient, incomprehensible and essentially unusable in practice long ago even for capturing the current structure of the IT landscape for purely technical purposes, not to mention defining its desired future state that must be agreed with senior business stakeholders. Obviously, relationship matrices should have been avoided altogether, other simpler EA artifacts (e.g. Landscape Diagrams) might have been produced for the same purposes instead. Secondly, the consulting engagement resulted in a single all-encompassing application roadmap defining necessary projects for the whole organization (see Figure 4). The empirical experience has shown, however, that such comprehensive roadmaps are rarely practical, separate roadmaps for different business areas should have been developed instead.

Organizationally, there are at least three major reasons why the consulting engagement did not achieve the intended outcome of uplifting maturity of the EA practice. Firstly, establishing or evolving an EA practice requires undertaking a complex set of complementary measures, rather than only creating necessary EA artifacts. These measures usually include obtaining executive sponsorship and stakeholder commitment, organizing systematic decision-making processes and respective governance bodies, establishing decision enforcement mechanisms and fine-tuning their work. Hence, consulting engagements focused primarily on producing EA artifacts simply cannot rise the maturity of an EA practice. Secondly, implementing necessary measures always implies intense organizational learning and cannot be accomplished quickly in 2-3 months or commensurable compressed time frames. EA-related processes take time to institutionalize and achieve broad organizational adoption. For this reason, it is arguably impossible to significantly improve an EA practice in the course of a single short-term consulting engagement. Thirdly, an EA practice is a continuous organizational activity, not a one-off initiative or project with clearly defined start and end dates. Consequently, it can be carried out only by permanent internal architects, or at least by consultants involved on a long-term basis. Moreover, reaching constructive cooperation between architects and stakeholders requires building trusting relationships, which include a considerable personal component. This "social capital" is accumulated slowly and gradually over time, but evaporates quickly when participants of established collaboration networks leave the organization and get replaced by other individuals. Therefore, even if external consultants have been able to organize effective EA-related processes, the quality of these processes is likely to deteriorate after their departure from the organization. In general, organizations should rely more on long-term and permanent working arrangements with architects, than on temporary client-consultant relationships. For all the reasons described above, the very idea to evolve the EA practice in the organization by means of engaging external consultants for a period of 2-3 months to develop EA artifacts have been definitely unrealistic.

Instead of initiating a consulting engagement to create EA artifacts, GovDept arguably should have opened a permanent architecture position and hired an experienced architect to evolve its EA practice. Or, if no experienced architects are available on the job market, GovDept should have engaged external consultants to educate its current architecture team in best organization-wide architectural planning practices. Instead of rushing into the development of multiple EA artifacts, the organization arguably should have focused first of all on establishing effective strategic communication between architects and business leaders and introducing a limited number of EA artifacts helping support this communication, e.g. Business Capability Model and Roadmaps. Generally, organizations should evolve their EA practices gradually by means of introducing and mastering necessary management practices and associated EA artifacts one-by-one under the leadership of internal architects, while massive one-shot artifacts creation efforts performed for organizations by external consultants are highly unlikely to result in any long-lasting, systematic improvements.

Section(s)

- Two Meanings of Enterprise Architecture Artifacts: Decisions and Facts in Chapter 2 (The Concept of Enterprise Architecture)

- Architects as Developers of Enterprise Architecture Artifacts in Chapter 2 (The Concept of Enterprise Architecture)

- Roadmaps (Essential) in Chapter 11 (Visions)

- Establishing Enterprise Architecture Practices in Organizations in Chapter 19 (The Lifecycle of Enterprise Architecture Practice)

- Enterprise Architecture Practice and Enterprise Architecture Consulting in Chapter 19 (The Lifecycle of Enterprise Architecture Practice)

- Appendix (The Origin of EA and Modern EA Best Practices)

The full teaching pack based on the books

The Practice of Enterprise Architecture:

A Modern Approach to Business and IT Alignment

and

Enterprise Architects:

The Agents of Digital Transformation

is available on request to the author

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