

Towards a Lightweight Enterprise Architecture Approach for Building Transformational Preparedness

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Abstract

The need for business agility in order to cope with the increasing rate of changes brought by disruptive technologies and paradigms is more stringent than ever; unfortunately however, it also encounters many hurdles. To start with, typical strategic transformation planning featuring successive specify-design-implement phases is no longer suitable, as the resulting sequentially staged processes can no longer catch up with the changes in internal structure and external environment. The blurring of top organisational role boundaries in regards to the allocation of management and architecture skillsets is another issue significantly affecting agility. Finally, the lack of structure and integration of business transformation and architecting methodologies offered by various disciplines and vendors affects the ability to use them for specific endeavours. This paper elaborates on and illustrates the above-mentioned problems through a case study and proposes a way to solve them in a holistic, lifecycle-aware manner using a 'lightweight' architectural framework approach.

Keywords: Enterprise Architecture, Information Systems, Transformation, Preparedness, Lifecycle, Agile

1. Introduction

In the current global and hyper-competitive environment enabled by the ever-increasing rate of advances in Information and Communication Technology (ICT), businesses need more than ever to display agility in order to remain sustainable in the context of constant change that often occurs as a result of the emergence of disruptive technologies and paradigms [1-3]. Note that *agility* in this context does not merely mean fast transformation, but the ability to make non-trivial architectural changes in the enterprise for strategic reasons, such as long term viability and capability development [4]. Such changes may include transforming a combination of the business model, service delivery technology (e.g. manufacturing, product design, transport, patient care, logistics, infrastructure, etc.), the management and control technology (control, communication, Enterprise Resource Planning, Decision Support etc.), change in organisational structure and management structure, physical location, employee skill-set, and so on.

As many organisations have realised, achieving preparedness so as to be able to carry out agile transformation typically runs into a plethora of barriers [5] whose overcoming requires mastering not only specific methods and artefacts, but also the method/s to combine them for

a specific transformation imperative (as typically, none are completely suitable on their own for a specific endeavour).

An important barrier towards transformational preparedness is the continued use of typical ‘specify-design-implement’ transformational processes [6] to cope with existing (or prepare for anticipated) internal and external (environmental) changes, resulting in slow to implement solutions that struggle to keep up with the evolution of the problem domain (i.e. the desired future state can become a ‘moving target’).

Another major issue is the current contradiction between organisational roles such as CxOs and Enterprise Architects in terms of roles vs. required skill sets [7]. For example, the CEO and Board typically need to make design decisions on the capability development needs of the enterprise; however, so do Principal Business Architects and Management Consultants. This can create tension and confusion in roles and decision making authorities’ allocation.

A third significant impediment is the lack of transformation methodologies that go beyond the (most obvious) change in IT architecture, so as to truly integrate the techniques and methods of the multiple disciplines needed for successful transformation [8]. Many methodologies claim the backing of an Enterprise Architecture Framework (EAF); however, the scope of their meta-models (if present at all) demonstrates that they are limited to Enterprise IT Architecture. This limitation in the ontological underpinning of current widely used methodologies needs to be addressed so as to better support preparedness building and implementation of organisational transformation in light of the need to achieve agility.

This paper aims to elaborate on the above-mentioned issues using a conceptual analytical approach and triangulate the findings by way of a case study, as well as hypothesizing on a possible way to address such problems based on a holistic, life-cycle enabled perspective. The rest of the paper is structured as follows: Section 2 elaborates on methodological issues, while Section 3 details the above-mentioned problems to be overcome. Section 4 presents a sample ‘light-weight’ enterprise architecture framework (EAF) featuring the necessary scope while being expressive enough to allow embedding and integrating various aspects (e.g. Information Technology (IT)) into the overall change mandate. Section 5 discusses a case study that exemplifies and corroborates the problems identified and also demonstrates the early gains resulting from adopting a ‘light-weight’ approach to transformation methodology. Section 6 illustrates how the chosen EAF could be used to further enhance the light-weight approach illustrated in Section 5, while Section 6 provides a brief conclusion and outlines future work.

2. Research Question, Assumptions and Methodology

2.1. Research Question, Methodology and Approach

The research question resulting from the literature review (See Section 3) is: *Is a Light-weight EAF-based approach suitable for building transformational preparedness?*

Several instruments have been employed in this research in order to combine objective and subjective elements and used them to triangulate the validity of the findings [9]. Thus, a literature review was performed in regards to issues experienced in achieving agility and possible solutions and suitable artefacts. The findings were then analysed and further developed in Section 3 using a Conceptual Analytical approach. Further on, a case study was employed to i) triangulate the findings ii) show the tentative steps taken to overcome the problems and iii) provide a platform to identify opportunities for closing the gap or ‘impedance mismatch’ between IT architecting and management consulting.

Hence, the researchers have adopted an anti-positivistic approach reflected in the use of idiographic research methods [10] in an interpretivist [11] manner. More specifically, the research method used has employed a combination of theory testing (confirming that the problems do exist and are indeed prevalent) and theory creation (revealing the mechanisms causing the problem and proposing a potential solution) [12].

2.2. Ontological and Epistemological Assumptions Adopted in the Research

From an ontological point of view, in this research the authors adopted a critical realism stance [13], acknowledging that the meaning of social phenomena is not only externally descriptive, but also constitutive of them and thus it has to be *understood* (rather than e.g. quantified) by employing hermeneutics [14]. More specifically, in the quest to find the real causes of the problems and subsequently propose solutions to them, empirical findings alone may not adequately represent *what happens*, because the events that happen may either not be observed, or the findings may not necessarily reveal the underlying mechanisms [15]; hence a theoretical counterpart is required.

The stance adopted requires going beyond merely seeking to establish and exemplify the problems and is attempting to uncover the underlying root causes and dynamics. As one of the authors is a lead consultant and owner of a consulting company, it was possible to employ ethnography by immersively observing structures, events and mechanisms that can cause significant events as well as conditions under which they may / may not occur (see Section 5).

Epistemologically, the methodology is anti-positivistic, conscious of the components, sources and limits as well as of the justification of knowledge, so as to give a reliable answer to the research question [16, 17].

3. A Conceptual Analysis of Problems Encountered in Achieving Transformational Preparedness

3.1. Strategic Transformation Planning Fallacies

Traditional strategic transformation planning based on the classic specify-design-implement sequence nowadays increasingly results in the transformation pace lagging behind the change rate in both the internal and external environments. In other words, internal change affecting personnel and reorganisation often happens faster and more often than the planned for- and desired long term transformation, hence creating the need to repeatedly justify strategic change initiatives [18]. As external changes are not usually aligned with internal transformation projects either, a planned *static* future (To-Be) state can fast become increasingly irrelevant.

It is also clear that often enterprise transformation is driven by key business stakeholders in which the ICT function (staff, vendors, managers and executives) is an essential participant and facilitator of change, but is not necessarily the primary originator. This is a critical viewpoint, as many of the key business stakeholders view the ICT function as a delivery vehicle rather than a strategic or analytic activity. Frustrations can quickly emerge towards a prescriptive ('heavy') EAF to create a 'complete' enterprise view, when partial aspects of the problem space are in fact sufficient to understand the business challenge, satisfy stakeholder concerns and achieve an effective solution and ensuing delivery programs execution [19].

There are two consequences of the above facts. Firstly, there is a need for bootstrapping methods and staged benefit realisation with early wins and stakeholder buy-in, so that the ICT function is perceived as a valuable contributor/enabler to the design & delivery process, making longer term change programmes self-sustaining and achieving a dynamic transformation of the enterprise, rather than being a blocker / resistor to change. Secondly, there is also a need for architectural solutions [20, 21] that make the enterprise an *adaptive socio-technical system*, where *self-configuration* is the norm and the underlying (and necessarily stable) architecture (organisation and technology) is only an enabling platform.

3.2. Management Roles: Lack of Clarity and Overlap

Currently, there seems to be a contradiction between the roles of CxOs, Enterprise Architects and Management Consultants [22]: architects are not managers, and managers do not usually possess the full skill-set of architects. The way forward seems to be the CEO and the Board (*not* the other CxOs) being the top level architect/s, or the architect being a strategic

management advisor / consultant to the CEO and the Board, with more domain specific business architects attached to Strategic Business Units (SBUs) [23].

In addition, when it comes to considering the scope of the Architecture of the Enterprise, the current mainstream (overwhelmingly IT-centred) frameworks, associated methodologies and architect-roles unfortunately appear to exclude the architecting of the manufacturing, service delivery, logistics and infrastructure subsystems, the design of the human roles and of the organisation and other aspects. Nevertheless, rather than forcing a particular set of architect roles, one needs a clear definition of architecting functions, assisted by a method to allocate them to roles best fitting the particular organisation.

It is therefore conjectured that, wherever possible, a *light-weight approach* should be adopted that is a) easily understood and accessible for non-technical business-oriented audiences and b) producing *relevant* models, views and artefacts that are technically robust but are also easy to comprehend / adopt by the relevant stakeholders.

3.3. Methodological Quagmire

Current methodologies offered by various vendors (many claimed to be backed by an EAF) are often just a collection of methods with no apparent structure, merely following the ‘flavour of the day’. A balanced approach needs to consider that management science, industrial engineering, manufacturing, engineering, and even IT feature a myriad of pertinent methods and techniques – question being, what to use, for what and in which combination?

Many organisations have attempted to implement architecture practice based on a traditional EAF, only to find that prescriptive approaches to enterprise modelling techniques did not result in significant business benefits, with the exercise often becoming characterised as ‘modelling for its own sake’, with little or no adoption by the key business stakeholders for which the models have been produced [24]. Even though the advice to adjust modelling efforts to stakeholder needs has been around for some time [25], methodologies are still limited to a relatively small set of proposed model types.

This results in a significant contradiction confirmed by practice (see Section 4): when enterprise architects talk about business architecture, they use a limited (albeit useful) set of models in support of strategic analyses / strategy making. As opposed to this, stakeholders’ concerns are more diverse: political, legal, market-related, economic, social, organisational, technological, ecological, etc. Therefore, a *richer set* of techniques and models must be readily available for strategic decision makers, as well as the skills and knowledge to identify which ones to use in support of good strategy making.

Moreover, sometimes the key conflicts outlined in Sections 3.1 and 3.2 are attempted to be resolved by the adoption of an architecting methodology that goes *too far* and entirely removes all technical rigour from the approach itself. This over-reaction to the problem results in ‘slideware’ – highly consumable by business-oriented non-technical audiences, but lacking technical rigor (such as being based on a stable underlying meta model and associated models) required to actually address the business problem and deliver effective and efficient solutions needed to achieve the transformation envisaged by the key stakeholders.

There are numerous examples of this ‘content free’ approach to EAF, where frameworks are used rather as a marketing tool by vendors or consulting firms to win the trust of business stakeholders and trigger product lock-in (see e.g. the current case of business cloudification [26, 27]), but which are largely ineffective when it comes to actually producing the detailed solution designs required to address the underlying technical problem space.

4. Identifying a Suitable Light-weight Enterprise Architecture Framework

4.1. Enterprise Architecture and Enterprise Architecture Frameworks

Enterprise Architecture is a discipline with the roots in two application areas: manufacturing and IT. The systematisation of the tools and methods to manage the architecture and

transformation of the enterprise has been codified in so-called Enterprise Architecture Frameworks (EAFs), with their scope that developed over the past 20 years being characteristic of their application area. EAFs include very detailed and prescriptive as well as light weight ones, as briefly discussed below.

A critical review of mainstream EAFs has been performed in [28-31], and is not repeated here in detail due to space limitations. In Section 4.2 we briefly introduce the selected EAF, called the Generalised Enterprise Architecture and Methodology (GERAM) EAF [32], which was chosen due to the following facts: 1) it is the only framework with a *complete* scope, covering not only IT but also the manufacturing, logistics and infrastructure of the enterprise, as well as treating the human component and organisation on equal footing with the automated part; 2) it is the only life-cycle architecture that considers not only the life cycle (and life history) of the enterprise (or constituents thereof), but also the life cycle and history of programmes and projects as ‘first class citizens’ (an obvious advantage for complex transformations); 3) GERAM is compatible with ISO15288 (Systems Life-cycle processes), a widely used standard in systems engineering, and emerging new ISO standards. Further details of GERAM as a lightweight framework are given in [33].

4.2. The Generalised Enterprise Architecture and Methodology (GERAM)

GERAM is a generic, high-level, (‘meta’-) EAF, part of ISO15704 [34], which represents the abstraction of several ‘historical’ EAFs and is able to subsume and importantly, integrate the mainstream EAFs’ artefacts that are required for specific EA endeavours as shown in [28, 31].

GERAM provides a structured repository (or ‘shopping list’) out of which relevant perspectives and artefacts can be selected based on the needs of concrete EA scenarios and be connected according to a set of basic rules, to build specific methodologies (see e.g. [35]).

The wide applicability of GERAM as a non-prescriptive ‘light-weight’ framework (hence not requiring a substantial investment to learn and use) [33] has allowed its use in conjunction with systems thinking and system-of-systems paradigms to address various problem types. Thus, GERAM has been used to create Virtual Enterprises, Enterprise Networks for bidding projects and after sales engineering services [36], as well as to support environmental management integration [37] and in emergency management [38]. GERAM has also been applied for life-cycle centric design of healthcare interoperability and collaboration [39], in sustainability [40] and to build organisational preparedness for mergers & acquisitions [41].

GERAM features several important concepts such as Enterprise Entity, Life Cycle, Life History and a Modelling Framework (see **Table 1.** and [42]).

Table 1. Essential core concepts defined in GERAM

Enterprise Entity	Enterprise, Project, Programme, Product. (Including virtual entities / -organisations, and a recursive static or dynamic compositions / aggregations of entities)
Life-cycle	A collection of activity types (Identity definition, Concept Development, Requirements definition, Preliminary [architectural] design, Detailed design, Build / release to operation, Operation, Decommissioning)
Entity life cycle recursion	The relationship showing that one enterprise entity when it operates contributes to / performs life cycle activities of another entity (or of the self)
Life history	A collection of life cycle activity instances (events) arranged in time.
Life cycle process	A set of life cycle activity types organised to produce an outcome
Sequence of events / life cycle process instance	A set of life cycle activity instances, possibly arranged in to stages, separated by milestones.
Modelling Framework	The arrangement of possible enterprise models into generic, partial and particular models; The scope extends to mission fulfilment + management and control; to all human implemented and all technology implemented components; the perspective extends to both functional and non-functional aspects, resources and organisation. There exist no prescribed models, only model categories.

5. Case Study: Service Delivery Assessment by Public Sector Health Agency

5.1. Introduction

In Australia, the delivery of Public Health Services is directed and funded federally but delivered and managed at an operational level by State and Territory-based Agencies. This delivery of public health services is progressively further devolved to semi-independent Health Service Boards or Areas funded for the delivery of specific Public Health outcomes (outputs and activities) in their defined geographical areas contingent upon the specific and unique demands for public health in that geographical domain.

All State and Territory jurisdictions must adhere to negotiated Federal Public Health outcomes (mandatory health services, such as e.g. immunisation and public health programs for communities at risk) – for which the individual Health Agencies are remunerated based on a set of Mandatory National Reports commonly referred to as the National Minimum Data Set (NMDS). These essential services are a significant funding source for all Health Agencies and therefore the tracking, reporting and management of delivery of Public Health programs associated with the NMDS are of significant strategic and operational value.

This Case Study concerns the engagement of the consulting firm by one of the State-based Public Sector Health Agencies to assist with the evaluation of the end-to-end delivery of their mandatory health services.

5.2. A Lightweight EA-inspired Approach

The company involved in the case study is a national consulting Firm based in Australia which has been delivering Business Strategy and Architecture Design services for a range of public and private sector clients.

The owners and directors have been influenced by the meta-model and design philosophy of the GERAM framework, adopting various elements thereof customised for the company’s own proprietary framework, namely the Enterprise Architecture Practice (EAP) (see Fig. 1).

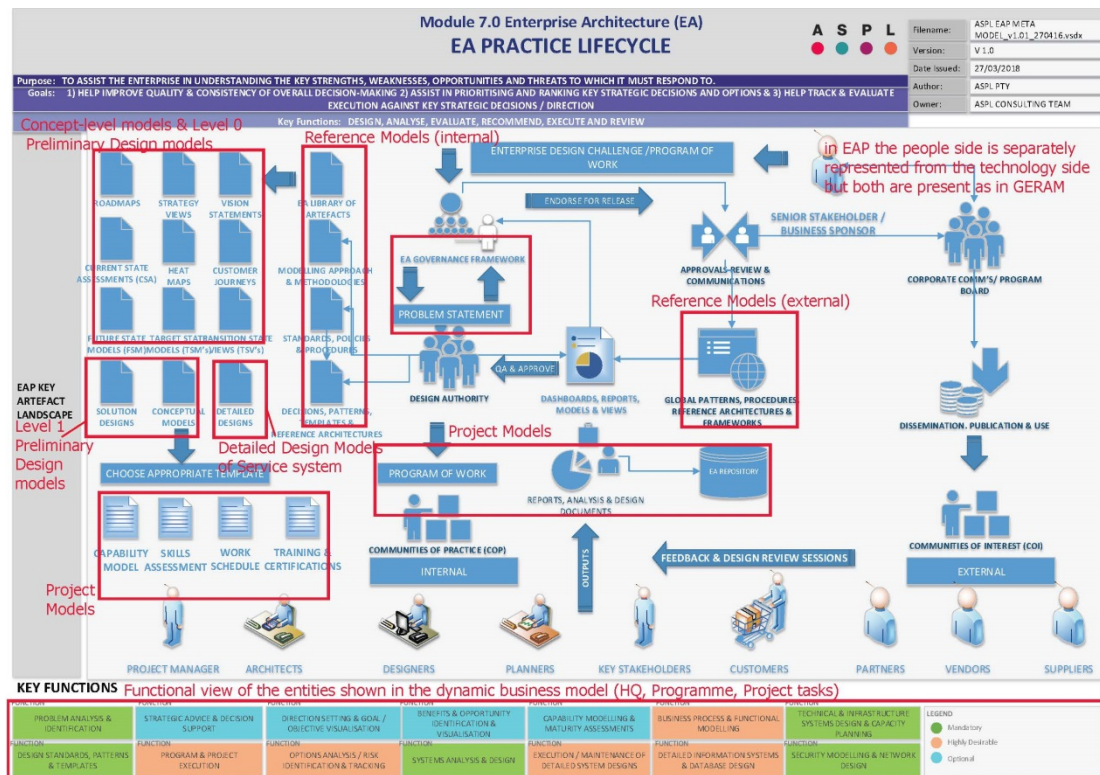


Fig. 1 Enterprise Architecture Practice (EAP) Framework and its high-level mapping on GERAM

EAP itself can be considered to be a light-weight EAF in that it is used extensively for partial enterprise solution design and the production of a minimal set of key useful views and models for stakeholders. EAP contains a foundation metamodel based on a range of key concepts defined in GERAM (e.g. View, Model, Actor, Agent, Time Series, State, Event, Location, Organisation, Relationship, Program, Context, Use etc.). Figure 1 shows as an ‘overlay’ a high level mapping of essential GERAM concepts on the model of EAP. The mapping is ‘high level’ (i.e., not all utilised concepts are shown, because this figure is intended to be used as a map of the methodology for the consumption of a management audience).

This framework was used to successfully design and deliver the program of work for the Public Health Agency in this Case Study, making it a useful source of analysis for this Paper.

5.3. Problem Statement

Using the EAP Framework as an EA Maturity Assessment tool it was established that key artefacts found in a mature internal EA Practice (e.g. EA Governance, Enterprise Views, Technology and Business Current State and Target State Models, Executive Vision Statements and detailed EA Standards etc. Principles, Templates, Policies and Procedures) did not exist within this client environment. How then to model and deliver a major business transformation for a critical business function (NMDA reporting) that impacted all elements of the Organisation?

5.4. Approach and Deliverables

The issue above was addressed by working closely with the executive stakeholders (e.g. Chief Data Officer owning the Enterprise Data Warehouse (EDW) and the CIO owning the Data Integration Engine), the consulting team was able to produce a series of *top-level functional process maps*, which illustrated a) the current NMDA process (As-Is) b) the actual form of the NMDA reports and the origin of the key Operational Data populating them, and c) what a proposed high level Target State Conceptual Design View might look like.

The project comprised four agile sprint phases, each focusing the attention of business and technical stakeholders on producing a key architectural artefact: 1) end to end level 0 ‘As Is’ process maps; 2) high level Current State Technology View, describing the Systems, Data and Integration Tier involved in NMDA reporting; 3) Analysis of Gaps, Risks, Issues and potential design opportunities for improvement, and 4) a ‘To Be’ Target State Conceptual Model including descriptions of new and revised Architectural elements / functions.

Subsequently, a business case and detailed costing and project plan was constructed, upon which the resulting program of work was based. In this way, a lightweight EAF approach was able to succeed and deliver some very useful and valuable Partial Models at a high level of aggregation, which provided key decision makers with the right amount of information and technical detail upon which to base key strategic decision and to proceed with a significant capital investment. Therefore, a significant business problem creating serious commercial and operational risk to the client’s core business was addressed in an effective and timely manner.

5.5. Problems Uncovered and Lessons Learned

Low EA Maturity and no defined EA Function within the Client Organisation

The consulting team had difficulty in gleaning information about the current operating environment (subsequently harvested directly from key system owners and operational teams via agile co-design workshops). In addition to providing architectural advice (designing a new IT architecture and associated service delivery operating model), the consultants had to also fulfil a management consultant role, because of the very close connection between the architectural solution and the operating model of the business solution. The lesson learned was that if the high level architectural design decisions are made by management, then management needs the associated architecture development skills (perhaps acquired through

executive education), confirming the authors' belief (see Section 3.2) that the top level architecture design decisions must be made by the CEO and the Board.

Lack of Corporate Oversight and ICT Governance

The lack of corporate ICT governance including lack of standards, policies and procedures made it almost impossible for the appropriate level of scrutiny and review to occur or for a definitive decision to be made, as the equivalent of an Architecture review Board or Technical Standards Committee did not exist. The consulting team therefore had to convene the Executive Team and produce an executive presentation outlining key business and technical risks, issues and opportunities as well as the various solution options that could be produced to address these key gaps. This approach featured checkpoints to drive towards decisions and to allow key executives to ask for further information or explanation and resulted in agreement and decision as to the future investment such that the conceptual Target State Model could be started and completed within an agreed period.

This very high level of executive engagement and strong executive support owing to this approach was an essential element in the ongoing success of this project (confirming the hypotheses described in Section 3.1); thus, all of the key stakeholders were aware of the underlying key risks and issues and why a certain technical design and target state model was being used to address these key business and technical problem areas. Given the very low level of EA maturity it is highly unlikely that this level of senior executive stakeholder support would have occurred if a traditional heavy weight EAF approach had been adopted.

Time and Budget Constraints (Typical)

A light weight modelling approach was the only feasible option if a set of compelling architectural artefacts were to be produced within the very tight initial 16 week deadline and limited initial budget. By limiting scope and not attempting to model all layers and levels of the defined current state business and technical problem space, and restricting the To Be target state model to a high level conceptual design, the consulting team was able to a) capture and communicate key business- and technical problem areas, b) effectively communicate the gaps, risks, issues and opportunities, and c) present a compelling high level target state design addressing management concerns and building confidence in the recommended design approach to the solution.

This light-weight approach illustrated an effective answer to the methodological issues described in Section 3.3) by employing the GERAM-inspired strict separation of the high level design life cycle phase from detailed design, where the former produces 'just enough' to make informed management decisions about the programme of work (validity, feasibility, risk, time and cost).

6. Moving Forward: Future Opportunities in Light of the Lessons Learned

6.1. Strategic Transformation Planning in a Life Cycle Perspective

Section 3.1 has described some problems of a classic approach in strategic transformation planning and the need for phased benefit realisation for ongoing stakeholder support.

The dynamic business model mechanism provided by GERAM (see Fig. 2) is a way to instantiate such an approach. Thus, for example, portfolio management embodied in the corporate governance entity (Headquarters - HQ) and programme management embodied in a transformation programme and projects are considered first class entities whose interactions can be analysed in a life cycle context.

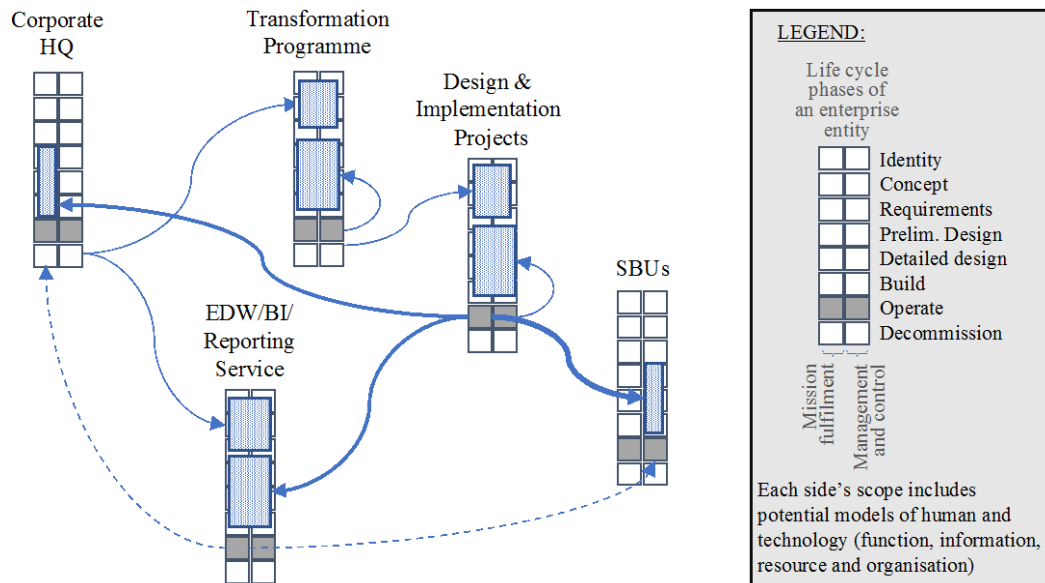


Fig. 2. Dynamic business model showing strategic transformation roles in a life cycle perspective using GERAM modelling framework constructs

The figure illustrates the relationship between the entity responsible for the portfolio (HQ), a transformation programme and its projects. The thin arrows show that HQ creates a transformation programme defining its identity, the principles of operation and management, and the mandate of the programme, as well as the mandate of programme management. The programme in turn creates projects in a similar fashion. The important mechanism to ensure overall consistency, direction and coordination is the inheritance of principles from portfolio to programme and to projects that guide or constrain solutions. Importantly, on this level, the architecting functions are allocated to entities, not actual roles; thus, the approach allows for adjustment of roles depending on the target organisation. (Feedback is ensured through the participation of up-stream and down-stream entities in programme and project governance).

On the next level of granularity, projects can be split into demonstration-, pilot- and roll-out (their roles illustrated by heavy arrows in Fig. 2), creating the Reporting Service as well as making necessary changes in the SBUs and HQ itself, including training. The entities undergoing change can be decomposed in a similar fashion, cognisant of the benefit realisation mandate commensurate with time-frames of organisational stability. The dashed arrows show the resulting Reporting service operationally supporting HQ and SBUs.

Diagrams such as shown in Fig. 2 can help read the concrete tasks in a transformation initiative; by selecting appropriate methods for these tasks, a tailored methodology is generated, with every step designed as deemed relevant by the involved stakeholders.

6.2. Clarification of Management Roles

GERAM proposes a *functional* identification of management roles, so that organisations can determine what role assignment is *best for them*; thus, there are no predetermined roles, only predetermined functions, defined by the allocation of life cycle activities to enterprise entities and within those entities, to decision centres / management functions. As some of these functions are technical-, while others business-oriented, it is the *type* of organisation that determines whether some technical architecture functions can be performed by business managers, or by business managers helped by architects as advisors, or by dedicated architects (who nevertheless must be deeply familiar with the business).

The case study has shown that a consulting firm acting as an advisor to top level management is effective for strategically planning the transformation. However, it is

concluded that there is a need for an internal (or externally sourced but continually available) architecture capability, so as to make the endeavour *sustainable* in the long term.

In practice, a long term and foundational challenge exists in the way managerial and architectural training and certifications are currently delivered (both academic and vocational). By completely separating the managerial (business) and IT architecture functions into two different specialist streams, a *conflict* is introduced into any enterprise transformation endeavour. In order to achieve substantial and long term lasting change, several viewpoints of the same problem space must be adopted – namely, strategic, business and technical.

This lack of a combined or inter-disciplinary view is sometimes referred to as the ‘semantic gap’ [23] and is one of the reasons for the failure of many ICT-oriented change programmes. In conclusion, until proper inter-disciplinary training (and possibly certification) is provided for managers and architects alike, this dichotomy will remain, and thus the risk of conflict, uncertainty, confusion and miscommunication will also linger for large and complex ICT-led business transformations. This is because in such cases the ideas and concepts for change are owned / invented by one set of stakeholders but the mechanism and machinery by which that change occurs lie under the control of a very different set of agents.

6.3. Methodology Guidance

The authors propose that the only sensible way to sort out the current methodology predicament is to start integrating and combining established methods, instead of trying to override what individual disciplines already know. Thus, instead of an ‘EA methodology’ what is actually needed is rather a *meta-methodology* (see e.g. [35]), with the expected outcome being that management does not perceive EA as prescribing and competing, but as a helpful management consultant. This does not mean that there cannot be multiple EA methodologies; to the contrary, for special types of enterprise transformations one can assemble the usual methods and tools, so that consulting companies and their clients can use these in an efficient way. This was exemplified by the case study, which has used a set of templates and methods adequate for the given type of architecture problem (such as the establishment of a data warehouse and management reporting system in the presented case).

7. Conclusion and Further Work

This paper has attempted to describe, address and propose a solution in regards to obstacles in achieving agility via transformational preparedness. The issues identified based on literature review have been described and elaborated upon, hypothesizing in relation to the suitability of a holistic life cycle-based solution featuring the use of ‘light-weight’ EAF artefacts. Subsequently, the paper has proposed one such candidate EAF followed by describing its customised use within a real-life case study, which has a) confirmed the problems identified and the hypotheses in relation to their solutions and b) exemplified the practical use of the light-weight EAF artefacts in the form of a customised framework. This was followed by a refinement of the issues initially perceived, while also allowing new opportunities to be identified for improving the solutions provided in view of the lessons learned.

The consulting firm’s EAP could therefore be extended in the future (and thus create new assignment opportunities) by developing a variety of ‘methodology building blocks’ and templates for a range of new types of transformation assignments, which would be used to assemble client-specific methodologies. These would be tested in further work by means of Action Research and in additional case studies.

Acknowledgements

The authors would like to acknowledge the research grant (Strategic Advancement of Methodologies and Models for Enterprise Architecture) provided by Architecture Services Pty Ltd (ASPL Australia) in supporting this work.

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