Extendibility of a proposed

Business Architecture Assessment Model (BAAM)

by

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Contents

Abstract

Purpose: The research aims to validate whether the proposed beta version of a Business Architecture Assessment Model (BAAM) can be usefully extended to organisations.

Design/methodology/approach: The research draws from existing literature to further extend the scope of the BAAM. The literature review includes a description of Business Architecture (BA) and investigates the requirements of maturity models. The literature did reveal that the beta version of the BAAM's maturity levels should be extended from the initial 3 levels to 5 well documented maturity levels (i.e. the roadmap). A focus group consisting of various subject matter experts evaluated the BAAM using an interpretative survey. The focus group approved the BAAM with some minor recommendations. The online BAAM survey was then deployed at eight (8) organisations to collect data on the level of maturity of the organisations' business architecture. The output of the BAAM consists of a roadmap and the assessment results which assist organisations to improve their business architecture maturity.

Findings: The literature review revealed that maturity models exist, but not many focus specifically on BA maturity. Those that does exist primarily focuses on the methodology involved in BA but do not specifically point out areas where the content matter of BA can be improved upon.

Research limitations/implications (if applicable): Gathering sufficient research data were somewhat problematic, but in the end sufficient participation were received in the study. Participating organisations that were interested to improve their business architecture were most eager to participate in the survey. The link between the tacit components of the BAAM and the maturity level defined through the explicit components should be evaluated scientifically. This will lead to a better understanding of the correlation (if any) between the tacit and explicit components of the BAAM.

Practical implications (if applicable): An academically validated BAAM will reduce current gaps in the literature. It will prove to be a useful consulting tool for organisations that want to assess its BA maturity and improve their adoption thereof.

Originality/value: Thus far no other literature was encountered that specifically deals with the content areas of Business Architecture and assesses its maturity**.**

Title

Extendibility of a proposed Business Architecture Assessment Model (BAAM).

Keywords

Business Architecture, Business Architecture Assessment Model, Maturity Level, BAAM, Enterprise Architecture, Future's research

1. Introduction

1.1 Research overview

Humans are meaning- and reason-seeking creatures; a concept that has been well documented in Scanlon' Contractualism Theory (Parfit 2008 : 121). We seek not only to define the meaning of our lives by adopting, whether consciously or unconsciously, an over-arching purpose, but also to understand the reason behind occurrences. We rely especially on what can be seen – the visible – to inform the meaning we attach. We are faced with a challenge in this regard as technology is becoming increasing ubiquitous; technology that often pertains to abstract concepts, unseen networks shaping the information landscape. Not surprisingly then, as technology has evolved rapidly, so has futures research. It is a concept that has been around for over 40 years, and applied in strategic management as a technique to inform various scenarios used in the planning processes of organisations for a significant time; complimenting technology strategies and making its combination into business strategy more explicit (Van Der Heijden 2002: 11).

Futures research has recently received more prominence due to globalisation and the heightened pace of change. It specifically relies on the ability to measure indicators that will trigger scenario planning to be put into action. Strategic management concerns the external environment but also requires insight into what needs to be tweaked within the business environment. Without an accurate big picture view the link between strategic change and effective business change is compromised. Strategic and business change is an interwoven, iterative and dynamic process. It can assist greatly in futures research to ensure that the correct changes are made.

The key, however, to coherent, successful change is having an accurate business architecture view of the organisation. The challenge with business architecture is that it often remains elusive and hard to express in explicit terms (it remains tacit and unseen). Added to this challenge, there has been a historic inability to determine the state of the business architecture components. Without a way to measure business architecture status, the value it may have to assist in future scenario planning and steer change in organisations will remain untapped. This research will focus on measuring business architecture in order to address this challenge.

Diagram 1 assists with illustrating the aforementioned concepts, their relationships and frame the focus of this research. The relationships have been numbered and are explained in table 1 which should be viewed together with the diagram.

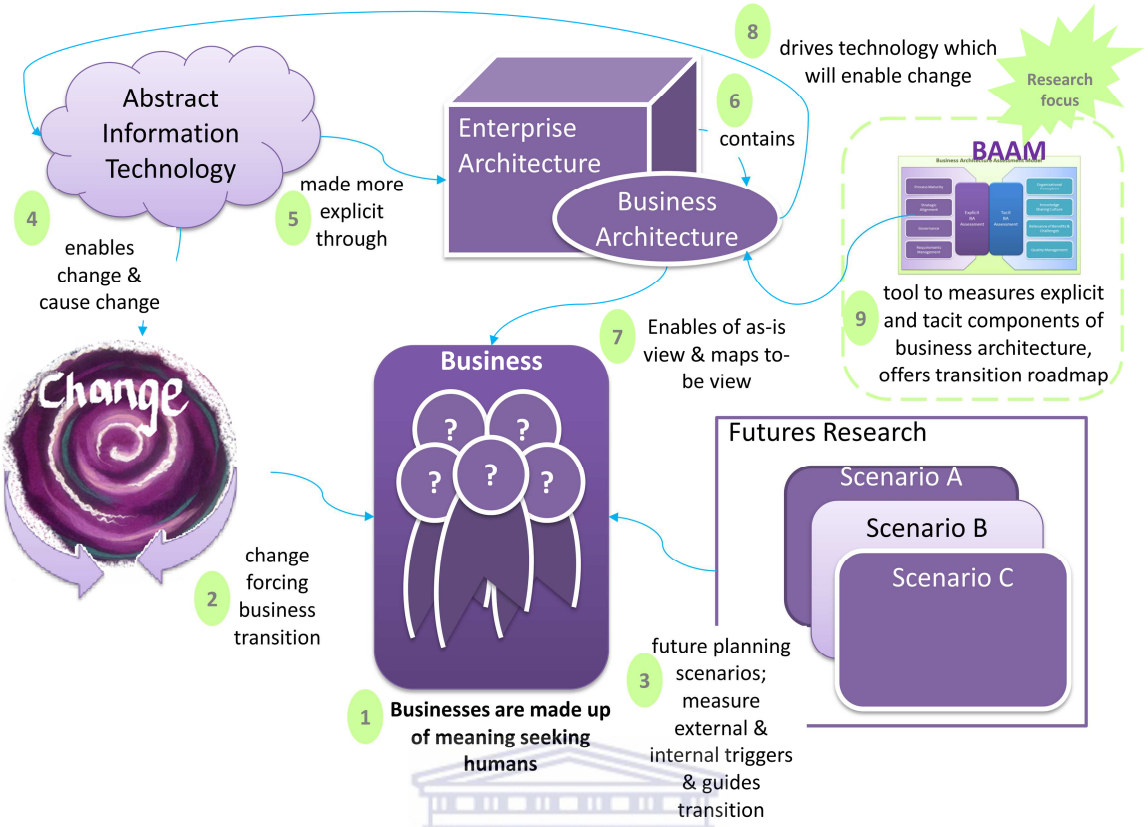

Diagram 1: Concepts of research overview and their relationships (Source: Author)

Number	Concept(s)	Relationship/description
1	Humans in business	Humans are meaning seekers.
2	Change (external and internal)	Change is constant and forces business transition.
3	Futures Research	Assists with attaching meaning to change, analyse the various planning scenarios and the trigger points for executing change.
4	Abstract Information Technology	Enables change, but can also be the cause of often rapid change
5	Abstract Information Technology & Enterprise Architecture	Abstract Information Technology is made more explicit through Enterprise Architecture depictions.
6	Enterprise Architecture & Business Architecture	Business Architecture is contained in Enterprise Architecture.
7	Business Architecture & Business	Business Architecture enables Business to have a view of their as-is landscape and illustrates the to-be view which will facilitate change.
8	Business Architecture & Information Technology	Business Architecture drives Information Technology.
9	Business Architecture & Business Architecture Assessment Model (BAAM)	The BAAM is a tool that measures explicit and tacit components of Business Architecture and offers a roadmap. The BAAM is the focus area of this research.

Table 1: Concepts of research overview and their relationships (Source: Author)

1.2 Background to research problem

Winston Churchill has been quoted to say "There is nothing wrong with change, if it is in the right direction". It is the role of futures research to point us in the "right direction". By enhancing future scenario planning with accurate business architecture business strategies can be improved and become less uncertain.

Never before in the history of mankind has change been as fast paced as the present. The pace of change in technology has become much faster with the invention of the internet, catapulting civilisation into the Information era. Versteeg & Bouwman (2006: 91) described the dilemma of organisations, constrained by stove pipe organisational structures and legacy processes suited to the manufacturing era, to be unable to react to change fast enough.

Proliferation of new business models and competitors from unlikely industries are a constant threat to organisations. Pereira & Sousa (2005: 1344) highlighted the plight of managers who seek an overview to enable their understanding of how Business and IT fits together within their organisation. Enterprise Architecture is such a view as it includes the current and future business objectives, goals, visions, strategies, informational entities, business processes, people, organisation structures, information systems/applications and technological infrastructures. However, without a suitable business overview organisations with rigid systems and redundant processes will be unable to react fast enough to new business models (Versteeg & Bouwman 2006: 91).

Business Architecture (BA) is a well-established component of Enterprise Architecture. Solaimani & Bouwman (2012: 666) anchors business strategy within BA and supports the view that BA provides a holistic, logical and multifaceted view of the key components in an organisation. The more accurate the view (BA) the better positioned an organisation will be to respond to change in a fast, appropriate manner and the better it will be to plan its resources for optimal reuse. The importance of BA can therefore not be denied. However, there is few assessment models aimed at establishing the maturity of specifically BA in an organisation. Whyte & Pretorius (2012: 307) offer a beta version of a Business Architecture Assessment Model (BAAM) developed as part of their study into Business Architecture. The study was specifically aimed to address the need that an organisation had to assess their current BA maturity levels. Furthermore an objective of their study was to provide guidance to that organisation in selecting a suitable architecture framework.

The BAAM, as illustrated in Diagram 2, consists of an explicit and a tacit assessment of BA, each of which focuses on 4 focus areas related to BA.

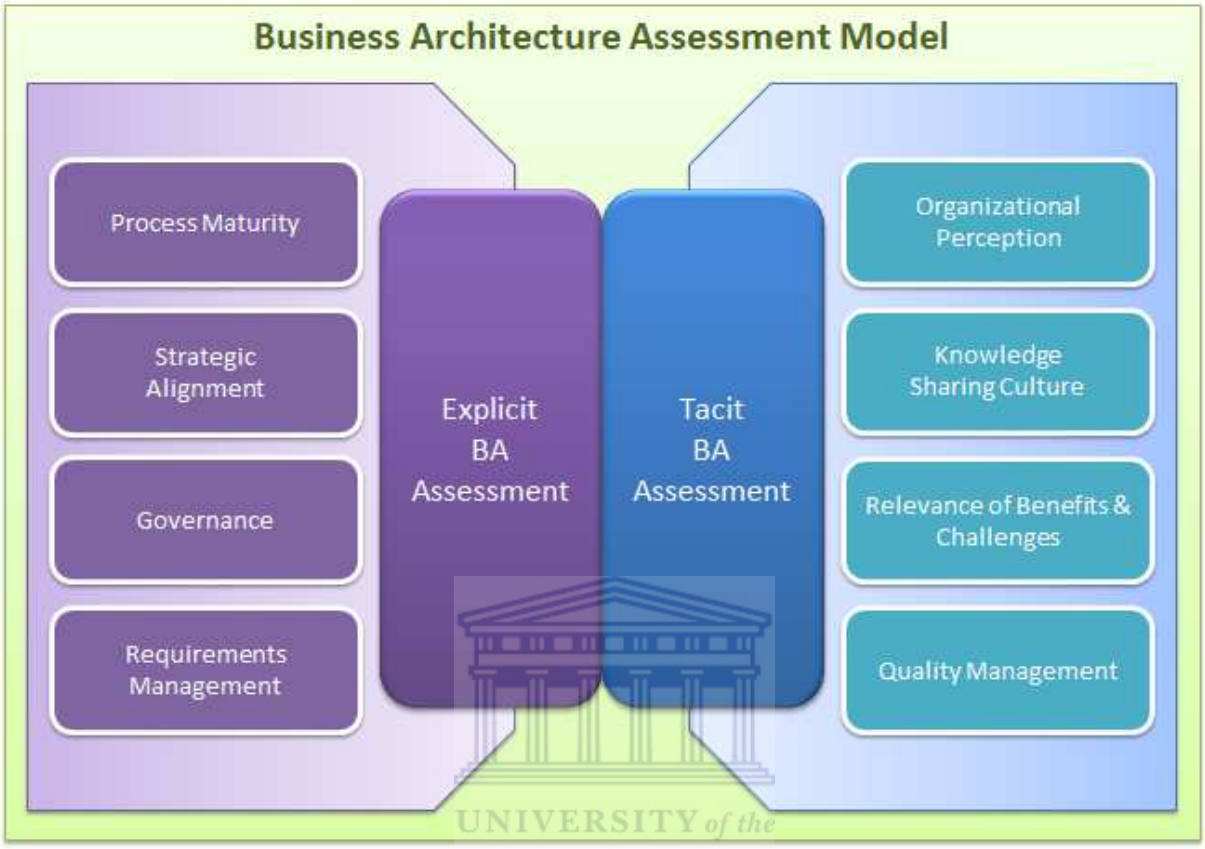

Diagram 2: Components of the Business Architecture Assessment Model – BAAM (Source: Whyte & Pretorius 2012: 307)

Whyte and Pretorius' (2012: 306) description of what is included in BA is extensive and goes wider than a mere focus on the traditional process mapping and requirements documentation. Based on their extensive research they constructed the BAAM to include four explicit BA components and allowed for four so-called tacit BA components.

The explicit BA components on the left side of the BAAM are Process Maturity; Strategic Alignment; Governance and Requirements Management.

Table 2 shows the explicit BAAM components more clearly along with the scope of what it measures.

Explicit BAAM components	Measurement scope
Process Maturity	Almost expectedly, the Process Maturity component of the BAAM is concerned with the measurement of the degree to which processes are mapped in the organisation, but also how well modelling tools are applied. In addition it surveys the BA frameworks in use at a particular organisation.
Strategic Alignment	In terms of Strategic Alignment, the BAAM evaluates the level support from respective business units in an organisation towards generic key strategic drivers.
Governance	Whilst effective governance is not generally included when BA or its maturity is discussed Whyte and Pretorius gave it prominence in the BAAM with probing questions around whether standards are in place for requirements documentation and process modelling respectively. Interestingly they also checked if BA artefacts are used as reference for newcomers to enable an understanding of the organisation. Their reasoning was that if BA was accurate and explicit it will be the key reference point for newcomers.
Requirements Management	To round off the explicit BAAM components the extent to which requirements management assisted with gaining a holistic view of the organisation were assessed. Whyte and Pretorius (2012: 311) maintained that when existing requirements are updated for new changes instead of documenting only the new change requirements separately it will assist with strengthening BA maturity in an organisation.

Table 2: Summary of explicit BAAM components and their measurement scope (Source: Author)

Whyte and Pretorius (2012: 306) uncovered other factors which they deemed to be as important to BA as the traditionally accepted explicit components discussed above. They termed the factors, which in their view could either derail or support BA maturity as the tacit BA components of the BAAM. The tacit components on the right side of the BAAM are Organisational Perception; Knowledge Sharing Culture; Relevance of Benefits and Challenges; and Quality Management.

Table 3 shows the tacit BAAM components and its measurement scope in more detail.

Tacit BAAM components	Measurement scope
Organisational Perception	The organisational perception component checks for consistency in definitions of BA; viewpoints on current BA maturity levels in the organisation and the degree to which Business and IT alignment had been achieved (Whyte and Pretorius 2012: 307). Perhaps the relevance of this component was specific to the particular organisation as there seemed to be three distinct organisational units involved in the organisation they studied. One would normally expect to only deal with either Business or IT structures.
Knowledge Sharing Culture	Whether a knowledge sharing culture exists in the organisation was checked through the BAAM and the insights gained where overlaid with the staff demographics in terms of service years. A shortfall was the small data samples which reduced the value of trend analysis in this regard.
Relevance of Benefits and Challenges	Whyte and Pretorius (2012: 313 - 314) not only offers a significant contribution in understanding the benefits of BA. It also offers a balanced view by acknowledging that improving BA adoption or maturity will not be without challenges. Their assessment into both benefits and challenges offers a good insight into what would be relevant to a particular organisation. This will make the BAAM results and ultimate recommendations context sensitive and appropriate to inform strategic change.
Quality Management	Finally Whyte and Pretorius (2012: 313) included an element of quality management. Although their question on the level of rework may not be entirely fact based and the response may be clouded by perception, it is important to improve quality management as a key component to address BA maturity.

Table 3: Summary of tacit BAAM components and their measurement scope (Source: Author)

In summary the objective of the beta BAAM assessment was to reveal BA areas that can be further improved in a particular organisation in its journey towards maturity in the application of BA. Whyte

and Pretorius (2012: 315) concluded that the BAAM succeeded in that objective as it was able to highlight specific gaps in the BA of that organisation, and identified areas of misalignment between business & IT. The model also showed areas of potential benefits that could follow if its BA is improved.

Motivation for the current research: With an accurate BA view the organisation will be empowered to

- plan ahead,
- be more proactive in response to the change demands and
- ensure it stays on course and remain relevant to its clients.

It is therefore vital to investigate the possibilities to extend the beta version of the BAAM and unlock its potential.

1.3 Statement of research problem

Organisations have limited ways with which to assess Business Architecture maturity and improve its adoption (Van der Raadt et al 2005: 357). The proposed BAAM needs to be tested or validated to determine if it can be extended usefully to organisations other than the initial test site.

Brookes et al (2014: 231) studied maturity models in the context of project management and confirms that maturity models assist greatly in performance improvements in the area that they assess. Maturity models, having evolved from the Capability Maturity Model (CMM) in the early 80's (Gartner 2001: 1) works best when the components are easily measurable. In a manual, manufacturing context measuring maturity was a lot easier than today where products have become abstract, processes are largely automated and clients interact digitally.

According to Röglinger et al (2012: 330) the purpose of a maturity model would be to outline a roadmap for reaching maturity. The purpose can be classified as descriptive, prescriptive or comparative. A maturity model can be considered as having a descriptive purpose if it offers an assessment of the as-is status of the subject it relates to. In order to offer a prescriptive purpose it must be able to identify desirable future maturity levels and how to achieve them. Finally its purpose can be considered comparative if it allows for internal or external benchmarking. Given this definition, one could define the beta version of the BAAM (which is an assessment model) as an "immature model" as it only serves a descriptive purpose. Once it can also be used to prescribe and compare maturity evolution it can be considered true a maturity model.

Given these challenges the BAAM must:

- be able to be valid for a wide range of business models,
- provide clear links between the components it measured and their relevance,
- be clear in its measurements and associated maturity levels
- provide a roadmap towards improvement of BA in the organisation

The earlier work of Whyte and Pretorius has been critically reviewed and the BAAM has been improved based on further research to ensure its extendibility.

1.4 Research question and sub-questions

Given the research problem and the intention to critically review and improved the beta version of the BAAM, the following research question and sub-questions were formulated.

Research question:

- How can the BAAM be usefully extended to cover more critical areas of BA and apply to a diverse range of organisations?

In order to address the main research question it has been decomposed into the following sub-questions. Each question, when answered will assist in addressing the main research question. These sub-questions are as follows.

Research sub-questions:

- How is BA defined?
- What are the most common frameworks and models within BA?
- Are there other maturity assessment models to assess BA maturity?
- Does this BAAM measure all components of BA?
- How can an organisation improve its adoption of BA?
- Will the BAAM improve adoption of BA in an organisation?

1.5 Research objectives

The research objective illustrates the goal of the research and has been defined as follow in order to assess the proposed BAAM's ability to:

- Measure BA maturity comprehensively
- Improve BA adoption through delivery of roadmap

Since the concepts of BA, maturity and the BAAM is complex and the challenges to prove the BAAM's extendibility is varied, the research itself has been approached in stages. The thesis stages ran in parallel to the research stages. Diagram 3 illustrates the parallel approach more clearly. The diagram illustrates the proposed thesis stages and research stages and how they interrelate.

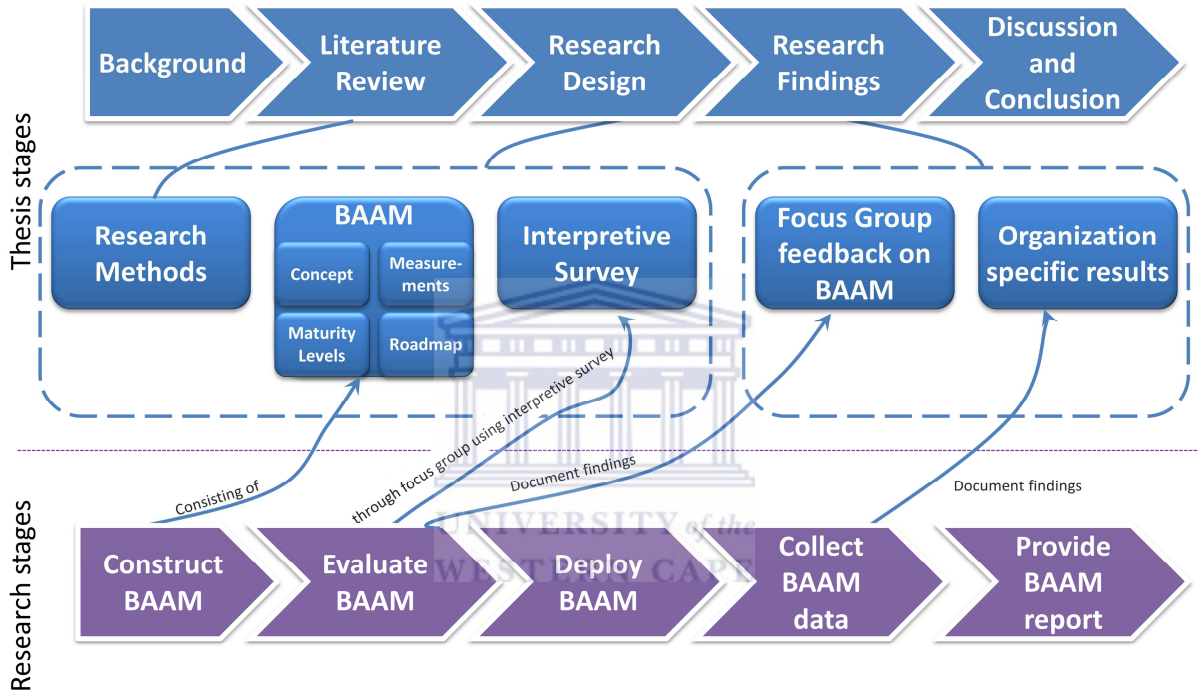

Diagram 3: Thesis and Research approach (Source: Author)

The thesis stage can be broken into the five classic stages in order to produce the research product. Mouton (2013: 122 – 125) recommends the research product is organised in five chapters, namely the Introduction, Literature Review, Research Design, Research Findings (results) and finally the Conclusion and recommendations. This thesis is a document about the thinking, research process and the decisions that shaped the research product as defined by Mouton (2013: 113).

The research stages to deal with verifying the BAAM content and its credibility had to be customised for the context. Therefore it does not follow the stages of a classic approach. Although the beta version of the BAAM offered a good starting point it needed to be critically reviewed and updated in the Construction stage depicted in the diagram. The next step towards improving the BAAM, involved an evaluation of the BAAM through focus groups consisting of experts and using an interpretative survey. Feedback from the focus groups was used in the third research stage to further improve the BAAM. The usefulness of the BAAM then had to be put to the test and it required deployment in sample organisations to collect BAAM measurements. These results were captured in this thesis.

The final research stage involved an interview with the key stakeholders at each organisation to check the equity of the BAAM measurements. These interviews enabled correlations between the organisation's subjective view of their BA maturity levels and the objective BAAM measurement results.

1.6 Demarcation of study

The study area had to be demarcated to ensure that research efforts remain focussed around the research problem, especially since the BA domain rests within the larger Enterprise architecture and Futures Research domain. An entity relationship diagram (as shown in Diagram 4 below) was used to examine the entities or study components involved and their respective relationships. This provided clarity and narrowed down the study area to the elements that has contributed to the final conclusion only.

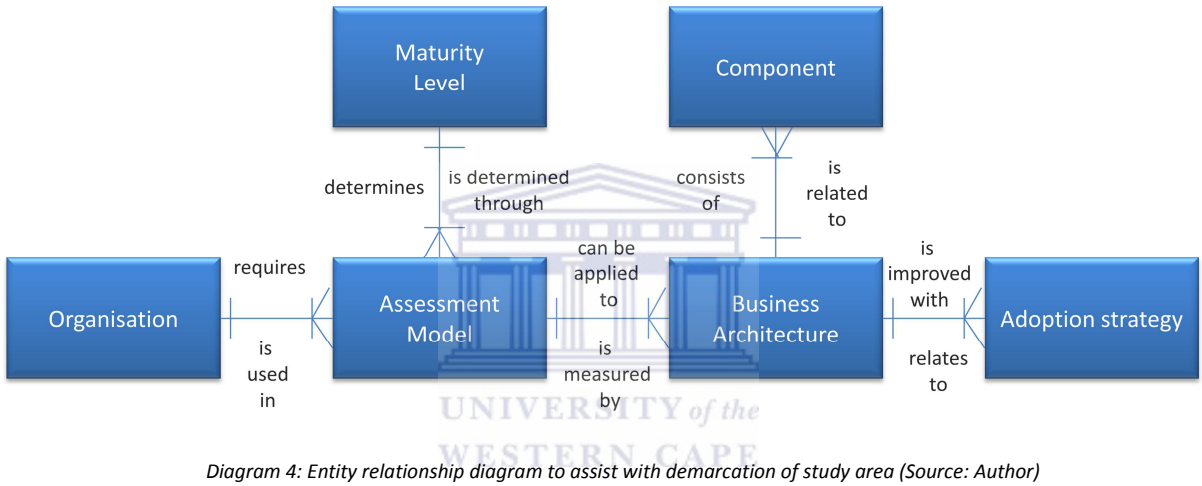

Diagram 4: Entity relationship diagram to assist with demarcation of study area (Source: Author)

1.7 Significance of study

Thus far no other literature was encountered that specifically deals with BA maturity assessment**.** An academically validated BAAM has reduced current gaps in the literature in this regard (Whyte & Pretorius 2012: 315). In addition this thesis describes an improved theoretical framework through practical application. The framework has been proved to be useful to organisations that intend to assess its BA maturity and improve its adoption of BA.

1.8 Research methodology

1.8.1. Research paradigm

The study falls within the "Interpretivist paradigm" and the research has been conducted using this paradigm as a reference.

1.8.2. Research strategy

The research strategy consisted out of a mixed method approach. Furthermore there has been four distinct parts to the research. Firstly the research started with a traditional literature review and secondly with a focus group to validate the BAAM. The third and key part of the research centred on the gathering of BAAM results amongst various organisations. It finally contained a comparative analysis of a previous study's findings with this study's findings.

1.8.3. Data collection and analysis

Data collection was executed in two phases. The first phase was the gathering of data from the focus group and the analysis of it. The second phase was to gather data through the BAAM research instrument and its analysis. The research methodology was applied in a structured and ethical manner and enabled the conclusion of the study.

1.9 Conclusion

There is indeed nothing wrong with change, provided that organisations can be certain that their efforts are focused in the right direction. The fast paced landscape in which organisations operate demand superior abilities to adapt to change and change course if required. Without a way to have a holistic view of the organisation and credible measurement capabilities to highlight inefficiencies in its blue print, organisations will face the harsh realities of extinction. The BAAM meets this need of organisations. It assists them in solving the modern dilemma brought on by rapid change and innovation. It provides guidance to ensure that improvement to business architecture is made in a coherent manner and will optimise business benefit and efficiency.

1.10 Outline of study

Table 4 below outlines the chapters contained in this study and its contents.

List of Chapters	Description
Chapter 1	Introduction to research problem and background to provide the context of the study.
Chapter 2	Literature review to support understanding Business Architecture, maturity models, maturity levels and appropriate research methods for these types of studies.
Chapter 3	Research methodology and design to achieve research objective and address research questions. The research design includes the BAAM roadmap and the scoring model with which to measure maturity.
Chapter 4	Presentation of research findings in context to various research stages.
Chapter 5	Discussion of research findings, extend to which the research questions has been addressed and conclusion on whether the research objective(s) were met.

Table 4: Outline of study chapters (Source: Author)

2. Literature review

2.1 Literature review / current status of literature

To address the research sub-questions the existing literature will be reviewed in respect of the four themes depicted in Diagram 5. Traditionally the literature review for research methods will be detailed in chapter three. The nature of the study required a view on appropriate research methods specific to assessment models and therefore that requirement is included in this chapter.

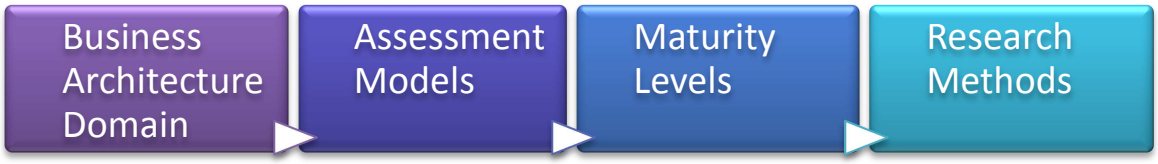

Diagram 5: Literature review focus areas (Source: Author)

2.2 Business Architecture Domain

Business Architecture is a critical component of a successful Enterprise Architecture approach, bridging the chasm between strategic business vision and the delivery of successful solutions required (Sereff 2012 : 633).

Pulkinnen & Hirvonen (2007: 1610) formulated the Enterprise Architecture (EA) grid in 2004 (shown in table 5 below) to illustrate that the typical enterprise can be viewed from different angles. The EA grid comprises of four main architecture components of an enterprise (one of which is business architecture), and gives consideration to three decision making levels.

The EA Grid

	Business Architecture (BA)	Information Architecture (IA)	Systems (applications) Architecture (SA/AA)	Technology Architecture (TA)
Enterprise level	Business and management decisions, portfolio of businesses, mission, business strategies and visions	Strategic information management considerations, information value chain	Strategic systems portfolio (application portfolio)	Strategic technology portfolio, Vendor relationships, Enterprise technology guidelines and policies
Domain level	Services/products in the domain, Business process for their production	Information management of the domain	Domain systems map Interoperability	Technologies Infrastructure: Platforms, networks, data communication
Systems level	Business requirements for the systems and data management	Data architectures Data harmonization principles Data storages	Systems architecture, ISA. Application patterns; Developer guidelines	System level technology architecture, Technical implementation guidelines

Table 5: The Enterprise Architecture Grid (Source - Pulkinnen et al 2007: 1610)

Based on their research, using the EA grid, Whyte and Pretorius (2012: 301) concluded that the business architecture domain deals with the

- business strategy,
- vision,
- mission,
- services & products and
- processes

needed to support them, and culminates into requirements for the design of systems and data management. They illustrated their understanding with diagram 6 below, which shows what

- is involved with business architecture
- its interrelation with Enterprise Architecture and
- the other architecture components contained therein.

Their conclusion directly influenced the components that were eventually included into the BAAM.

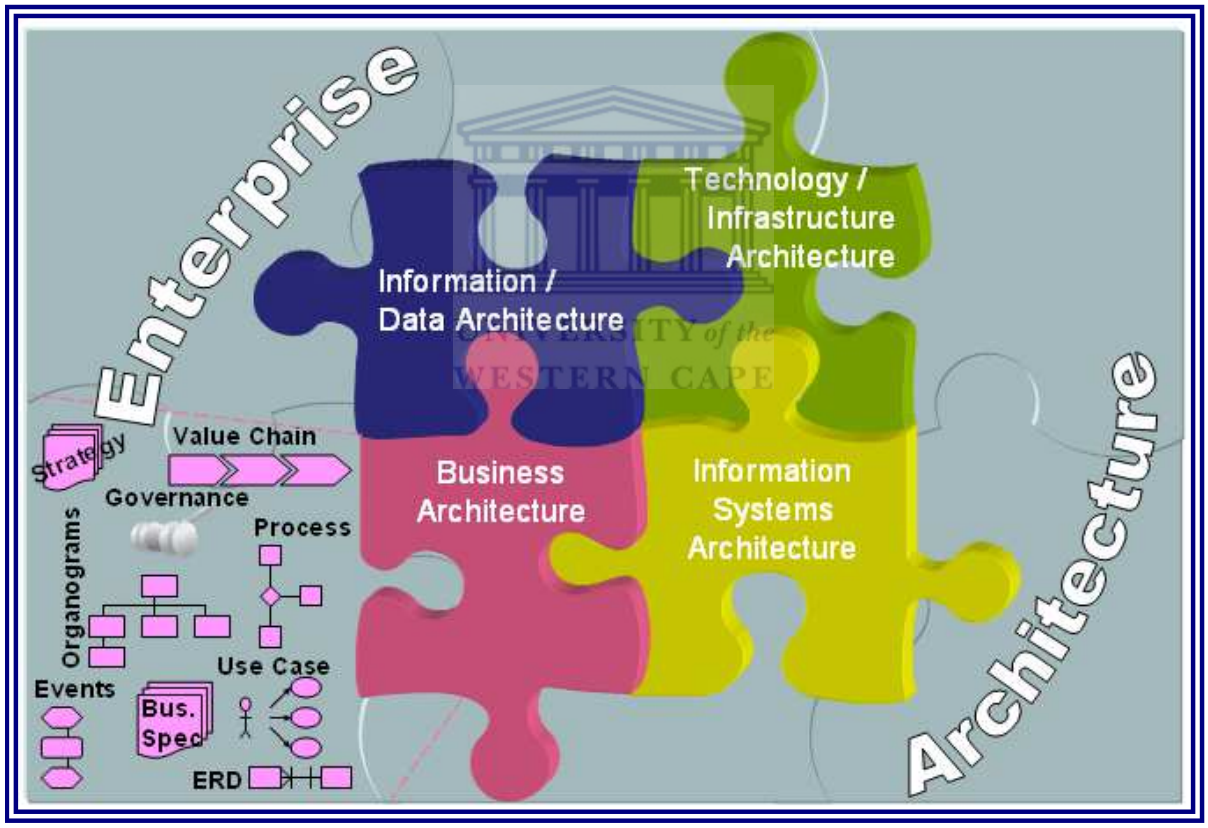

Diagram 6: Business architecture components & positioning in EA (Source - Whyte and Pretorius 2012: 301)

As part of an extensive literature review Whyte & Pretorius (2012: 301 – 304) listed several possible frameworks that can be used in adopting business architecture. Table 6 illustrates these frameworks and their relative strengths and weaknesses.

Framework/Modelling technique	Comment
Zachman	The Zachman Enterprise Architecture framework as described by Kingston & Macintosh (2000: 123) is presented as a matrix. The columns focus on the dimensions of Data (what), Function (how), Network (where), People (who), Time (when) and Motivation (why). Whilst the rows analyse these dimensions from various viewpoints.
TOGAF™	The Open Group Architecture Framework (TOGAF™) can be classified as both an architecture framework and detailed method with which to drive its adoption in an organisation (The Open Group 2009: 47). It is considered a generic framework and is as such applicable to a varied range of organisations (Zacarias et al 2010: 445).
PERA	The Purdue Enterprise Reference Architecture (PERA) includes a methodology that can be used as a process to carry out the development and operation of any enterprise. It is a depiction of the structure of the steps involved in the methodology or process and of their interrelationships as they occur in that process. As such, PERA is truly generic in nature (Li & Williams 1997: 247).
CIMOSA	Computer Integrated Manufacturing Open System Architecture (CIMOSA) provides a framework to guide users in modelling business requirements, deriving enterprise system design and implementation, and to support vendors in system component development (Zelm et al 1997: 123).
Axum	Veasey (2001: 421) developed the Axum framework for enterprise architecture (figure 9) in order to find an architecture that is holistic and will form a basis for strategic alignment. The architecture comprise of 5 elements (process, organisation, technology, competencies and culture) collectively labeled as capabilities. Ultimately the capabilities are geared to satisfy the needs/requirements of the stakeholders
McKinsey's Seven S's	Did not feature prominently, Veasey (2001: 421) questions whether the design criteria (all forced to start with an S), could be limiting the design.
Porters' value chain	Considered too abstract, lacks guidance on system design or architecture (Pant & Ravichandran 2001)

Framework/Modelling technique	Comment
GERAM	Generalized Enterprise-Reference Architecture and Methodology (GERAM) identifies, in its most important component called GERA (Generalized Enterprise Reference Architecture), the basic concepts to be used in enterprise engineering and integration (Chen et al 2008: 649). GERAM was developed with significant contributions from GRAI, CIMOSA and PERA (Chen et al 2008: 649).
GRAI	Toh (2009: 217) describes GRAI as a methodology that employs the use of its modelling tools to identify the major decision centres (GRAI-Grid) and is followed by detailed modelling with the GRAI-Net.
Critical Success Factors	Does not define systems architecture, is outdate and ignores value adding aspects of information systems (Pant & Ravichandran 2001: 88)
ARIS	Process Modelling Software from IDS Scheer. Did not feature prominently as framework, frequently considered as modelling tool (Toh 2009: 217)
IDEF	Appropriate as modelling language to model function and activity modelling (Toh 2009: 217)
BFD	**B**usiness **F**ederation **D**esign. Is a useful technique to further analyse the parent enterprise and the capabilities it devolved to a child enterprise (Veasey 2001: 428). Not widely documented or used
IEEE	IEEE 1471 is a modelling standard, not a framework as such. This standard is concerned with ‘‘Recommended Practice for Architectural Description of Software-Intensive Systems-Description’’ (Chen et al 2008: 650).
LISI	**L**evels of **I**nformation **S**ystems **I**nteroperability. Reference model applicable to the US Military sector (Chen et al 2008: 651)
European Quality Model	At first sight may be thought a good candidate for business architecture, but is basically a schema focusing on achieving quality during change processes (Veasey 2001: 432).

Table 6: Summary of frameworks (Whyte & Pretorius 2012: 301)

In addition to the literature review that Whyte & Pretorius (2012: 301) conducted in early 2011 to formulate the BAAM further searches were done in an attempt to add to the existing body of knowledge. In this regard Barros & Julio’s (2011: 600) concept of process architecture patterns is worth discussing. In essence they start off with generic process architectures which consist of four macro processes. This illustrates distinct relationships between these macro processes and other elements. This is termed process architecture patterns and can be used to accelerate BA

improvement. The macro processes can be strung together and any additional processes not covered by the generic framework can be added afterwards. This will ensure a realistic representation of the particular enterprise. It should be useful to assess in the BAAM if a particular organisation are currently using process architecture patterns as this would indicate a higher maturity level.

These relationships between processes and other elements can also be labelled communication architecture (Alt & Puschmann 2005: 299). It strengthens the idea of tacit BA components in addition to the traditional explicit components, as presented in the BAAM.

Verweire & Van den Berghe (2003:782) emphasise the strong link between strategic alignment and enhanced performance management. It goes on to demonstrate the importance of pulling an organisation's strategy through to its processes. All must be aligned to improve performance, supporting the inclusion of these elements in the BAAM. In extending the BAAM, the current requirement to pre-populate it with the targeted organisation's strategic drivers must be revisited as the information on organisation specific strategic drivers are not always readily available.

Key outcomes – Business Architecture domain literature review

In summary the literature review into the Business Architecture domain revealed very few shortcomings of the current BAAM content, however, the need to include process patterns and revisit the strategic driver construct has been highlighted. Chapter 3 will present the updated BAAM following the recommendations gathered through the research process and indicate the steps on how to use the BAAM.

2.3 Assessment Models

2.3.1 Definition and purpose

The literature uses the terms "maturity model" and "assessment model" seemingly interchangeably, but is there a difference between these concepts?

According to Röglinger et al (2012: 330) the purpose of a maturity model would be to outline a roadmap for reaching maturity. The purpose can be classified as descriptive, prescriptive or comparative. A maturity model can be considered as having a descriptive purpose if it offers an assessment of the as-is status of the subject it relates to. In order to offer a prescriptive purpose it must be able to identify desirable future maturity levels and how to achieve them. Finally its purpose can be considered comparative if it allows for internal or external benchmarking. Given this definition, one could define an assessment model (such as the BAAM) as an "immature model" that as it only serves a descriptive purpose. Once it can also be used to prescribe and compare maturity evolution it can be considered truly a maturity model.

When Netland & Alfnes (2011: 67) defines a maturity model as assisting companies in understanding their current level of maturity relative to industry best practice and that a maturity model should describe typical behaviour shown in the organisation in a few phrases this definition fits that of Röglinger's.

Regardless of whether a model is classified as a maturity or assessment model, they both remain measuring instruments that are useful for organisations to assess its current capability and identify gaps where improvement is required (Hilson 2003: 299).

2.3.2 Other assessment models

The literature offers a few maturity assessment models, but none of them specifically relates to the Business Architecture domain. Most of the maturity assessment models have their foundation in the Capability Maturity Model (CMM), which was developed by Watts Humphrey in the early 80's (Gartner 2001: 1). They wanted to implement the Deming continuous improvement cycle (Plan, Do, Act, Check) in order to improve application development, but saw that something more was needed to ensure ongoing improvement. Since then, maturity models have been proposed for a wide range of activities, including software development.

In turn, the maturity approach to determine organisational abilities has its roots in quality management. (Netland & Alfnes 2011: 67). In their proposal of a best practice maturity test for supply chain operations Netland & Alfnes (2011: 69) include 7 maturity assessment areas, namely:

- Strategy;
- Resources;
- Materials;
- Information;
- Processes;
- Organisation and
- Control.

Although the detailed questions are not provided these seem to touch on both explicit and tacit elements in the same way as that proposed in the BAAM, albeit focussed toward supply chain operations and not BA.

The Open Group Architecture Framework (TOGAF™), which is both an architecture framework and detailed method with which to drive its adoption in an organisation (The Open Group 2009: 47), was extended to include an IT Architecture Capability Maturity Model (ACMM) with which to conduct internal assessments. Because it focuses on the process or methodology through which architecture is brought about, it does not specifically measure any of the explicit BA components shown in the BAAM.

The Enterprise Architecture Scorecard (Schekkerman 2006: 8) offers a questionnaire that specifically tests the quality of Enterprise Architecture efforts. This invariably includes the Business Architecture domain. Each question contains elements of knowledge and documentation. The EA scorecard is not dedicated to BA and it too measures the process of architecture and not the explicit BA components.

Jochem et al (2011: 380) offers a maturity model with which to assess knowledge-intensive business processes. It evaluates 7 key process areas, namely:

- Leadership;
- Politic and strategies;
- Partnership and resources;
- Process design;
- Knowledge transfer and design;
- Employees;
- Information system

and two process-specific areas. This assessment can be useful if the process maturity component of the BAAM has to be assessed in more depth. At this stage the view is that the process maturity measurements are sufficient in the BAAM.

Van der Raadt et al (2005: 358) describes a Multi-Architecture Alignment and Maturity model (MAAM). The MAAM assesses both architecture alignment and architecture maturity. It assesses 6 key variables that explain both the level of maturity and the level of alignment. These variables are:

- Architecture development process
- Architecture governance
- Organisational support for architecture activities
- Communication through and about architecture
- Organisational and logical scope of architecture
- Human and other architecture resources

Although the detailed questions are not shown, the MAAM is focussed on Alignment in addition to the Architecture assessment. This indicates that it measures the architecture process and not the explicit architecture components.

The CMM was later succeeded by the Capability Maturity Model Integrated (CMMI) through the Carnegie-Mellon Software Engineering Institute (Alfaraj & Qin 2011: 325, Puus & Mets 2010: 429). However, Alfaraj & Qin (2011: 323) considers the use of Capability Maturity Model integrated (CMMI) on its own to be problematic because it lacks a roadmap to implement or identify key process improvement areas, but instead only provides the goals for each level of implementation. In order to address this shortfall they explored coupling it with CoBIT. Dayan & Evans (2006: 73) combined CMMI and a Knowledge Management (KM) framework in order to achieve additional benefits. Combining models is a useful remedy to consider as a way to further improve assessment models (such as descriptive maturity models) in its journey to be truly maturity models, and enhance their value.

2.3.3 Guidance on constructing assessment / maturity models

As mentioned Röglinger et al (2012: 332) described 3 purposes that a maturity model can serve. In addition to this they offer design principles for these purposes or levels for maturity assessment models, namely basic, descriptive and prescriptive design principles as can be seen in table 7 below. They go further in using these design principles to evaluate a range of Business Process Management maturity assessment models. Their findings reveal that most maturity assessment models they evaluated only serve a descriptive purpose. This is a factor organisations must consider when choosing which maturity assessment model to apply.

3. DESIGN PRINCIPLES FOR A PRESCRIPTIVE PURPOSE OF USE
DP 3.1 Improvement measures for each maturity level (and level of granularity)
DP 3.2 Decision calculus for selecting improvement measures
DP 3.3 Target group-oriented adoption methodology
2. DESIGN PRINCIPLES FOR A DESCRIPTIVE PURPOSE OF USE
DP 2.1 Intersubjectively verifiable criteria for each maturity level (and level of granularity)
DP 2.2 Target group-oriented assessment methodology
1. BASIC DESIGN PRINCIPLES
DP 1.1 Provision of basic information
DP 1.2 Definition of central constructs related to maturity and maturation
DP 1.3 Definition of central constructs related to the application domain
DP 1.4 Target group-oriented documentation

Table 7: Framework of general Design Principles for maturity models (Röglinger et al 2012: 332)

Given this definition, the beta BAAM can be classified as an "immature model" as it only serves a descriptive purpose. Once it can also be used to prescribe and compare maturity evolution it can be considered a true maturity model.

Key outcomes – Assessment Models domain literature review

In summary the literature review into the Assessment Model domain provided evidence to support the inclusion of tacit and explicit components in the BAAM. The key difference in models that assess a single maturity element (such as process maturity) and what is required in terms of a specific assessment model is the scope of its measurements. A specific assessment model (such as the BAAM) must ensure its measurable are comprehensive and contains sufficient methodology and domain specific content measurements. Consideration must be given to improve the BAAM's ability to serve a prescriptive purpose in order to mature it as a true assessment or maturity model.

2.4 Maturity Levels

The CMM measures maturity in terms of 5 levels, as can be seen in diagram 7 below (Gartner 2001: 2). Both Jochem et al's process maturity assessment model (2011: 383) and the ACMM use the CMM maturity levels as basis, but the ACMM use slightly different terminology for some of the levels.

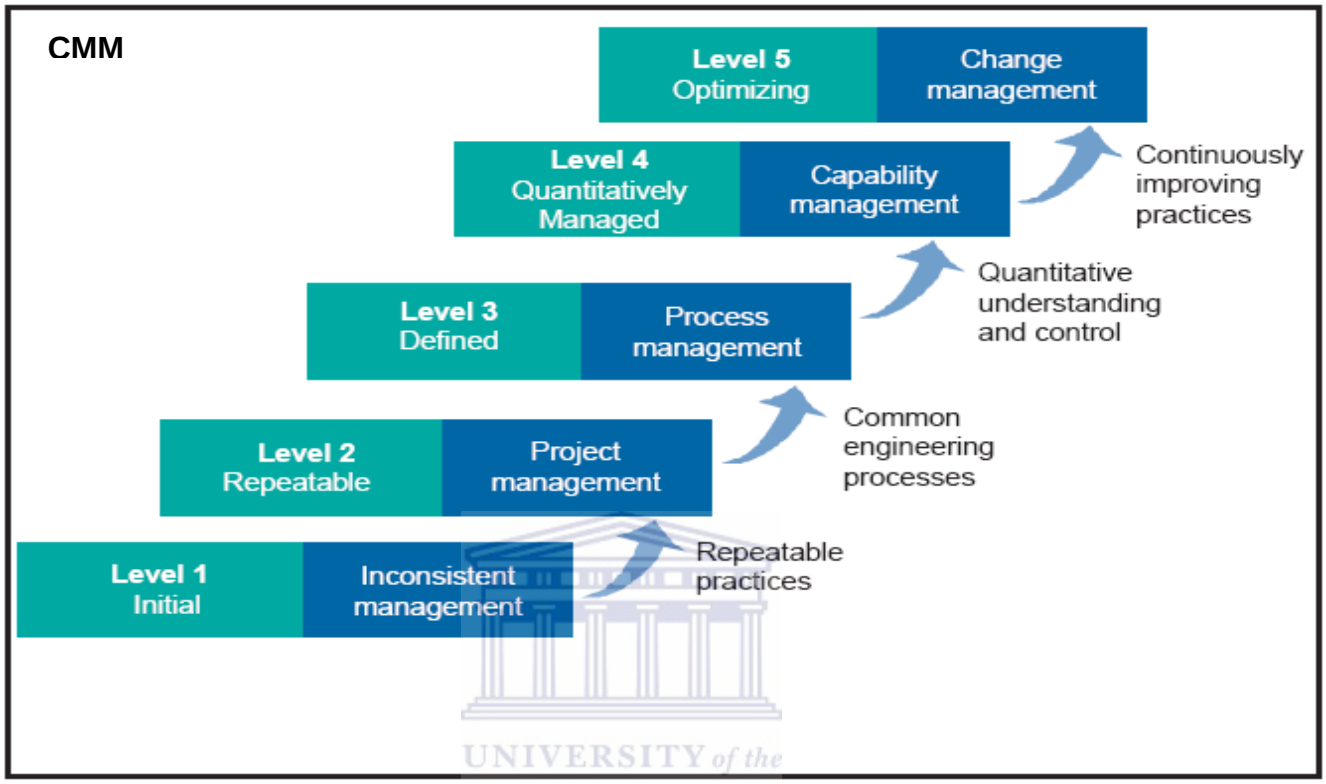

Diagram 7: Describing the Capability Maturity Model (Source - Gartner 2001:2)

Jochem et al (2011: 382 – 383) adapted the CMM maturity levels for Knowledge Intensive Processes, by defining their own characteristics for each level in relation to their subject, as depicted in table 8 below. This is a good example of how the 5 levels can be applied in practice.

Level	Characteristic
Level 1. Initial	Knowledge intensive process with a non-formal/spontaneous character regarding the process design and handling of knowledge.
Level 2. Repeated	Proactive knowledge intensive process with personnel related/non-formal character regarding the process design and the handling of knowledge (process participants are aware of the use of knowledge, individual planning of routine operations).
Level 3. Defined	Established knowledge intensive process with a formal character (defined process knowledge (input and output) with clear assignation, defined criteria for quality-oriented process design and performance).
Level 4. Managed	Controlled knowledge intensive process with a formalised and proved character (controlled handling of knowledge in the process (continuous), controlled criteria for quality-oriented process design and performance).
Level 5. Optimised	Sustainable knowledge intensive process (optimised and comprehensive handling of knowledge (continuous, up to date, holistic); optimised and quality-oriented process design with continuous improvement).

Table 8: Knowledge Intensive Processes Maturity Levels (Source – Jochem et al 2011: 382 – 383)

To trace the link in the BAAM's tacit measurement of quality management, the Quality Management Maturity Grid's maturity levels should also be considered. They describe the typical behaviour of a company, which evolves through five phases (uncertainty, awakening, enlightenment, wisdom and certainty) in their ascent to quality management excellence (Crosby 1979: 38 – 39).

Since BA is contained within EA, it is worthwhile to also examine Schekkerman's EA scorecard (2006: 9) in terms of its maturity levels. The EA scorecard makes use of 3 levels of maturity that test for both knowledge and the state of documentation. The 3 levels are Clear = 2; Partially clear = 1 and Unclear = 0. The EA scorecard arrives at a total score for each statement's response. Thus higher scores indicate higher levels of knowledge and documentation of a specific EA domain.

The proposed BAAM's findings (Whyte & Pretorius, 2012: 314) were mapped in terms of 3 basic maturity levels.

Key outcomes – Maturity Levels domain literature review

In summary the literature review into the Maturity Levels domain clearly underpinned Whyte & Pretorius' (2012: 315) own admission that the beta BAAM's three basic maturity levels must be expanded. To allow for more accurate measurement and with a view on standardisation, the BAAM should rather be aligned with the 5 CMM maturity levels.

2.5 Research Methods

2.5.1 General research concepts

There seems to be a lack of consensus on how research should be defined. This could be because research means different things to different people. Despite this, there seems to be agreement that research is a systematic process of investigation and enquiry through which knowledge is increased. (Amaratunga et al 2002: 17).

Despite the apparent disagreement regarding a definition of research, the literature consistently reveals two very distinct research paradigms or themes, namely the Positivist paradigm and the Phenomenological paradigm. Table 9 provides a comparison of the relative strengths and weakness of these two paradigms. From this comparison it is evident that the Positivist paradigm (also known as quantitative research) deals with facts, relies on large data samples, usually consumes less resource for the data collection, and can cover a wide range. This paradigm is more commonly referred to as quantitative research.

On the other end of the spectrum one finds the Phenomenological paradigm, or as it is more commonly referred to: qualitative research. This type of research leans itself better to understanding the meaning of things, and has a better ability to track changes over time. It is also better suited to make forecasts of future events. In addition it assists with creating new theories and is more adaptable to changes in the environment (Mangan et al 2004: 567, Amaratunga et al 2002:19).

Theme	Strengths	Weaknesses
Positivist (quantitative paradigm)	They can provide wide coverage of the range of situations They can be fast and economical Where statistics are aggregated from large samples, they may be of considerable relevance to policy decisions	The methods used tend to be rather inflexible and artificial They are not very effective in understanding processes or the significance that people attach to actions They are not very helpful in generating theories Because they focus on what is, or what has been recently, they make it hard for policy makers to infer what changes and actions should take place in the future
Phenomenological (qualitative paradigm)	Data-gathering methods seen more as natural than artificial Ability to look at change processes over time Ability to understand people's meaning Ability to adjust to new issues and ideas as they emerge Contribute to theory generation	Data collection can be tedious and require more resources Analysis and interpretation of data may be more difficult Harder to control the pace, progress and end-points of research process Policy makers may give low credibility to results from qualitative approach

Table 9: Comparison of research paradigms (Source – Amaratunga et al 2002: 19)

Given these paradigms, table 10 below (Mangan 2004: 567) offers guidance to researchers when attempting either of these approaches. First of all the basic belief held by the researcher must fit in with chosen paradigm. In addition the researcher should either focus on the facts (quantitative research) or focus on the meanings (qualitative research). The researcher must be mindful around which methods will be suited for the particular paradigm and research objective(s). Bear in mind that despite this guidance there are no clear-cut distinctions between quantitative and qualitative research and paradigm choice (De Loo & Lowe 2011: 24).

	Positivist paradigm	Phenomenological paradigm
Basic beliefs	The world is external and objective	The world is socially constructed and subjective
	Observer is independent	Observer is part of what is observed
	Science is value-free	Science is driven by human interests
Researcher should	Focus on facts	Focus on meanings
	Look for causality and fundamental laws	Try to understand what is happening
	Reduce phenomena to simplest events	Look at the totality of each situation
	Formulate hypotheses and then test them	Develop ideas through induction from data
Preferred methods include	Operationalising concepts so that they can be measured	Using multiple methods to establish different views of phenomena
	Taking large samples	Small samples investigated in-depth or over time

Table 10: Knowledge Key features of the positivist and phenomenological paradigms (Source – Mangan et al 2004: 567)

To add to this, Mangan (2004: 568) also offers additional research methods that are commonly used in each of these paradigms, as shown in Table 11 below. This table can be interpreted by stating that research that has a survey as the data collection vehicle can be termed as quantitative research. Case studies belong in the qualitative research area. (Note this is merely a guide, some techniques have scope to be used in either paradigm.)

Positivist paradigm	Phenomenological paradigm
Cross-sectional studies	Action research
Experimental studies	Case studies
Longitudinal studies	Ethnography
Surveys	Construct elicitation
Models and simulation	Grounded theory
	Hermeneutics
	Participative enquiry

Table 11: Methodologies used in the positivist and phenomenological paradigms (Source – Mangan et al 2004: 568)

Since research is conducted by people, that hold their own individual beliefs, there is always a risk that the research results could be tainted by their views. To address this various techniques can be considered, but specifically the concept of triangulation can assist with enhancing the integrity of the results.

Triangulation can be considered from four different angles, namely:

(1) Data angle – Achieved by collecting data at different times and/or from different sources;

(2) Investigator angle – Achieved through using different investigators independently to collect data;

(3) Methodology angle – Where both qualitative and quantitative techniques are used;

(4) Theory angle – Achieved when a theory is taken from one discipline and used to explain a phenomenon in another discipline. (Magan et al 2004: 569)

Amaratunga et al (2002:24) offers a methodology triangulation research schematic (shown in diagram 8 below) to demonstrate this technique. Using this schematic, it is clear that the literature review always forms part of the process, regardless of the research method chosen. Quantitative data will be analysed by applying statistical methods, and the results will expose relationships. Qualitative data will be analysed in order to identify patterns. The quantitative data and qualitative data are combined and their respective findings can be used together to test the findings of the other. Together the data will enrich the discussion and ultimately allow for conclusions to be drawn based on the research.

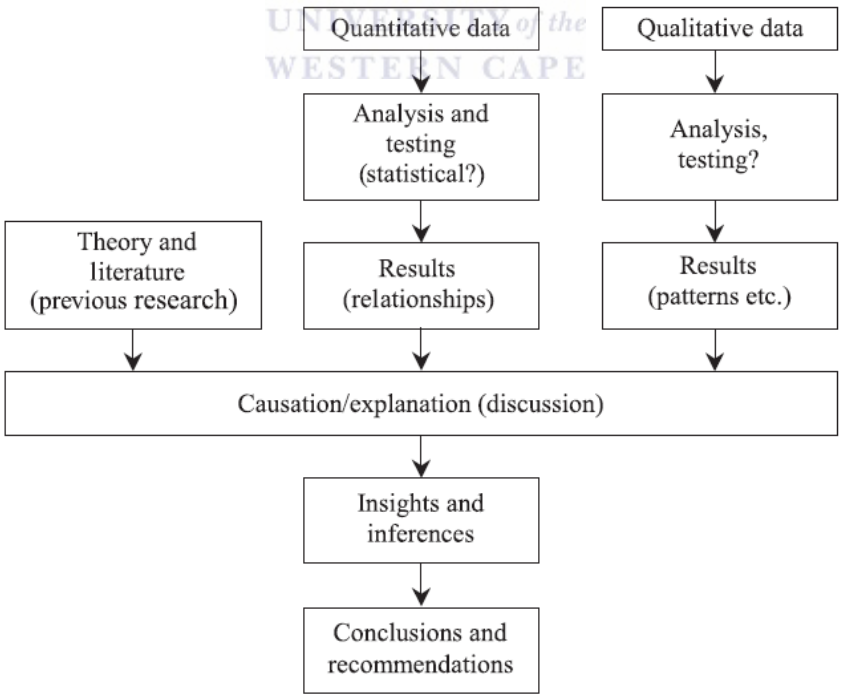

Diagram 8: Methodology Triangulation Research schematic (Source – Amaratunga et al 2002: 24)

Another consideration that will enhance the integrity of the research results would be to ensure that it is both valid and reliable. A result can be considered valid if the research measured what it was supposed to measure. On the other hand research results are considered to be reliable when similar results are achieved while the conditions remained constant, i.e. it can be repeated (Amaratunga et al 2002: 29).

The benefit of mixing research methods in order to enable triangulation was discussed already, but mixing quantitative and qualitative research techniques have also become more common place in general. Although some advocates of mixed methods seem to think that this will indeed create some improvements in capturing social phenomena, this belief is not shared amongst all researchers (De Loo & Lowe 2011: 25).

In order to test the BAAM's ability to be extended in other organisations De Loo & Lowe's refer to Riessman's four pillars that are essential when aiming to standardise procedures and could provide helpful guidance. These pillars all need to be present for the results to be considered trustworthy. Diagram 9 below show the four pillars and the inherent questions that must be asked about the research interpretation or findings to determine its credibility.

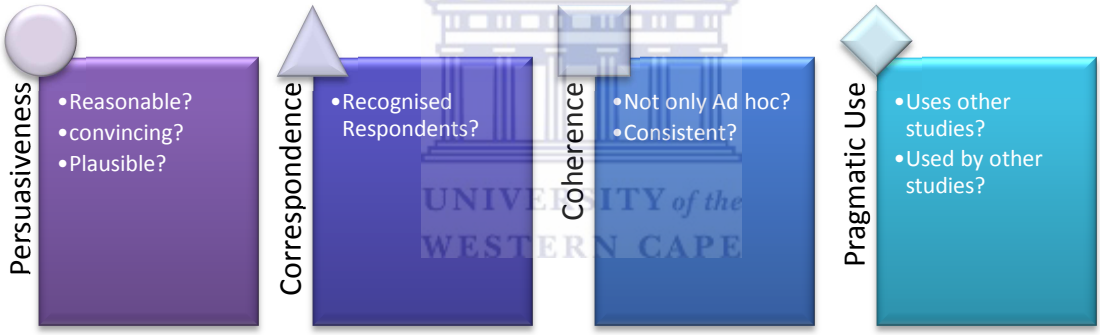

Diagram 9: Riessman's four pillars to test research findings (Source – De Loo & Lowe 2011: 28)

2.5.2 Examples of related studies

In addition to considering the general research methods that can be employed to achieve this research objective, it is worthwhile to touch on the methods other researchers used for similar studies.

To validate the MAAM Van der Raadt et al (2005: 368) proposed to gather information through a questionnaire addressed to various sub-sets of staff at organisations. Jochem et al (2011: 386) proposed a similar approach, and in addition recommended that the results be pre-tested with a working group. In their work to compare maturity levels Kundu et al (2011: 146) also confirmed that conducting a survey will be a suitable research method. Netland & Alfnes (2011: 73) assessed their maturity test by looking at its strengths and weaknesses from various perspectives as shown in Table 12.

Strengths	*Weaknesses*
Simplicity Simple and easily understandable audit scheme for everyone to use Results are communicated in a logical and visual style	*Qualitative and subjective answers* Answers not based on facts and figures Large variations of interpretation on maturity level inside a firm
Quickness Takes no longer than one hour to complete Results are given immediately Requires no preparatory work	*Validity of best practices* Does not cover all practices that influence performance Impossible to secure the validity of the best practices
Including Includes participants in an early phase of an improvement project Discussions during the test are highly valuable *per se*	*Complexity of best practices* The best practices stated often need some further explanation for practitioners not familiar with all areas of supply chain management
Applicability A range of applications from self-assessment to benchmark studies	*Non-normative* Does not give any answers on how to improve
Qualitative input Allows qualitative consideration of maturity	*Lack of quantitative input* Quantitative analysis across companies is difficult
Balanced Allows triangulations of answers from different sources Allows trade-offs to be made through strategic discussions	*Compliance with other mapping techniques* So far no triangulation with other tools So far not part of broader mapping techniques
Generic Designed to be generic for any industry	*Language and translation* For non-English natives the language becomes a barrier

Table 12: Strengths and weaknesses with the proposed test (Source – Netland & Alfness 2011: 73)

Key outcomes – Research Methods domain literature review

In summary the literature on appropriate Research Methods especially aimed at Assessment or Maturity Models classifies this study into the "Phenomenological paradigm". It is better known in the Information Systems environment as the "Interpretivist paradigm". This paradigm is best researched by using mixed or multiple methods to establish the possible different views. Furthermore small samples should be investigated through in-depth study and over time.

2.6 Conclusion

Given the literature review the BAAM remains the only assessment model found that specifically assess BA maturity.

The literature confirms that the BAAM measures the necessary BA components (both tacit and explicit). Its assessment questions can be improved further by making the following changes:

1. Introduce a question that assesses the extent to which process architecture patterns are used in the organisation.
2. Revisit the strategic alignment assessment in order to avoid the need to pre-populate it with the target organisation's specific strategic goals.

The 3 crude maturity levels should be extended to allow for 5 maturity levels in line with that of the CMM and similar assessments. The improved descriptions and extended maturity levels will allow more guidance to organisations on how to improve its adoption of BA. While it can be acknowledged that there are many research methods that will be suitable to test maturity assessment models, the general trend seems to be to achieve this through mixed method research. The robustness of the research results can be tested by applying the questions from Riesmann's four pillars.

The beta BAAM can be considered a descriptive maturity model. If desired it can be improved further to serve a prescriptive or a comparative purpose. This implies that a maturity roadmap should be added.

In conclusion table 13 summarises that only one research sub-question is still unanswered along with the main research question. This will be addressed through the collection of primary data.

Research sub-question	**Extent to which it has been addressed through the literature review**
• How is BA defined?	Addressed fully in literature review (Section 2.2)
• What are the most common frameworks and models within BA?	Addressed fully in literature review (Section 2.2)
• Are there other maturity assessment models to assess BA maturity?	Addressed fully in literature review (Chapter 2)
• Does this BAAM measure all components of BA?	Addressed fully in literature review (Section 2.2)
• How can an organisation improve its adoption of BA?	Chapter 2 has confirmed that assessment or maturity models will assist organisation in improving its BA.
• Will the BAAM improve adoption of BA in an organisation?	Partially and in concept confirmed that assessment models will assist organisation in adopting new concepts. However, the specific ability of the BAAM to improve BA adoption will be addressed through the research data collection in Chapter 4 and with the discussion thereof in Chapter 5.

Table 13: Extent to which the literature review has address the research sub-questions (Source – Author)

3. Research design and methodology

The literature review was successful in addressing the bulk of the research sub-questions. The main research question "How can the BAAM be usefully extended to cover more critical areas of BA and apply to a diverse range of organisations?" and the remaining research sub-question "Will the BAAM improve adoption of BA in an organisation?" remains to be addressed through the collection of primary data. As indicated in Diagram 3 that set-out the thesis and research approach, BAAM will

- need to be constructed
- tested with a focus group consisting of subject matter experts on business architecture. For the focus group results to be credible, the participants should possess academic as well as extensive industry experience in the application of Business Architecture and
- deployed to the targeted organisations.

3.1 Key Ethical considerations

The following key ethical considerations were documented in the process of registering the research and the necessary information sheets were provided to all participants.

Ethical procedures and decisions are a key component of research to ensure that no harm is caused to participants in the research process. In light of this all participants have been informed by way of the letter of **consent** of their rights throughout the research process. Furthermore the researcher undertook to treat all participants with due **respect** and conducted the research in a **professional manner**.

Remuneration for participation: No participants have received any remuneration for in return for their participation.

Confidentiality: The identity and contributions of all participants to this research project have been kept confidential and were not published.

3.2 Delineation of the research

To effectively assess whether the BAAM can be extended it must be tested in a wide range of organisation types. In Chapter 2 the literature reviewed classified this study into the "Interpretivist paradigm" and suggested using mixed or multiple methods for this study.

Even though small samples can be used an in-depth study is recommended. Low response rates will result in a limited data sample, which could derail attempts to generalise the research findings. Access to enough organisations may prove to be a problem as the author's network is limited. To address this alumnus of the University of the Western Cape were approached for access to their respective networks.

3.3 Constructing the BAAM (Preparation)

Following the conclusion on the additional literature that was reviewed and presented in chapter 2, it was necessary to apply certain amendments to the BAAM's questions. Table 14 summarises the change area and nature of the change.

Change area	Change
Process Assessment	Included a question on the use of process architecture patterns.
Strategic Alignment	The strategic drivers were generalised to avoid pre-populating the BAAM with organisation specific strategic drivers.
Knowledge sharing	A question was included to check the prevalence of verbal knowledge sharing.
General & Demographical information	The previous definition of BA was improved due to the 2011 findings. The BAAM was initially created for a specific organisation that was well known to the authors. Since extending the BAAM will not be done by deploying it at known organisations. The demographical questions were adjusted with more generic wording.
Current level of BA Maturity	To check the validity of the BAAM's mapping to a maturity level and determine how the assessment compares to the subjective view in an organisation, question 16 was added to ask respondents about their current level of BA maturity in the organisation. The maturity levels are not asked to avoid respondents from clearly seeing the progression and rating themselves too highly.

Table 14: Summary of beta version BAAM changes (Source – Author)

3.3.1 Main research instrument: BAAM Survey

Following the changes in Table 14, the main research instrument – the BAAM Survey – was amended and are shown below. It consists of 16 main questions. Some questions have further sub-questions.

Introduction:

This survey aims to investigate the current state and attitudes regarding business architecture in your organisation. The survey results will be used towards completion of a research thesis to fulfil the requirements for an M.Com (MIM) degree. Your participation is completely voluntary and will be greatly appreciated along with your honest response. There will be no financial or other benefits from participating, other than the author's thanks and knowing that you are helping further the study of the field. Your responses will be kept confidential, and your anonymity will remain intact. Please note the instruction with each question as they do not all require the same response style.

1. Please state your organisation's name: *(The name of the organisation will only be used for administration purposes)*

2. In which area in the organisation do you work? *(select only one option)*

- ❍ Business – any operational units
- ❍ IT (IT (any department - involved with designing, developing or supporting IT solutions)
- ❍ Business Change (any function that supports the business with their Process or IT requirements)

3. How long have you been with this organisation (total years, regardless of departments you have worked in)? *(select only one option)*

- ❍ 0 – 3 years
- ❍ 4 – 7 years
- ❍ 8 – 11 years
- ❍ 12 – 14 years
- ❍ 15 or more years

4. What is your role in the organisation? *(select only one option)*

- ❍ Specialist (not directly involved with business architecture)
- ❍ Manager
- ❍ Specialist (directly involved with business architecture)

5. Are you familiar with business architecture? *(select only one option)*

- ❍ This is the first time I have heard about it
- ❍ I have limited knowledge on the subject
- ❍ I have extensive knowledge on the subject
- ❍ I have expert knowledge on the subject

6. Does the company you work for currently have explicit (i.e. documented or visible) business architecture? *(select only one option)*

- ❍ Yes
- ❍ No
- ❍ I am not sure

7. Definition: Business architecture is one element of Enterprise Architecture. It aligns with the business vision, mission and strategy. It expresses the products and services of the business in terms of requirements for the design of the processes, systems and data management. *(select only one option)*

- ❍ I agree with this definition of business architecture
- ❍ This definition of business architecture is incomplete
- ❍ This definition of business architecture is too vague
- ❍ This definition of business architecture is too complex
- ❍ This definition of business architecture is oversimplified
- ❍ I have no view on the validity of the definition for business architecture provided

8. How well do you believe your business unit supports the following common strategic focus areas? *(select only one option per focus area/row: 1 = well supported, 2 = supported, 3 = no influence, 4 = supported to a small degree and 5 = not supportive. Select "No View" if you have no view on the particular statement)*

	Supported			Not supported		No view
	1	2	3	4	5	
Innovation	❍	❍	❍	❍	❍	❍
Enabling competitive advantage	❍	❍	❍	❍	❍	❍
Enabling client centricity	❍	❍	❍	❍	❍	❍
Increasing agility	❍	❍	❍	❍	❍	❍
Enabling operational efficiency	❍	❍	❍	❍	❍	❍
Growing the business	❍	❍	❍	❍	❍	❍

9. What are your views on the following statements? *(select only one option per statement/ row: 1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree and 5 strongly disagree. Select "No View" if you have no view on the particular statement)*

		Strongly disagree				Strongly agree	No view
		1	2	3	4	5	
a.	My organisation can be considered ahead of the field in terms of having explicit (i.e. documented or visible) business architecture	❍	❍	❍	❍	❍	❍
b.	There is a strong culture of sharing knowledge informally amongst staff	❍	❍	❍	❍	❍	❍
c.	Newcomers can easily get a view on how our business works by consulting the documented business architectures	❍	❍	❍	❍	❍	❍
d.	When I am assigned to a new project I can easily determine where the project would impact on existing business architectures	❍	❍	❍	❍	❍	❍

e.	Newcomers can easily get a view on how our business works by consulting the documented process models	❍	❍	❍	❍	❍	❍
f.	When I am assigned to a new project I can easily determine where the project would impact on existing business requirements	❍	❍	❍	❍	❍	❍
g.	Our processes are modelled to a sufficient level of detail	❍	❍	❍	❍	❍	❍
h.	Our processes map to those in other business units that are up stream or downstream from my business unit	❍	❍	❍	❍	❍	❍
i.	Newcomers can easily get a view on how our business works by consulting the documented requirements specifications	❍	❍	❍	❍	❍	❍
j.	A new document is created to reflect business requirements for new changes	❍	❍	❍	❍	❍	❍
k.	Existing documentation is updated to reflect new changes to existing requirements	❍	❍	❍	❍	❍	❍
l.	We have definitive standards with regards to process modelling	❍	❍	❍	❍	❍	❍
m.	We have definitive standards with regards to requirements specifications	❍	❍	❍	❍	❍	❍
n.	We have a single tool set across the organisation with which to do process modelling	❍	❍	❍	❍	❍	❍
o.	Our IT architecture (applications/data) and business architecture is highly integrated	❍	❍	❍	❍	❍	❍
p.	IT rarely needs to request rework on signed off business requirements	❍	❍	❍	❍	❍	❍
q.	It will be important to use the same architectural framework across IT and the Business (enterprise)	❍	❍	❍	❍	❍	❍

r.	There is a single architectural framework currently being used across IT and the Business (enterprise)	❍	❍	❍	❍	❍	❍
s.	My organisation/team makes use of process architecture patterns	❍	❍	❍	❍	❍	❍
t.	Knowledge is mostly shared verbally amongst staff and not written down	❍	❍	❍	❍	❍	❍

10. Which software application(s) do you use for process modelling?

11. Which architectural framework(s) is used in your organisation?

12. Which benefits do you believe will be achieved through improved business architectures? *(select one or more option if relevant)*

- ☐ Will provide a coherent view of the as-is and makes understanding the gaps easier
- ☐ Will offer a shared view of the organisation and thus improve communication
- ☐ Will assist with prioritisation of future projects
- ☐ Will assist in delivering strategic change requirements
- ☐ Will increase alignment between Business and IT
- ☐ Will highlight inefficiencies and duplication of functions
- ☐ Will be a knowledge asset in the organisation
- ☐ There will be no benefits

13. Do you want to offer any other benefits not listed above?

14. What do you perceive as challenges/barriers to improve business architectures?
(select one or more option if relevant)

- ☐ Time and effort to create the business architecture documentation (which includes process models, requirement specifications)
- ☐ Maintenance of the business architecture
- ☐ Demonstrating / calculating benefits of improved business architecture
- ☐ Large financial investment required to improve business architectures
- ☐ Getting funding to improve business architecture
- ☐ Modelling tool strategy and implementation of tool standards & training
- ☐ Updating our skills to deliver improved business architecture
- ☐ Improved governance structures to ensure everyone knows the rules and keeps playing according to them
- ☐ Getting buy-in from management
- ☐ Getting buy-in from staff
- ☐ There will be no challenges

15. Do you want to highlight any other challenges/barriers not listed above?

16. Rate your organisations Business Architecture Maturity by selecting the statement that best describes the state of Business Architecture in your organisation. *(select only one option)*

- ❍ We have made some progress with understanding Business Architecture and how to apply it practically
- ❍ We have not started or we are in the early stages of understanding Business Architecture and how to apply it
- ❍ We have implemented Business Architecture and there is a consistent view on how to approach Business Architecture across the organisation
- ❍ We have defined Business Architecture standards, but it is only implemented in some areas
- ❍ We are continually maintaining and improving our implemented Business Architecture

Thank you for your contribution!

~oOo~

3.3.2 Define the BAAM's maturity levels and roadmap

As clearly indicated during Chapter 2 the beta BAAM lacked sufficient guidance on the BAAM maturity levels and offered very little in respect of a roadmap. The Maturity Level of the BAAM only considered the Explicit BAAM. The tacit components are seen as factors that will either promote or detract from the BA implementation. The tacit elements are too vague to directly link them to BA maturity.

Using the CMM maturity levels shown in Diagram 7 as base, and drawing from the literature review and the beta BAAM data, the Generic BAAM Maturity Levels and roadmap was developed, as shown here in Diagram 10 below.

The colour scheme uses the Red/Amber/Green (and shades thereof) notation as it is popular amongst project reporting. Bear in mind that the improvement recommendations will remain generic until it can be overlaid with the actual BAAM findings for an organisation.

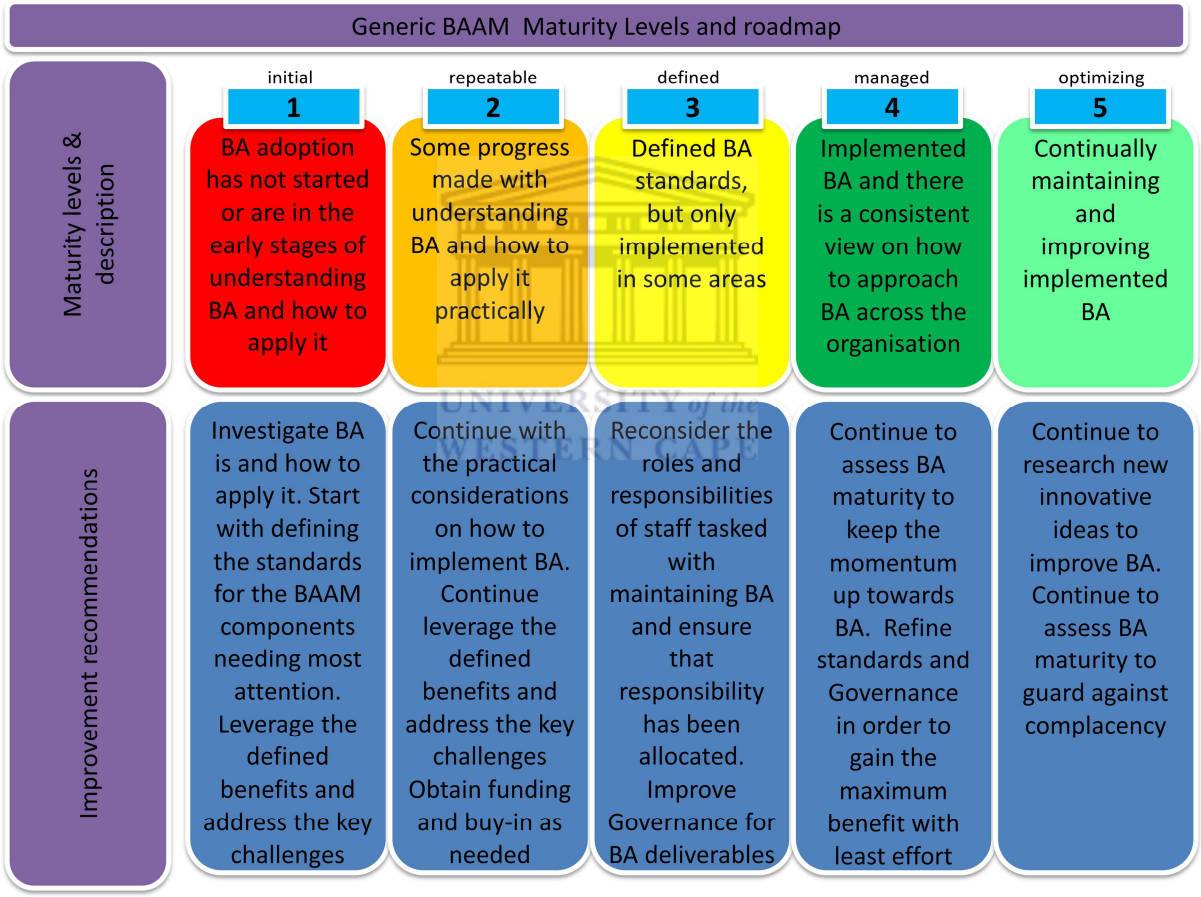

Diagram 10: Generic BAAM Maturity Levels and roadmap (Source – Author)

3.3.3 Scoring the maturity levels

The responses for each BAAM question response were mapped to the maturity levels. The responses were scored so that a level 1 response counted 1; a level 2 response counted 2; and so forth ending in a level 5 response counting 5. "No views" were left out of the equation and the number of responses for that question reduced accordingly as not to distort the average.

Despite the intentional wide measurement scope of the Explicit BAAM not all of the Explicit BAAM components should carry the same weight when calculating a BA maturity score. This theory was supported in the focus group discussion as well.

Hence a scoring model was defined as stated in Table 15 below.

Explicit BAAM Component	Weight
Process Maturity	40%
Strategic Alignment	5%
Governance	25%
Requirements management	30%
Total	100%

Table 15: Weighting of explicit BAAM components in scoring (Source – Author)

Finally this enables the calculation of the weighted average of all responses per explicit BAAM component (after mapping and scoring individually to the various levels) per organisation to arrive at the overall maturity level for the organisation.

3.3.4 Evaluate the BAAM through a focus group

In order to facilitate the evaluation of the BAAM, an interpretive survey (see below) was compiled.

BAAM evaluation sheet

14-Mar-14 **Focus group participant:** _____

Evaluation criteria		significant improvement needed	improvement needed	acceptable	very acceptable (use as-is)	comments to assist improvement:
1.Content	1.1 Relevance of variables to Business Architecture	○	○	○	○	
(what gets measured)	1.2 Completeness of variables	○	○	○	○	
2. Maturity levels	2.1 Suitability of levels	○	○	○	○	
(how accurate would outcome be)	2.2 Mapping between variables to maturity levels	○	○	○	○	
3. Roadmap	3.1 Completeness of the roadmap	○	○	○	○	
(how useful to improve Business Architecture)	3.2 Link between assessment & roadmap recommendations	○	○	○	○	
4. Physical assessment ability	4.1 Ease of use / deploy	○	○	○	○	
(how the model will be applied)	4.2 Question clarity	○	○	○	○	

5. Concept/overall comments

This survey was the basis on which the focus group were conducted. The evaluation criteria considered four areas namely the

- content;
- maturity levels,
- roadmap and
- physical assessment ability of the BAAM.

These areas where directly linked to the research questions. Responses were required using a "likert scale". In addition an opportunity was offered for focus group participants to offer additional comments.

3.4 Gathering data / Deploying the BAAM (Execution)

Once the preparation for the data gathering was completed (i.e. section 3.2) and the necessary BAAM constructs, surveys and models were created the focus group was arranged and conducted. The findings of the focus group will be discussed in Chapter 4.

Whyte & Pretorius deployed the beta version of BAAM as an online survey to staff in a particular organisation in order to collect the primary data following a quantitative approach. To examine the BAAM's extendibility data will again be collected through deploying the updated BAAM online, but this time to various organisations who were invited to participate in the study.

4. Findings – Presentation of results

Following the focus group and deployment of the updated online BAAM, the findings were analysed and processed according to the scoring model defined in Chapter 3.

The findings will be discussed under four categories, namely:

- Focus Group findings
- Overarching insights based in all the responses irrespective of organisation
- Organisation specific results
- Comparative analysis between 2011 and 2015 results of a particular organisation. This was specifically included, because the "Interpretivist paradigm" ideally requires measurement over time.

4.1 Focus Group findings

The focus group were held with 5 subject matter experts on business architecture. The focus group members possessed academic and extensive industry experience in the application of Business Architecture. Following a presentation which explained what the BAAM is and how it came about the respondents were required to complete the BAAM Evaluation Sheet discussed in Chapter 3, section 3.3.4.

Table 16 summarises the focus group responses. The table clearly indicates that none of the elements of the BAAM required a significant improvement. However some respondents felt that the names of the tacit components required adjustment to make it more obvious what they are supposed to assess. The responses of the participants were scored similarly to that used for the BAAM (i.e. significant improvement needed counting 1; improvement needed counting 2; acceptable counting 3 and very acceptable counting 4).

Focus Group Criteria		BAAM Evaluation result				Comments
		Significant Improvement Needed	Improvement Needed	Acceptable	Very Acceptable	
BAAM Content	Completeness of variables			9	8	Adjust the names of the tacit components to make it more obvious what they are supposed to assess.
	Relevance of variables to Business Architecture		2	12		
Maturity Levels	Mapping between variables to maturity levels		4	9		Ensure explicit components carry more weight in scoring model than tacit components do. Develop proper maturity grid.
	Suitability of levels			12	4	
Roadmap	Completeness of the roadmap		4	6	4	Need to see the whole picture, doing the roadmap on a component level is too granular. Show the link more clearly between the theory and the end product.
	Link between assessment & roadmap recommendations		2	12		
Assessment Ability	Ease of use / deploy			9	8	Implement the BAAM and re-evaluate sites after 6 months to determine a shift in the measurement.
	Question clarity			3	16	
	Total	0	12	72	40	

Table 16: Summary of focus group responses (Source – Author)

The focus group presentation included a sample roadmap based on Process Maturity only. In response to this some respondents felt that doing the roadmap on a component level would be too granular. This would not enable a holistic view of Business Architecture. They also suggested a clearer demonstration of the link between the theory and the end product when presenting the BAAM to other audiences.

In addition the focus group suggested that the explicit components carry more weight in the scoring model than tacit components do. They also required that a maturity grid be defined, making clear the levels of maturity in respect of Business Architecture.

As a whole the focus group's final recommendation was to continue with the process of implementing the BAAM and re-evaluate sites after 6 months to determine if a shift were visible in the measurement.

The results of the Focus Group findings can also be expressed with a bar chart (see chart 1 below). This chart makes use of the Red/Amber/Green colour scheme. This makes it very easy to detect visually where the areas of concern are.

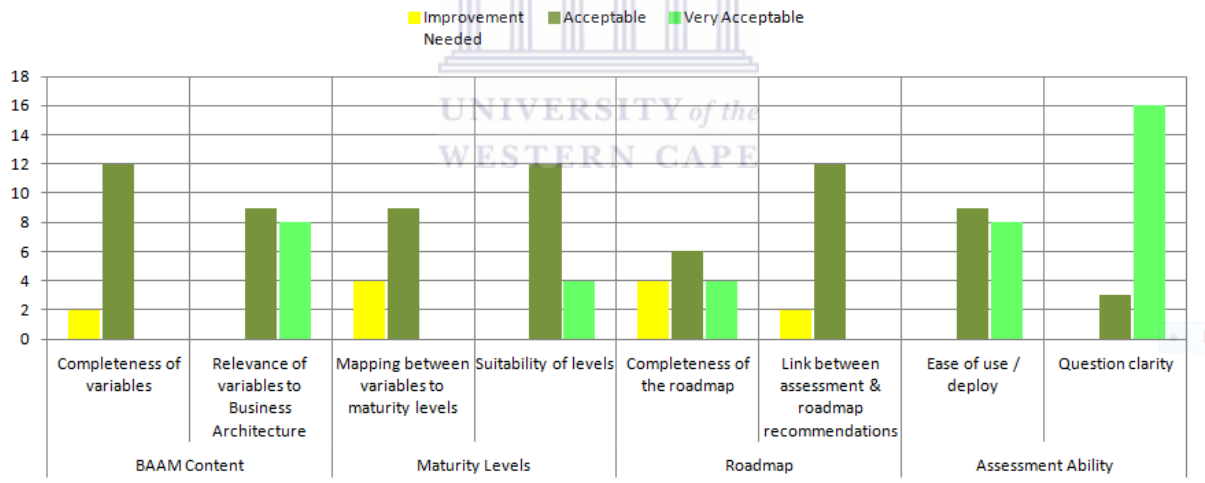

Chart 1: Visual representation of the Focus Group responses (Source – Author)

4.2 Overarching insights based in all the responses irrespective of organisation

Following the focus group approval to continue the study the research instrument was loaded onto an online survey tool (Google Forms). 11 organisations were invited to participate. Only 8 of these organisations participated. Four organisations submitted more than 4 responses each whilst the other 4 only submitted one response. In addition, the data from Whyte & Pretorius' 2011 study were re-analysed using the scoring model, thus providing the explicit BAAM result for 2011. It also enables a comparison with the 2015 result. Furthermore the tacit components of the BAAM result for the 2011 organisation were compared with the 2015 result of the same organisation. This comparison was necessary to see if the current assessment provides any supporting evidence for the shift in the BAAM results over time.

As an introduction to the overarching insights, Table 17 below provides a breakdown of the respondents' composition in terms of their job descriptions and knowledge of business architecture.

Descriptive statistics	*n*	%
Respondents composition	36	100%
IT	16	44%
Business (Operational Units)	6	17%
Business Change	14	39%
Response rate: Total invitations 59 vs. 36 responses		61%
Respondent job descriptions breakdown	36	100%
Specialist directly involved with Business Architecture	14	39%
Specialist not directly involved with Business Architecture	28	25%
Manager	13	36%
Level of business architecture knowledge	49	100%
… first time I have heard about it	1	3%
… I have limited knowledge	23	64%
… I have extensive knowledge	10	28%
… I have expert knowledge	2	6%

Table 17: Descriptive statistics (Source – Author)

The target audience comprised of three groups, namely

- IT - any department - involved with designing, developing or supporting IT solutions (44%),
- Business Change - any function that supports the business with their Process or IT requirements (39%)
- Business - any operational units (17%)

Most of the respondents (39%) claimed to be specialists that are directly involved with business architecture. The rest were in managerial (36%) or specialist roles that do not directly deal with business architecture (25%).

Slightly concerning were the levels of knowledge that respondents indicated with regard to business architecture. Only 6% claimed to have expert knowledge and 28% indicated that they have extensive knowledge. In sharp contrast the majority of respondents either had limited (64%) or no knowledge (3%) of business architecture.

Even more alarming: a closer look at the responses from those respondents who are specialists that directly deal with business architecture and their levels of knowledge on business architecture revealed that only 1 of the 14 claimed to have expert knowledge, and 6 claimed to have extensive knowledge. 50% of specialists that are directly involved with business architecture have limited knowledge about it.

Chart 2 reveals that the majority (33%) of respondents have been with their organisations for 15 years or longer. A further 28% have been with their organisations between 4 and 7 years. A further 8% of respondents have been with their organisations between 12 and 14 years. Only 14% of respondents have had a short career (between 0 and 5 years) at their respective organisations.

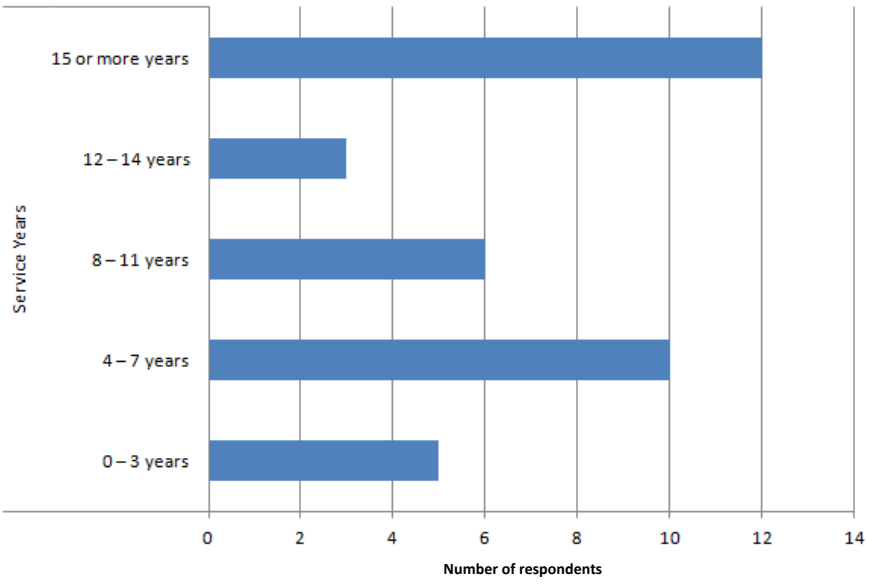

Chart 2: Service Years of respondents at all the organisations (Source – Author)

As part of the current research respondents were asked to comment on the improved definition for business architecture. In Table 18 below the columns on the left indicates the definition provided in Whyte & Pretorius' 2011 study and the respondents views in this regard. The column on the right provides the improved definition with the views of the current respondents.

2011		2015	
Definition: *Business Architecture is one element of Enterprise Architecture, and deals with business strategy, vision and mission, and the products, services and processes necessary to support them, and culminates into requirements for the design of systems and data management.*		Definition: *Business architecture is one element of Enterprise Architecture. It aligns with the business vision, mission and strategy. It expresses the products and services of the business in terms of requirements for the design of the processes, systems and data management.*	
Agree with	67%	67%	Agree with
Incomplete	12%	14%	Incomplete
Too complex	8%	3%	Too complex
Oversimplified	4%	0%	Oversimplified
Too vague	2%	8%	Too vague
Unable to provide verification	6%	8%	Unable to provide verification

Table 18: Definition of Business Architecture comparison of 2011 vs. 2015 study (Source – Author)

Chart 3 below shows the comparison of Business Architecture definition acceptance between 2011 and 2015 in a visual format. The red and blue simply indicates which data set are being referred to.

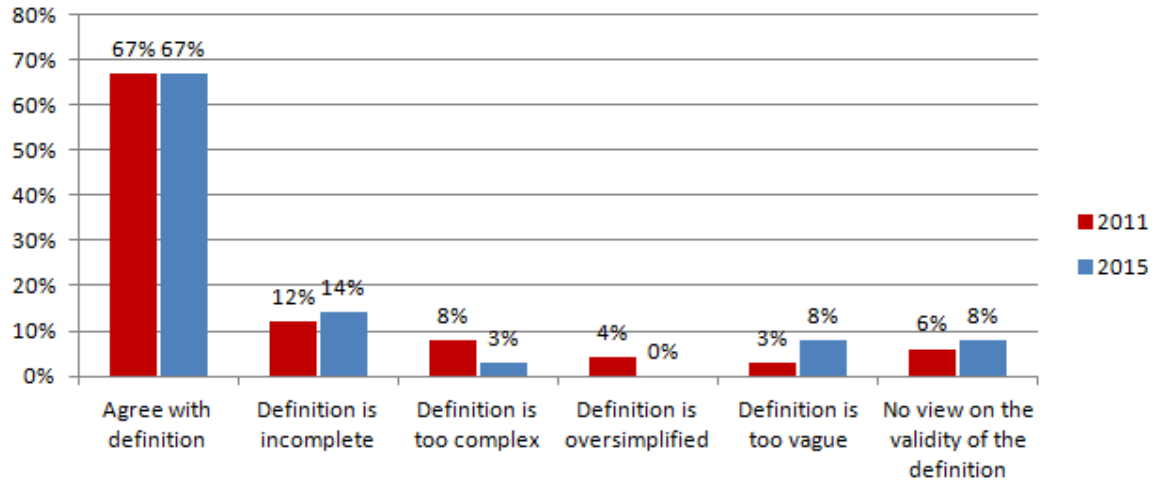

Chart 3: Visual comparison of Business Architecture definition acceptance between 2011 and 2015 study (Source – Author)

By comparing these results it is clear that despite the changes to the previous definition, the current definition is just as acceptable as the previous one. There is, however, less respondents that felt the new definition is either too complex or oversimplified. The respondents that deemed the definition to be vague has increased to 8%.

Across all respondents there was a very strong sense of acceptance that improved Business Architecture would offer an organisation benefits. Chart 4 below indicates that the increasing alignment between Business and IT were recognised as most beneficial. Improvement on delivery of strategic requirements are accepted slightly more than the rest of the benefits. The rest of the benefits were almost equally acceptable.

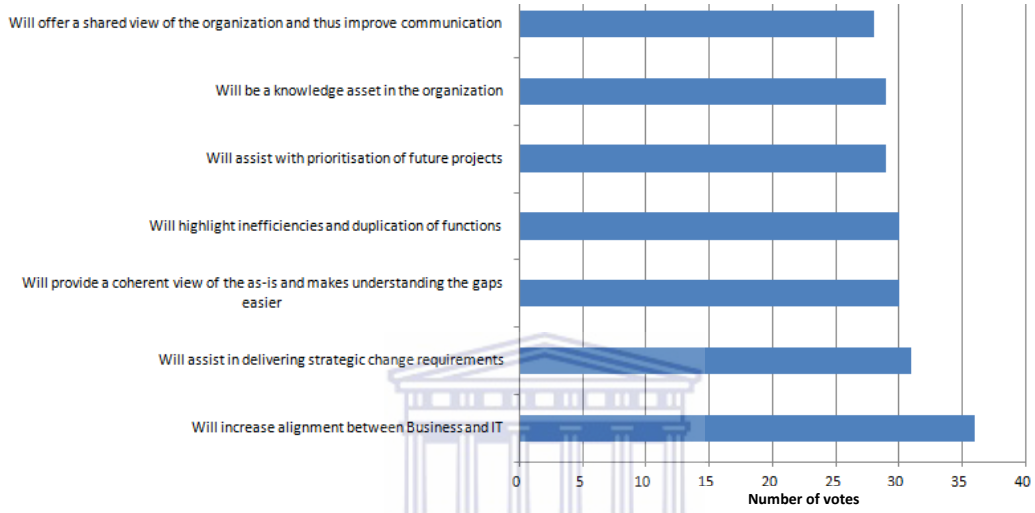

Chart 4: Acceptance of benefits that improved Business Architecture will offer (Source – Author)

Chart 5 shows the views of respondents in terms of which challenges or barriers would first need to be addressed before they could hope to improve. The time and effort to create business architecture in the first place came through strongest. There was a strong sense amongst the respondents that the road to improved Business Architecture would offer even more challenge. Obtaining buy-in from management and also maintaining Business Architecture are shown as the next biggest challenges.

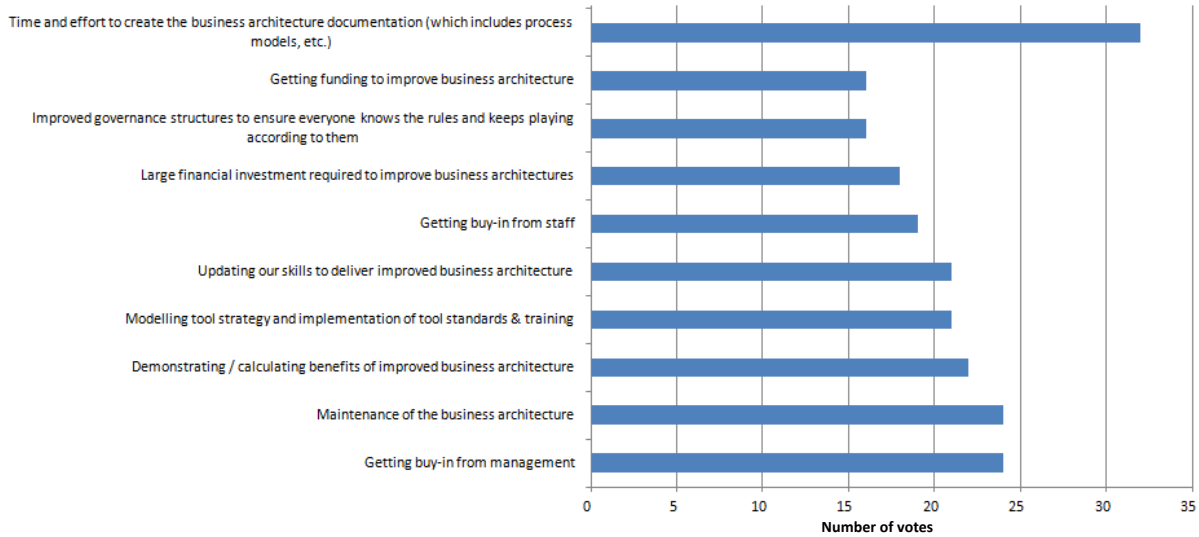

Chart 5: Views on challenges/barriers that will prevent improved Business Architecture (Source – Author)

In the improved BAAM survey respondents were asked to rate their organisations in terms of the five Business Architecture maturity levels as shown in Chapter 3. The results of these views are shown in Chart 6 below. The majority of respondents rated their organisations on the lowest level of maturity (Level 1 – Not started with Business Architecture or in the early stages of adoption. None of the respondents felt that they have reached Level 5 – Continuous improvement and maintenance. Only one respondent felt that they have reached Level 4.)

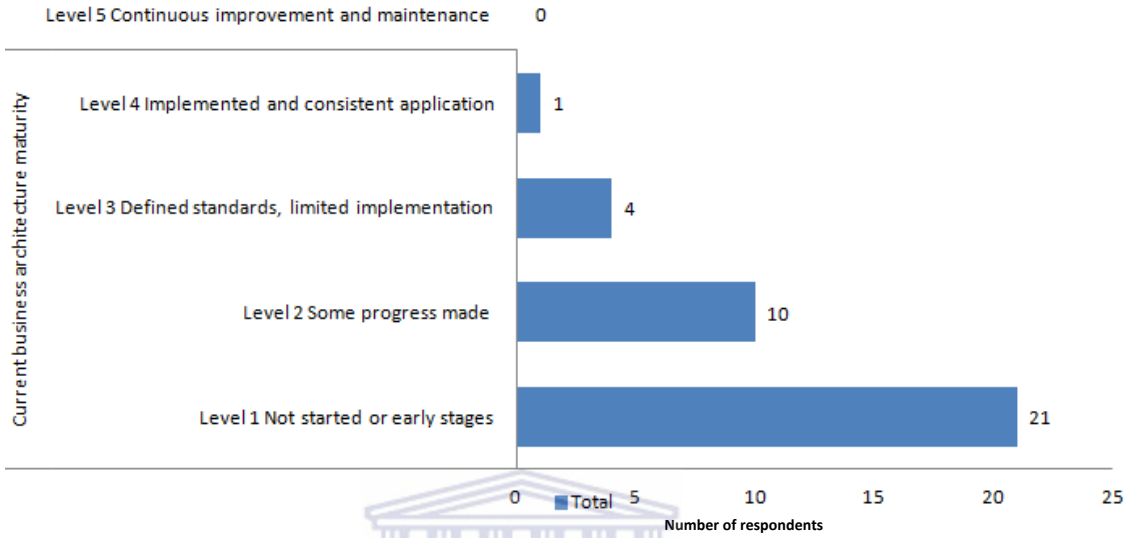

Chart 6: Views on challenges/barriers that will prevent improved Business Architecture (Source – Author)

Table 19 and 20 respectively indicates which Architecture Frameworks and Process Modelling tools are used in the organisations that participated in the survey. From these tables it is clear that TOGAF is used in 17% of the cases. However 27% of the participants indicated that they use no frameworks. With respect to Process Modelling tools, MS Visio is a clear favourite. It is being used by 40% of the respondents. It is a little reassuring that only 13% of organisations do not use any process modelling tools.

Process modelling tool	# used	% used
PowerPoint	1	2%
Websphere Integration Designer	1	2%
Coral draw	1	2%
Enterprise Architect	1	2%
Rational Software Architect	1	2%
IBM BPMN	1	2%
MAIA	1	2%
Sparx Enterprise Architect	2	4%
Excel	2	4%
Unknown	4	8%
None	7	13%
ARIS	9	17%
MS Visio	21	40%

Table 19: Summary of Architecture Frameworks being used (Source – Author)

Architecture Framework	# used	% used
Business Use Cases	1	2%
MS Visio	1	2%
Enterprise Architect	2	5%
ARIS	2	5%
SOA	1	2%
IBM IAA	4	10%
TOGAF	7	17%
None	11	27%
Unknown	12	29%

Table 20: Summary of Process Modelling tools being used (Source – Author)

To further present the results, the findings will be provided within the context of the specific organisations that participated in the study.

4.3 Organisation specific results

4.3.1 Organisation A

4.3.1.1 Respondent demographics of the organisation

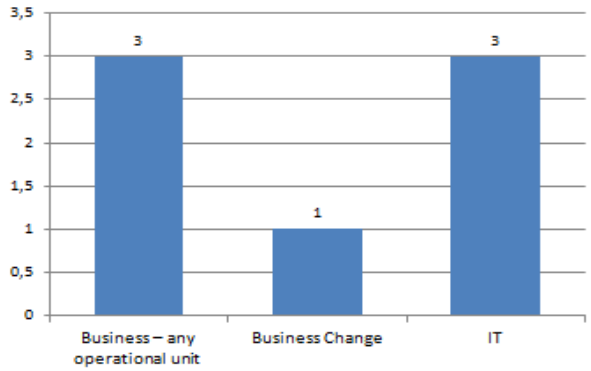

Chart 7: Organisational area breakdown Organisation A (Source – Author)

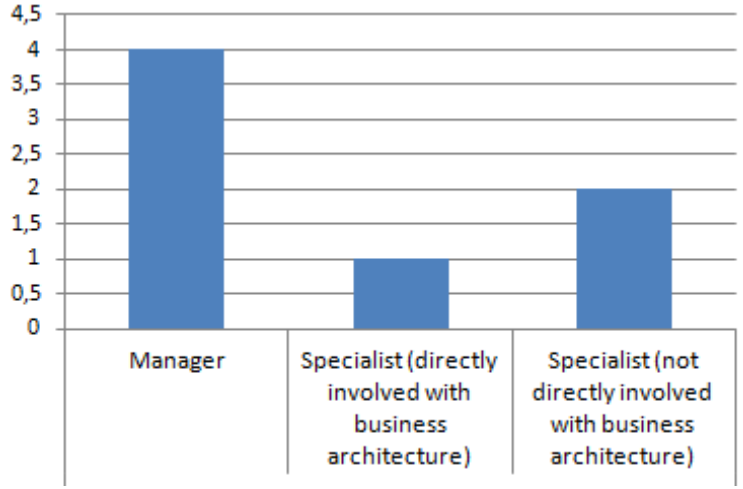

Chart 8: Role breakdown Organisation A (Source – Author)

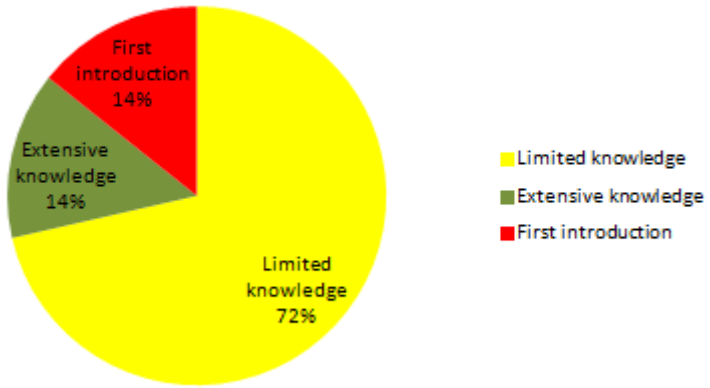

Chart 9: Business Architecture Knowledge Organisation A (Source – Author)

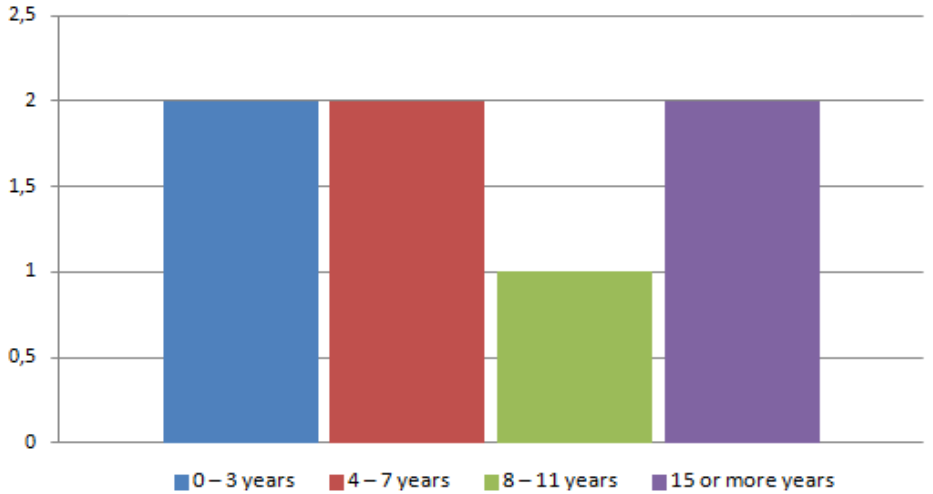

Chart 10: Service Years Organisation A (Source – Author)

It is important to look at who the target audience is that has responded. It may provide additional context when analysing the findings of the BAAM. In this regard chart 7 indicates the breakdown of the respondents in terms of their organisational area. Chart 7 reveals that an even number of respondents were in the Business operations and IT areas respectively. A single respondent were from the Business Change area.

In addition chart 8 shows that 4 respondents are Managers in the organisation. Two respondents are specialists who are not directly responsible for Business Architecture. A single respondent is a specialist with direct responsibility for Business Architecture.

Chart 9 shows the level of Business Architecture Knowledge in the organisation. From the chart it can be seen that 14% of respondents have extensive knowledge about Business Architecture. Another 14% claimed have had their first interaction with the concept through the survey. Encouraging is that the majority (72%) of respondents at least have limited knowledge about Business Architecture. There were no respondents that have expert knowledge of Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 10 shows that one respondent has been with the organisation between 8 and 11 years. The rest were evenly split between the categories: 0 – 3; 4 – 7 and 15 or more years. There were no respondents in the 12 – 14 year category.

In the next section the Explicit BAAM findings of Organisation A will be discussed.

4.3.1.2 Explicit BAAM measurement results

Company: **Organisation A** *n = 7*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					
		Level 1	Level 2	Level 3	Level 4	Level 5	No View
Strategic Alignment	Enable Client Centricity		1	1	3	2	
	Enable Competitive Advantage	1	1	1	3	1	
	Enable Operational Efficiency		2	1	3	1	
	Growing the Business		2		3	2	
	Increasing Agility		3		2	1	1
	Innovation		1	1	4	1	
Process Maturity	Integration: Business architecture & IT architecture	3	2	1			1
	Process mapping across business units	2	1	1	2		1
	Process Models used as reference (Newcomers)	3	2	1	1		
	Sufficient level of process detail	3	2		2		
	Usage level of process architecture patterns	4	1				2
Requirements Management	Requirement specification used as reference (Project)	4		1	1	1	
	Requirement specification used as reference (Newcomers)	4	1	1	1		
	New requirement specification created for changes	1	3	2	1		
	Existing requirement specification updated for changes	2	1	2	1		1
Governance	Process model standards	2	2	1	2		
	Requirement specification standards		1	2	3	1	
	Single tool set used for process modelling	2	3	2			
	Single architectural framework across Business and IT	4	1		1		1
	Total	35	30	18	33	10	7

Weigthed average **2,2**

I.e. According to the BAAM the organisation is on Level 2 of Business Architecture maturity

Table 21: Explicit BAAM Results Organisation A (Source – Author)

Table 21 above provides the number of respondents and their view on the explicit business architecture measurable maturity. The overall score is a Level 2 maturity.

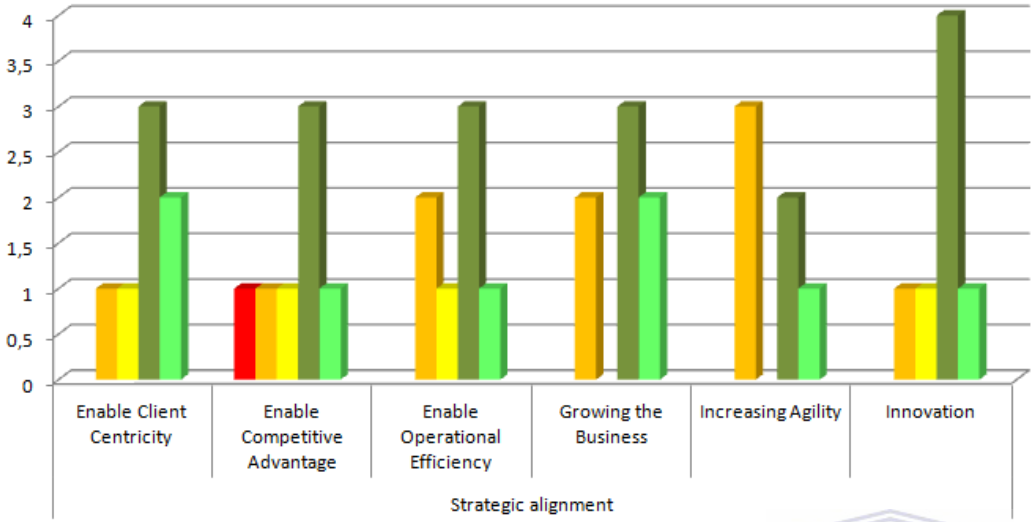

Chart 11: Strategic Alignment Maturity Levels Organisation A (Source – Author)

Charts 11 to 14 show the results of the explicit BAAM measurable with on a bar chart. As with the focus groups, the chart makes use of a Red/Amber/Green (and shades thereof) colour scheme. This makes it very easy to visually detect the areas of concern. In terms of strategic alignment maturity (chart 11) the organisation is more mature than the overall maturity with some Level 4 / 5 views being prevalent.

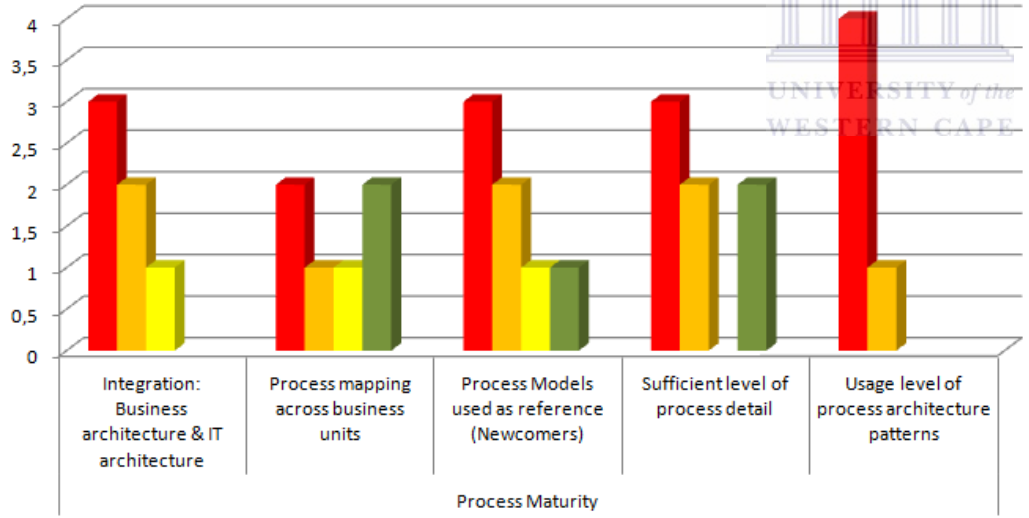

Chart 12: Process Maturity Levels Organisation A (Source – Author)

Chart 12, however, reveals that there are some serious concerns with regard to the level of Process Maturity in the organisation. A significant number of respondents rated it on either a level 1 or 2. Notwithstanding there are some more positive ratings of Level 3 / 4 also notable.

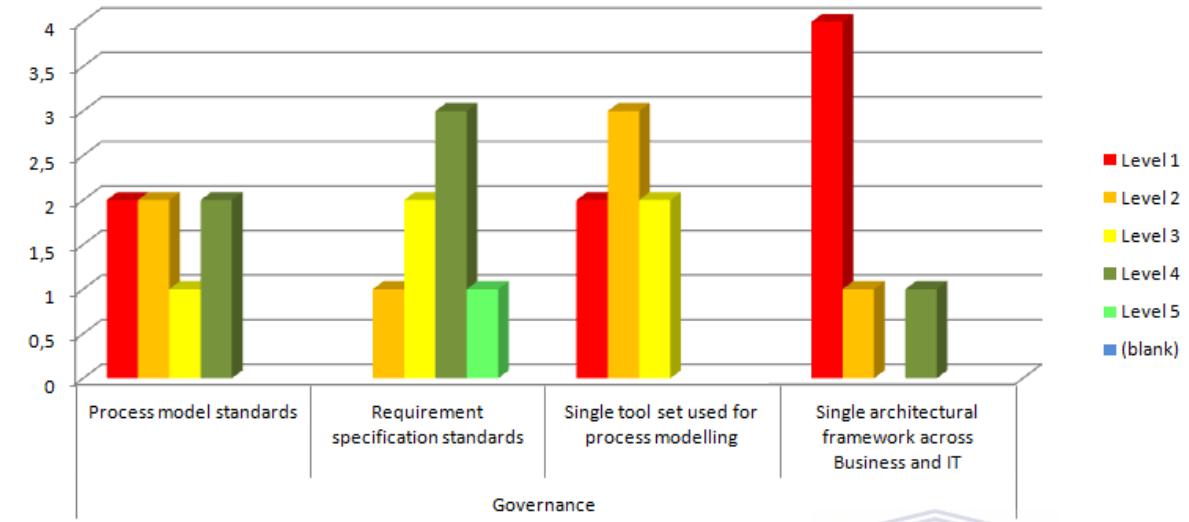

Chart 13: Governance Maturity Levels Organisation A (Source – Author)

Chart 13, which highlights the state of Governance pertaining to Business Architecture, shows that process modelling standards and the tools used for it can be vastly improved upon. The lack of a single architectural framework across business and IT is clear on this representation. Requirements management standards are rated higher than all the other components considered with Governance.

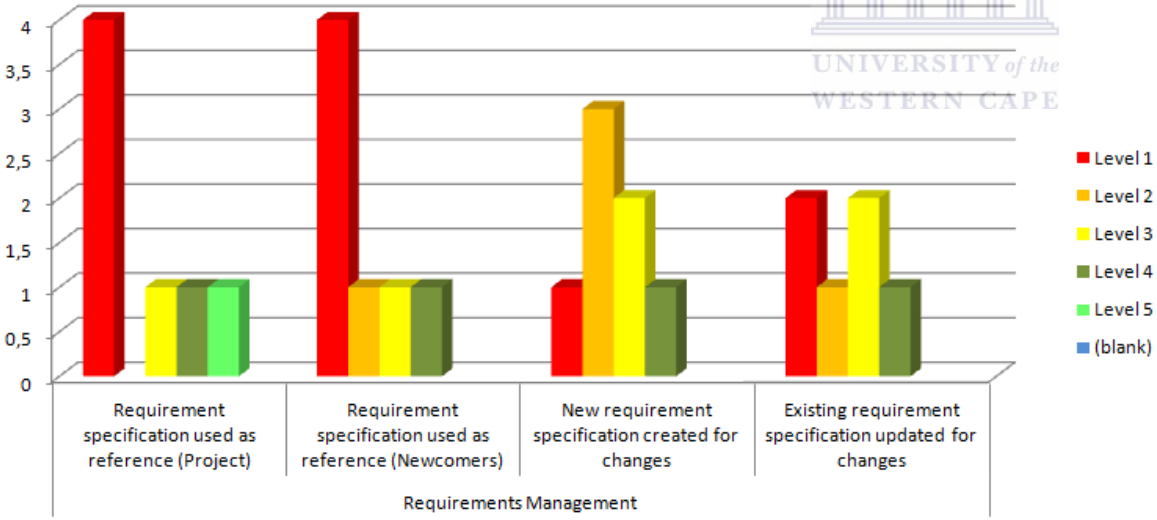

Chart 14: Requirements Management Maturity Levels Organisation A (Source – Author)

Although the standards in terms of requirement specifications are acceptable on average, chart 14 shows that there is a significant number of respondents that felt requirements are not used as reference for either the newcomers or when a new project is started. There are also some differences in opinion on whether existing requirements are updated instead of creating a new document.

4.3.1.3 Tacit BAAM measurement results

Table 22 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 23 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	3 out of 5 respondents strongly agreed with being behind competitors in terms of explicit BA. Another respondent thought that they were somewhat behind. One respondent thought that they were somewhat ahead
	Acceptance of Business Architecture definition	All respondents (5 out of 5) thought the definition of BA to be acceptable.
	Business Architecture used as reference for newcomers	Four (3) respondents strongly disagreed that newcomers are using BA as reference, whilst another (2) only disagreed.
	Business Architecture used as reference for projects	Four (3) respondents strongly disagreed that BA is used as reference for projects, whilst another (2) only disagreed.
	Importance of using a single architecture framework	Three respondents felt that using a single architecture framework would be essential while 2 respondents thought it to be ideal but not essential.
Knowledge Sharing Culture	Level of knowledge sharing	4 out of the 5 respondents strongly agreed that a culture of knowledge sharing exists, whilst one respondent claimed knowledge never to be shared.
	Verbal vs. Non-verbal knowledge sharing	The majority (4) of respondents felt that knowledge is shared verbally, whereas only 1 respondent indicated the documentation of knowledge as the norm.
Quality Management	Quality of requirements	All respondents claimed to have excellent requirement specification quality.

Table 22: Tacit BAAM Results Organisation A (Source – Author)

Table 23 shows the Benefit and Challenges view respectively for Organisation B.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	5
	Will offer a shared view of the organisation and thus improve communication	4
	Will assist with prioritisation of future projects	5
	Will assist in delivering strategic change requirements	4
	Will increase alignment between Business and IT	5
	Will highlight inefficiencies and duplication of functions	4
	Will be a knowledge asset in the organisation	4
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	4
	Maintenance of the business architecture	2
	Demonstrating / calculating benefits of improved business architecture	4
	Large financial investment required to improve business architectures	5
	Getting funding to improve business architecture	2
	Modelling tool strategy and implementation of tool standards & training	4
	Updating our skills to deliver improved business architecture	4
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	3
	Getting buy-in from management	5
	Getting buy-in from staff	3

Table 23: Benefits and Challenge View Organisation A (Source – Author)

4.3.2 Organisation B

4.3.2.1 Respondent demographics of organisation

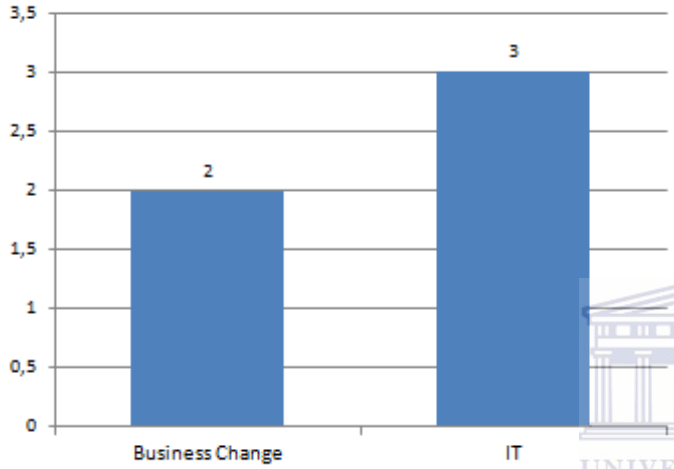

Chart 15: Organisational area breakdown Organisation B (Source – Author)

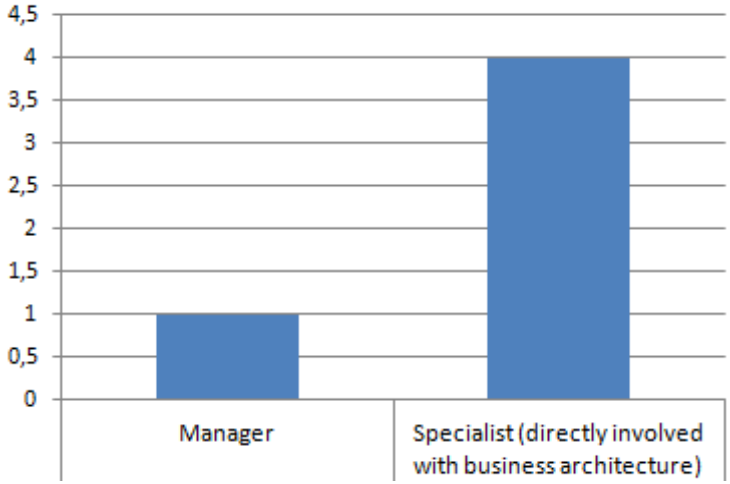

Chart 16: Role breakdown Organisation B (Source – Author)

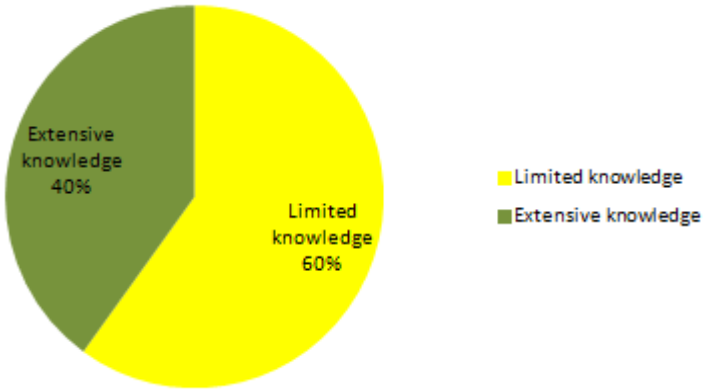

Chart 17: Business Architecture Knowledge Organisation B (Source – Author)

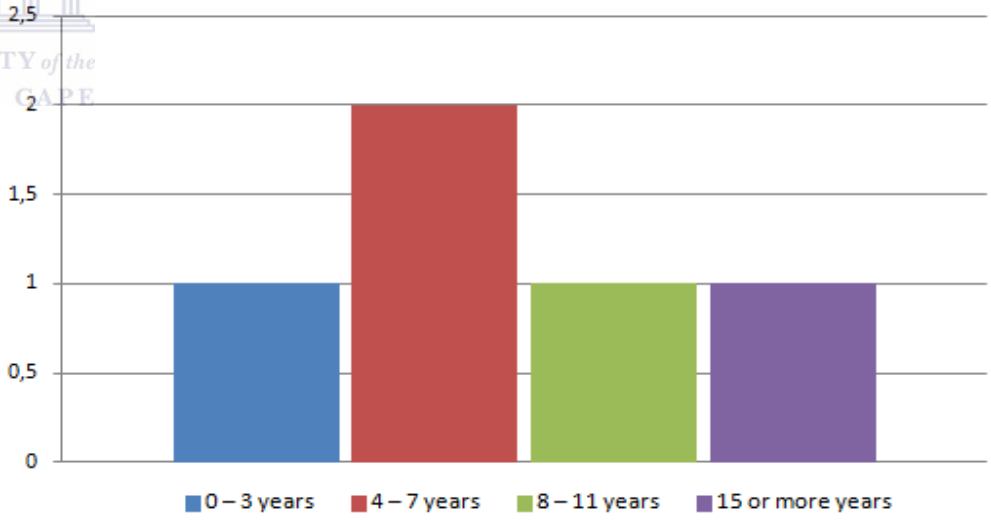

Chart 18: Service Years Organisation B (Source – Author)

As mentioned with the findings for the first organisation, it is important to look at who the target audience is that has responded. This may provide additional context when analysing the findings of the BAAM. In this regard chart 15 indicates the breakdown of the respondents in terms of their organisational area. Chart 15 shows that the most respondents are from IT and the remainder are in the Business Change area. None of the respondents were in the Business operations area.

In addition chart 16 shows that only one respondent was a Manager with the rest being specialists directly responsible for Business Architecture.

Chart 17 shows a fairly high level of Business Architecture Knowledge in the organisation. 40% of respondents have extensive knowledge about Business Architecture. Another 60% claimed limited knowledge about Business Architecture. There were no respondents with expert knowledge of Business Architecture nor for whom this was their first introduction to the concept.

Finally in terms of getting a better understanding of whom the respondents were, chart 18 shows that two respondents have been with the organisation between 4 and 8. The rest were evenly spread between the categories: 0 – 3; 8 – 11 and 15 or more years. There were no respondents in the 12 – 14 year category.

In the next section the Explicit BAAM findings of Organisation B will be discussed

4.3.2.2 Explicit BAAM measurement results

Company: **Organisation B** *n = 5*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					
		Level 1	Level 2	Level 3	Level 4	Level 5	No View
Strategic Alignment	Enable Client Centricity		1	2		2	
	Enable Competitive Advantage	2			2	1	
	Enable Operational Efficiency	1	1	1	1	1	
	Growing the Business		1	1	2	1	
	Increasing Agility	1	1		2	1	
	Innovation		2	1	1	1	
Process Maturity	Integration: Business architecture & IT architecture	2	2		1		
	Process mapping across business units	3	2				
	Process Models used as reference (Newcomers)	5					
	Sufficient level of process detail	2	2	1			
	Usage level of process architecture patterns	4	1				
Requirements Management	Requirement specification used as reference (Project)	4	1				
	Requirement specification used as reference (Newcomers)	2	2		1		
	New requirement specification created for changes		2	2	1		
	Existing requirement specification updated for changes	1	3		1		
Governance	Process model standards	3	1				1
	Requirement specification standards	1	2		2		
	Single tool set used for process modelling	3	2				
	Single architectural framework across Business and IT	2	2		1		
	Total	36	28	8	15	7	1

Weigthed average **1,8**

I.e. According to the BAAM the organisation is nearly on Level 2 of Business Architecture maturity

Table 24: Explicit BAAM Results Organisation B (Source – Author)

Table 24 above provides the number of respondents and their view on the explicit business architecture measurable maturity. The overall score is nearly on Level 2 maturity with a weighted average of 1.8.

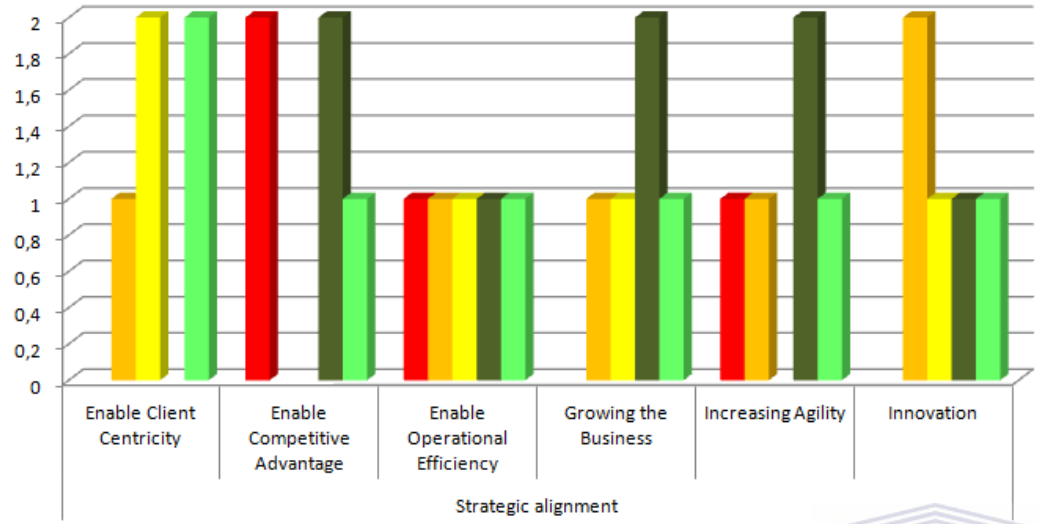

Chart 19: Strategic Alignment Maturity Levels Organisation B (Source – Author)

As with the previous organisation the following charts (19 – 22) shows the results of the explicit BAAM measurable using on a bar chart. In terms of strategic alignment maturity (chart 19) the organisation is considered slightly more mature than the overall maturity with some Level 3 / 4 / 5 views being reported.

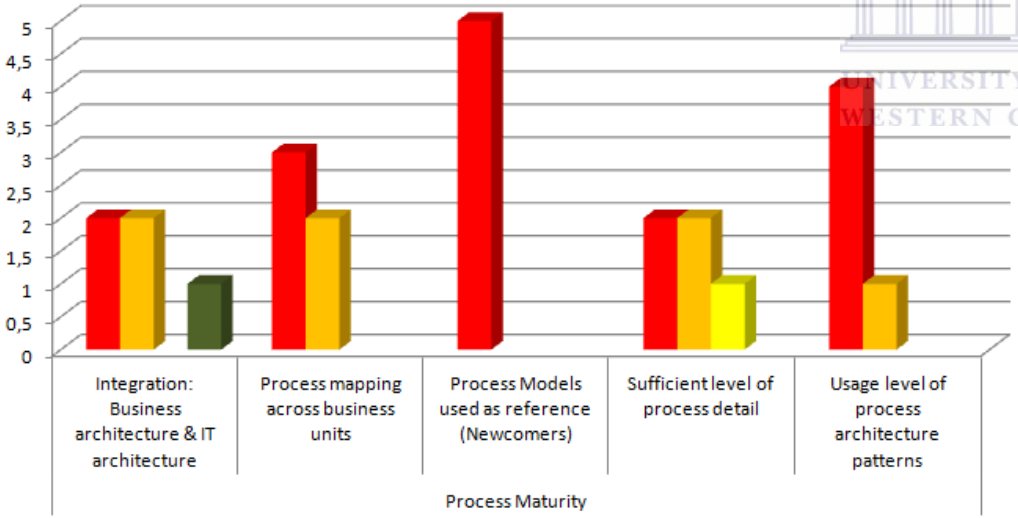

Chart 20: Process Maturity Levels Organisation B (Source – Author)

Chart 20, reveals some serious concerns with regards to the level of Process Maturity in the organisation with a significant number of respondents rating it on either a level 1 or 2. There are very few positive rating (Level 3 / 4). In particular process models are not used as reference for newcomers.

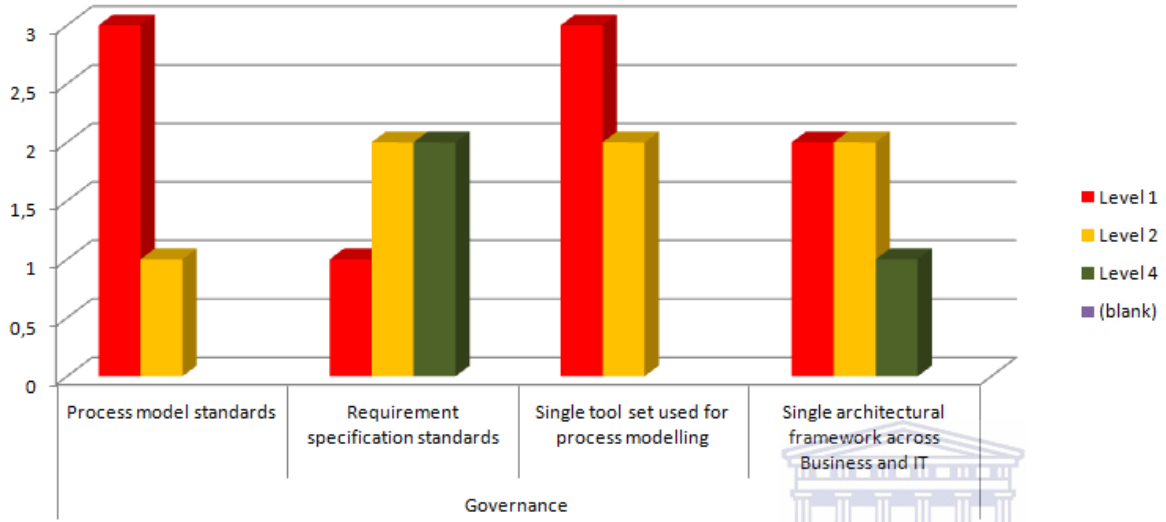

Chart 21: Governance Maturity Levels Organisation B (Source – Author)

Chart 21, which highlights the state of Governance pertaining to Business Architecture, shows that process modelling standards and the tools used for it can be vastly improved upon. The lack of a single architectural framework across business and IT is clear on this representation. Requirements management standards are rated higher than all the other components considered with Governance but still can be improved.

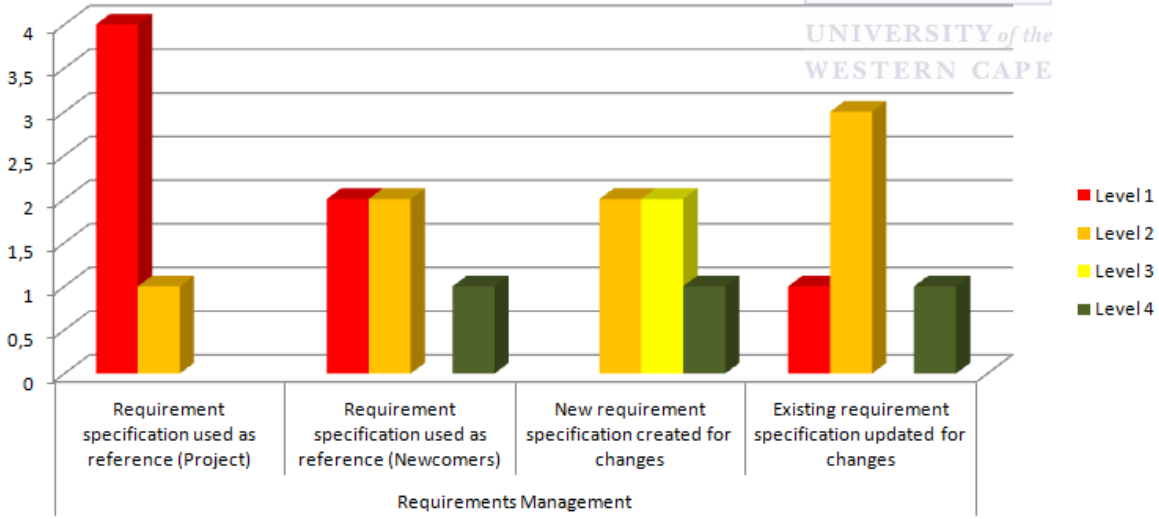

Chart 22: Requirements Management Maturity Levels Organisation B (Source – Author)

Although the standards in terms of requirement specifications are acceptable, on average chart 22 shows that there is a significant number of respondents that felt requirements are not used as reference for either the newcomers or when a new project is started. There are also some differences in opinion on whether existing requirements documents are updated or whether a new document is started.

4.3.2.3 Tacit BAAM measurement results

Table 25 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 26 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	3 out 7 respondents strongly agreed with being behind competitors in terms of explicit BA, whilst another 2 respondents agreed.
	Acceptance of Business Architecture definition	Almost all respondents (5 out of 7) thought the definition of BA to be acceptable. One respondent had not view on the definition; whilst another felt it was incomplete
	Business Architecture used as reference for newcomers	Four (4) respondents strongly disagreed that newcomers are using BA as reference, whilst another (1) disagreed. 1 respondent neither disagreed nor agreed, and another (1) agreed that it does get used as reference
	Business Architecture used as reference for projects	Four respondents strongly disagreed that newcomers are using BA as reference, whilst another disagreed. One respondent neither disagreed nor agreed, and another agreed that it does get used as reference
	Importance of using a single architecture framework	Aside from 1 respondent who neither agreed nor disagreed with using a single architecture framework almost all (6) respondents strongly agreed that a single framework would be essential
Knowledge Sharing Culture	Level of knowledge sharing	3 Respondents strongly agreed that a culture of knowledge sharing exists, whilst a further (1) respondent agreed. Two respondents were neutral in their response with only one respondent disagreeing with the statement.
	Verbal vs. Non-verbal knowledge sharing	The majority of respondents felt that knowledge is shared verbally (2 + 2), whereas only 2 respondents indicated the documentation of knowledge as the norm.
Quality Management	Quality of requirements	Most (2 + 2) rated requirements to be either of excellent or good quality. The rest of the respondents had no view on the statement.

Table 25: Tacit BAAM Results Organisation B (Source – Author)

Table 26 shows the Benefit and Challenges view respectively for Organisation B. In terms of benefits there is a consistent view that BA will assist with the prioritisation of future projects as well as improve Business / IT alignment. The highest rated challenge would be the time and effort needed to create BA.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	5
	Will offer a shared view of the organisation and thus improve communication	5
	Will assist with prioritisation of future projects	6
	Will assist in delivering strategic change requirements	5
	Will increase alignment between Business and IT	6
	Will highlight inefficiencies and duplication of functions	4
	Will be a knowledge asset in the organisation	3
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	7
	Maintenance of the business architecture	3
	Demonstrating / calculating benefits of improved business architecture	4
	Large financial investment required to improve business architectures	5
	Getting funding to improve business architecture	4
	Modelling tool strategy and implementation of tool standards & training	4
	Updating our skills to deliver improved business architecture	4
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	2
	Getting buy-in from management	5
	Getting buy-in from staff	3

Table 26: Benefits and Challenge View Organisation B (Source – Author)

4.3.3 Organisation C

4.3.3.1 Respondent demographics of organisation

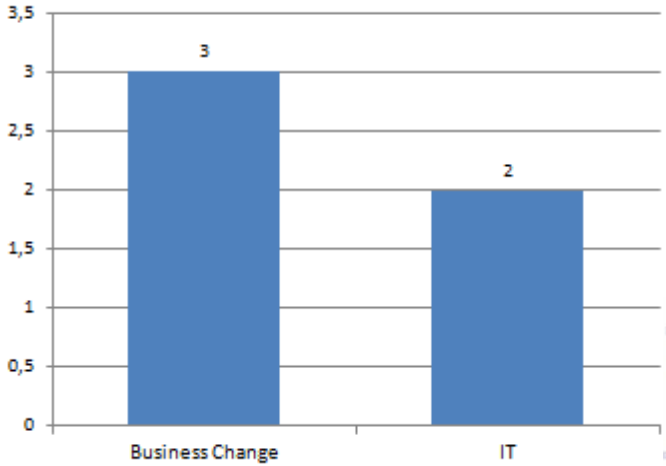

Chart 23: Organisational area breakdown Organisation C (Source – Author)

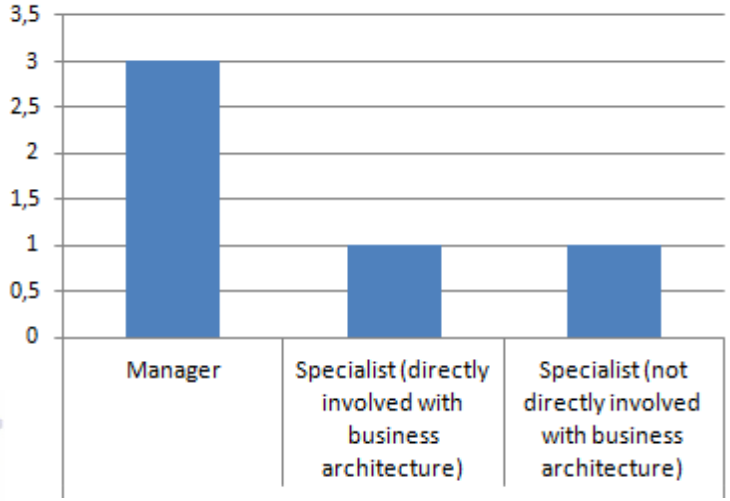

Chart 24: Role breakdown Organisation C (Source – Author)

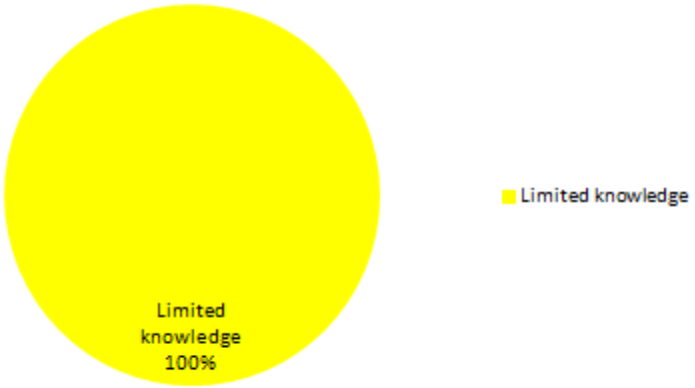

Chart 25: Business Architecture Knowledge Organisation C (Source – Author)

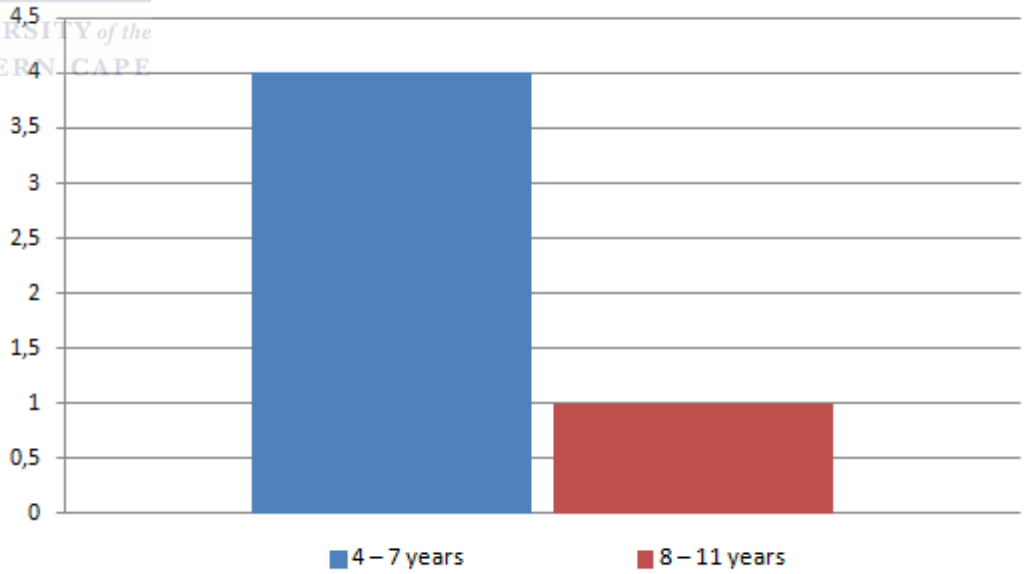

Chart 26: Service Years Organisation C (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience. It may provide additional clues to understand the findings of the BAAM. In this regard chart 23 indicates the breakdown of the respondents in terms of their organisational area. Chart 23 shows that the most respondents are from the Business Change area (3) whilst 2 are from IT. None of the respondents were in the Business operations area.

In addition chart 24 shows that most respondents were Managers with the rest being evenly spread between specialists directly and not directly responsible for Business Architecture.

Chart 25 shows a limited level of Business Architecture Knowledge in the organisation. From the chart it can be seen that all respondents have limited knowledge about Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 26 shows that four respondents have been with the organisation between 4 and 8 whereas the rest were have been there for 8 to 11 years.

The explicit BAAM findings of Organisation C will be presented in the next section.

4.3.3.2 Explicit BAAM measurement results

Company: **Organisation C** *n = 5*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity		1	1	1	2	
	Enable Competitive Advantage		1	2	2		
	Enable Operational Efficiency			1	3	1	
	Growing the Business		1		1	3	
	Increasing Agility	1	3		1		
	Innovation		2	1	2		
Process Maturity	Integration: Business architecture & IT architecture		2	1	2		
	Process mapping across business units	2	2		1		
	Process Models used as reference (Newcomers)		3	1	1		
	Sufficient level of process detail	1	1		2		1
	Usage level of process architecture patterns		2	2	1		
Requirements Management	Requirement specification used as reference (Project)		4		1		
	Requirement specification used as reference (Newcomers)		3	1	1		
	New requirement specification created for changes		2	2	1		
	Existing requirement specification updated for changes	1	2	2			
Governance	Process model standards		4		1		
	Requirement specification standards		2	1	2		
	Single tool set used for process modelling	1	2	1	1		
	Single architectural framework across Business and IT		1	4			
	Total	6	38	20	24	6	1

Weigthed average **2,6**

I.e. According to the BAAM the organisation is between Level 2 and Level 3 of Business Architecture maturity

Table 27: Explicit BAAM Results Organisation C (Source – Author)

Table 27 above provides the number of respondents and their view on the explicit business architecture measurable maturity. The overall score is a Level 2 maturity.

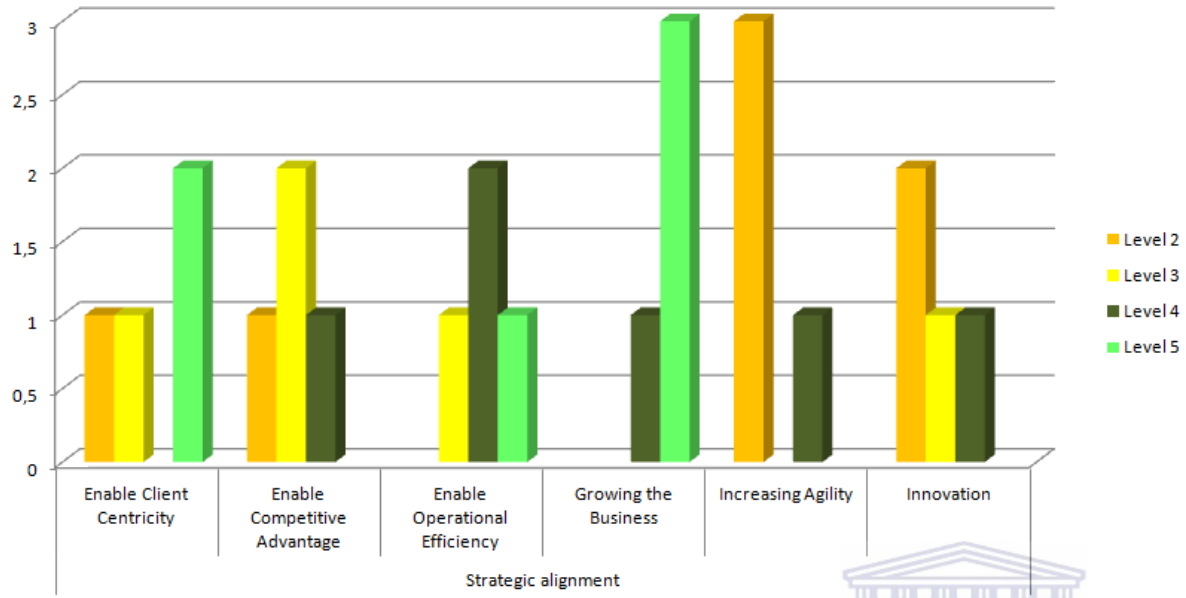

Chart 27: Strategic Alignment Maturity Levels Organisation B (Source – Author)

As for the previous organisation the following charts (27 – 30) shows the results of the explicit BAAM measurable using on a bar chart. These charts use a Red/Amber/Green (and shades thereof) colour scheme to make it visually detect the areas of concern. In terms of strategic alignment maturity (chart 27) the organisation is considered very mature with mostly Level 4 / 5 views being reported. Innovation and increasing agility were rated worst on a level 3 on average.

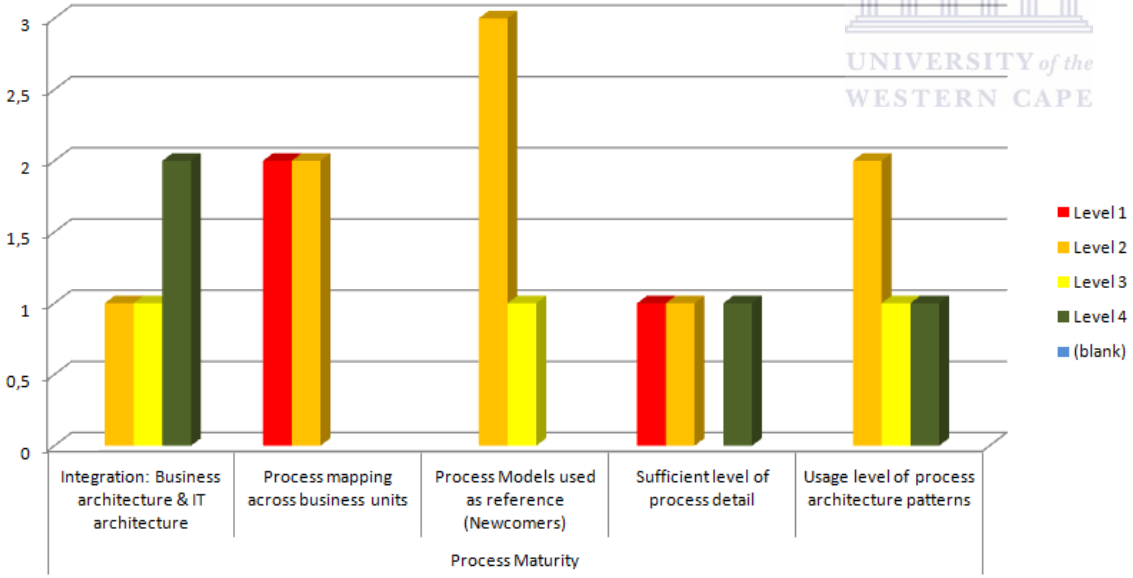

Chart 28: Process Maturity Levels Organisation C (Source – Author)

Chart 28, reveals some serious concerns with regard to the level of Process mapping across business units with respondents rating it on either a level 1 or 2. It is encouraging to see that this organisation is making use of process architecture patterns, although this can be improved upon further – rated (Level 2 / 3 / 4).

Process models are used as reference for newcomers. One has to wonder about the quality thereof since there were some respondents that thought the processes are not on a sufficient level of detail.

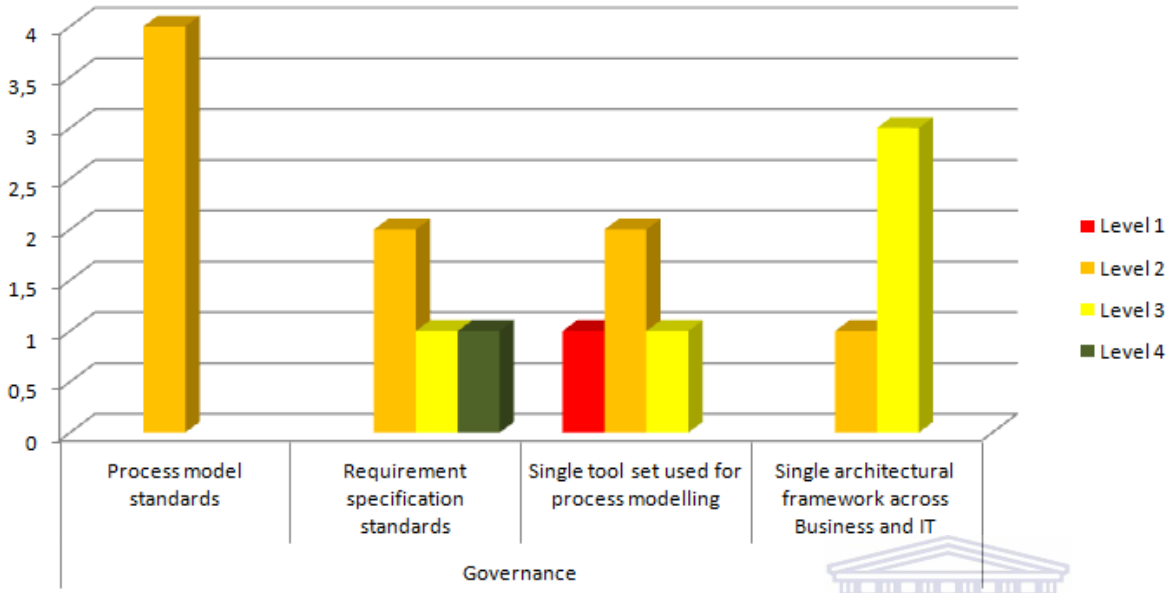

Chart 29: Governance Maturity Levels Organisation C (Source – Author)

Chart 29, which highlights the state of Governance pertaining to Business Architecture, shows that process modelling standards can be improved but there are consistent indictors that some Governance is in place. Requirement specifications were reported to have the best governance.

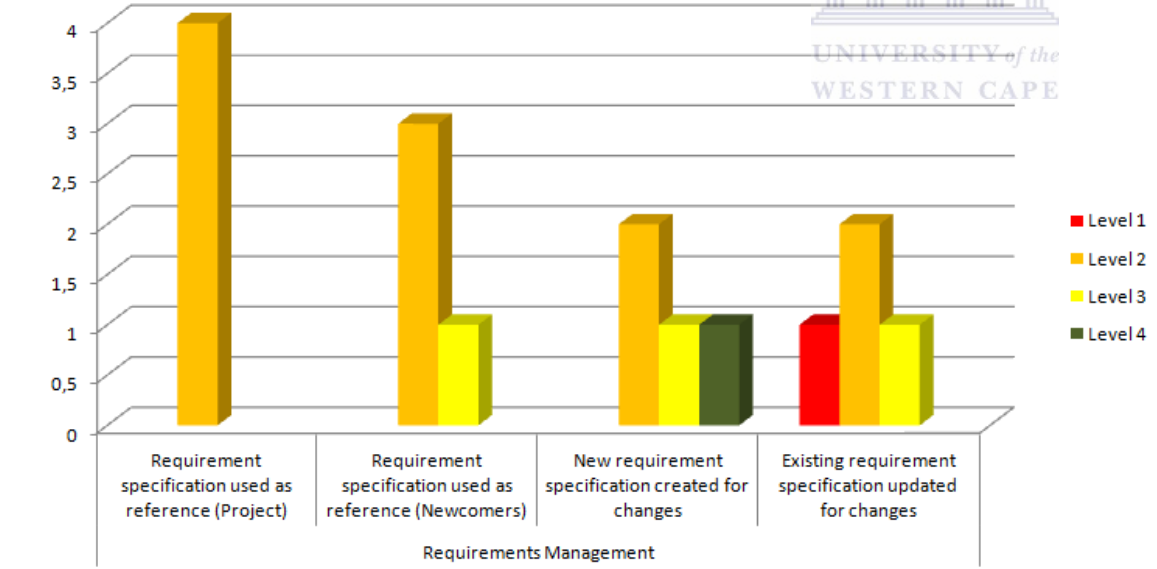

Chart 30: Requirements Management Maturity Levels Organisation C (Source – Author)

Although the standards in terms of requirement specifications are acceptable on average, chart 30 shows that there is a significant number of respondents that felt requirements are not used as reference when starting a new project. It is used slightly better as reference to newcomers. There are also some differences in opinion on whether existing requirements documents are updated or whether a new document is started.

4.3.3.3 Tacit BAAM measurement results

Table 28 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 29 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	2 out 5 respondents strongly agreed with being behind competitors in terms of explicit BA, whilst 1 respondent indicated that they are somewhat behind. Two respondents considered them to be on par with competitors in respect of BA.
	Acceptance of Business Architecture definition	Almost all respondents (4 out of 5) thought the definition of BA to be acceptable. One respondent considered the definition too complex.
	Business Architecture used as reference for newcomers	Three (3) respondents disagreed that newcomers are using BA as reference, whilst another (1) thought it is often used. 1 Respondent had no view.
	Business Architecture used as reference for projects	Two respondents disagreed that newcomers are using BA as reference, whilst another two thought that BA is sometimes used as reference for new projects. The remaining respondent had no view.
	Importance of using a single architecture framework	The majority of respondents (3 out of 5) neither agreed nor disagreed with using a single architecture framework. 1 respondent strongly agreed that a single framework would be essential and the other thought that different frameworks could be acceptable.
Knowledge Sharing Culture	Level of knowledge sharing	4 Respondents agreed that a culture of knowledge sharing exists, whilst a further (1) respondent thought knowledge are not shared.
	Verbal vs. Non-verbal knowledge sharing	The majority of respondents felt that knowledge is shared verbally (1 + 2), whereas only 2 respondents indicated the documentation of knowledge as the norm.
Quality Management	Quality of requirements	Most (2 + 2) rated requirements to be either of acceptable or excellent good quality. The remaining respondent considered requirements to have good quality.

Table 28: Tacit BAAM Results Organisation C (Source – Author)

Table 29 shows the Benefit and Challenges view respectively for Organisation C. In terms of benefits there is a consistent view that BA will assist with the prioritisation of future projects as well as improve Business / IT alignment. The highest rated challenge would be the time and effort needed to create BA.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	4
	Will offer a shared view of the organisation and thus improve communication	3
	Will assist with prioritisation of future projects	2
	Will assist in delivering strategic change requirements	4
	Will increase alignment between Business and IT	5
	Will highlight inefficiencies and duplication of functions	5
	Will be a knowledge asset in the organisation	5
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	5
	Maintenance of the business architecture	4
	Demonstrating / calculating benefits of improved business architecture	2
	Large financial investment required to improve business architectures	3
	Getting funding to improve business architecture	3
	Modelling tool strategy and implementation of tool standards & training	3
	Updating our skills to deliver improved business architecture	3
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	1
	Getting buy-in from management	3
	Getting buy-in from staff	3

Table 29: Benefits and Challenge View Organisation C (Source – Author)

4.3.4 Organisation D

4.3.4.1 Respondent demographics of organisation

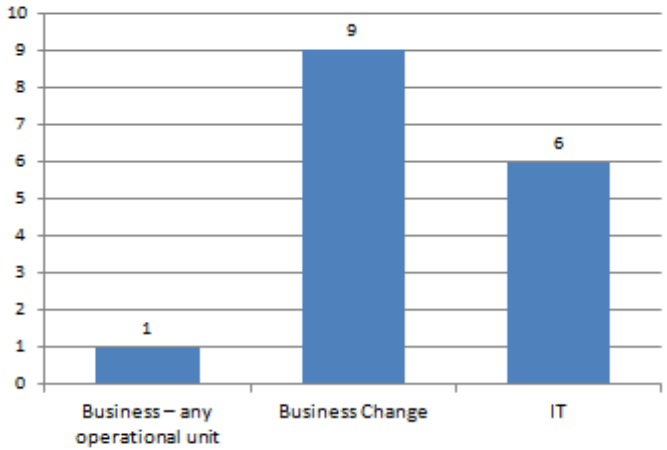

Chart 31: Organisational area breakdown Organisation D (Source – Author)

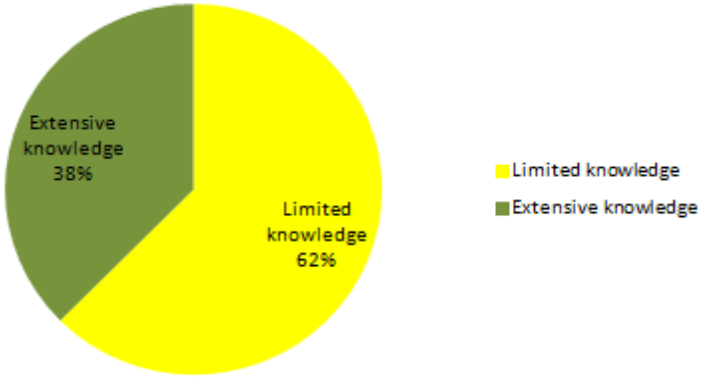

Chart 33: Business Architecture Knowledge Organisation D (Source – Author)

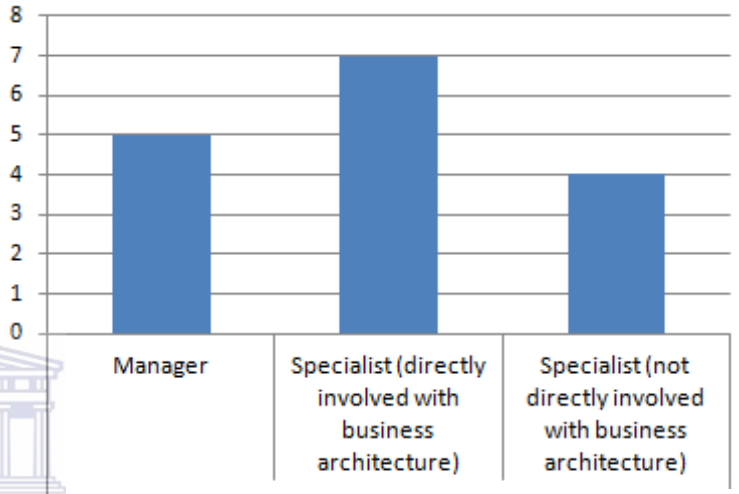

Chart 32: Role breakdown Organisation D (Source – Author)

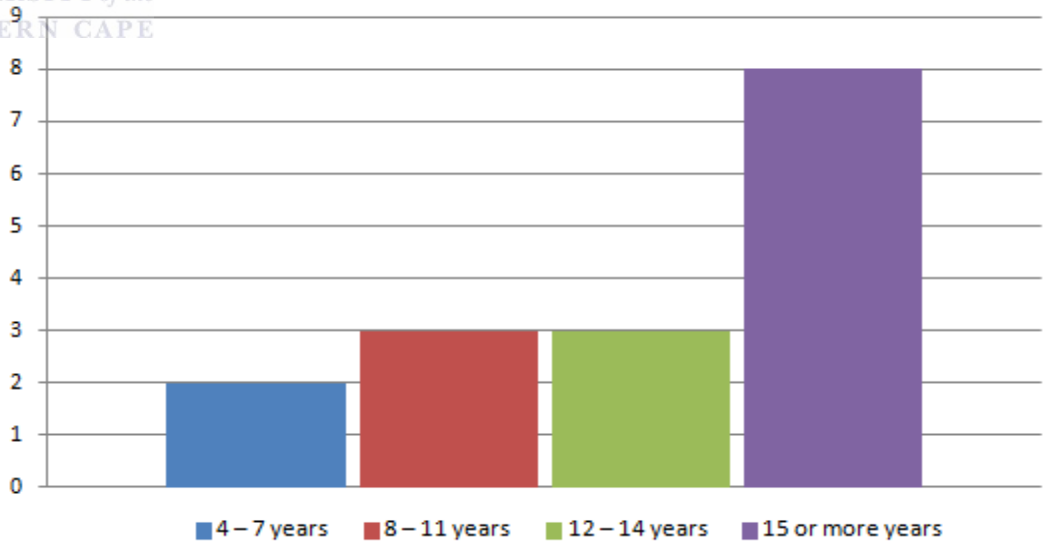

Chart 34: Service Years Organisation D (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience, since it may provide additional clues to understand the findings of the BAAM. In this regard chart 31 indicates the breakdown of the respondents in terms of their organisational area. Chart 31 shows that the most respondents are in the Business Change area, with the second most being from IT. Only one respondent were in the Business operations area.

In addition chart 32 shows that the majority of respondents are specialists directly responsible for Business Architecture. The rest of the respondents were almost even split between Managers and specialists not directly responsible for Business Architecture.

Chart 33 shows a fairly high level of Business Architecture Knowledge in the organisation. From the chart it can be seen that 38% of respondents have extensive knowledge about Business Architecture, whereas another 62% claimed limited knowledge about Business Architecture. There were no respondents with expert knowledge of Business Architecture nor for whom this was their first introduction to the concept.

Finally in terms of getting a better understanding of whom the respondents were, chart 34 shows that the most respondents have been with the organisation between for more than 15 years. The rest of the respondents were almost evenly split between the rest of the categories. There were no respondents in the 0 – 3 year category.

The explicit BAAM findings of Organisation D will be presented in the next section.

4.3.4.2 Explicit BAAM measurement results

Company: **Organisation D** *n = 16*

2015

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity	1	2		5	8	
	Enable Competitive Advantage	1	2		10	1	2
	Enable Operational Efficiency		2	3	9	2	
	Growing the Business	2	2		8	4	
	Increasing Agility	1	4	5	6		
	Innovation	1	4	1	9	1	
Process Maturity	Integration: Business architecture & IT architecture	3	3	2	5	2	1
	Process mapping across business units	4	5	3	2		2
	Process Models used as reference (Newcomers)	3	6	3	3		1
	Sufficient level of process detail	4	4	1	5		2
	Usage level of process architecture patterns		3	8	3	1	1
Requirements Management	Requirement specification used as reference (Project)	3	5	3	5		
	Requirement specification used as reference (Newcomers)	4	6		5		1
	New requirement specification created for changes	3	7	3	1	2	
	Existing requirement specification updated for changes	1	1	3	9	1	1
Governance	Process model standards	2	5	4	4		1
	Requirement specification standards	1	2	2	9	2	
	Single tool set used for process modelling	4	5	5	2		
	Single architectural framework across Business and IT	4	5	3	3		1
	Total	42	73	49	103	24	13

Weigthed average **2,8**

I.e. According to the BAAM the organisation is nearly at Level 3 of Business Architecture maturity

Table 30: Explicit BAAM Results Organisation D (Source – Author)

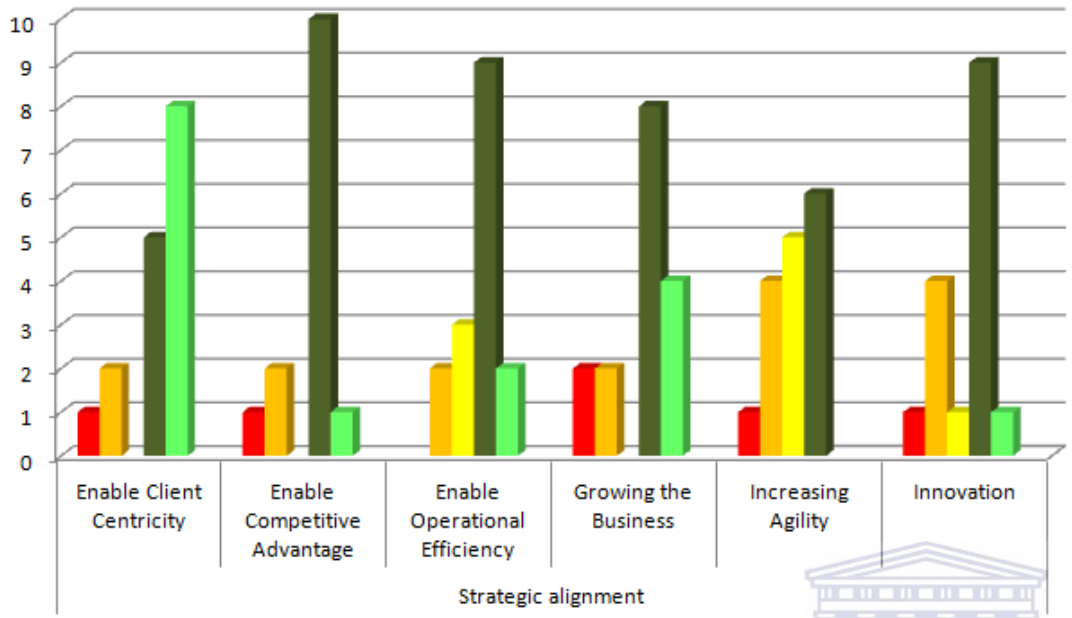

Chart 35: Strategic Alignment Maturity Levels Organisation D (Source – Author)

As for the previous organisation the following charts (35 – 38) shows the results of the explicit BAAM measurable using on a bar chart. These charts use a Red/Amber/Green (and shades thereof) colour scheme to make it visually detect the areas of concern. In terms of strategic alignment maturity (chart 35) the organisation is considered slightly more mature than the overall maturity with some Level 4 ratings being reported. Strategic alignment can improve for the areas with some level 1 views.

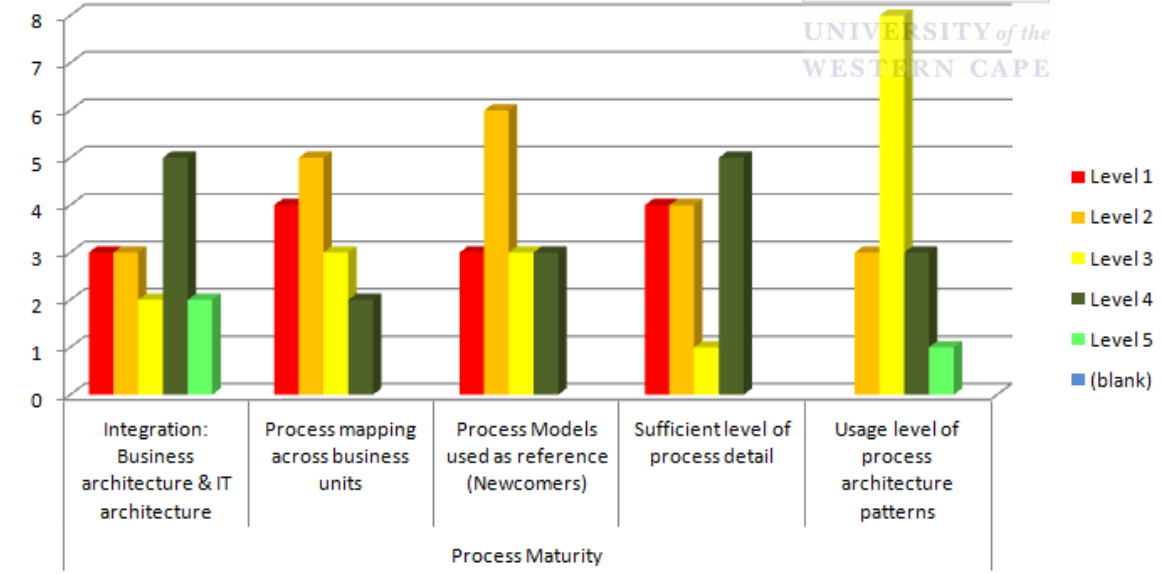

Chart 36: Process Maturity Levels Organisation D (Source – Author)

Chart 36, reveals some disparate views on the level of Process Maturity in the organisation. Some respondents have rated these items more favourable than others did. Encouraging in this organisation were the use of process architecture patterns which on average were reported on a level 3.

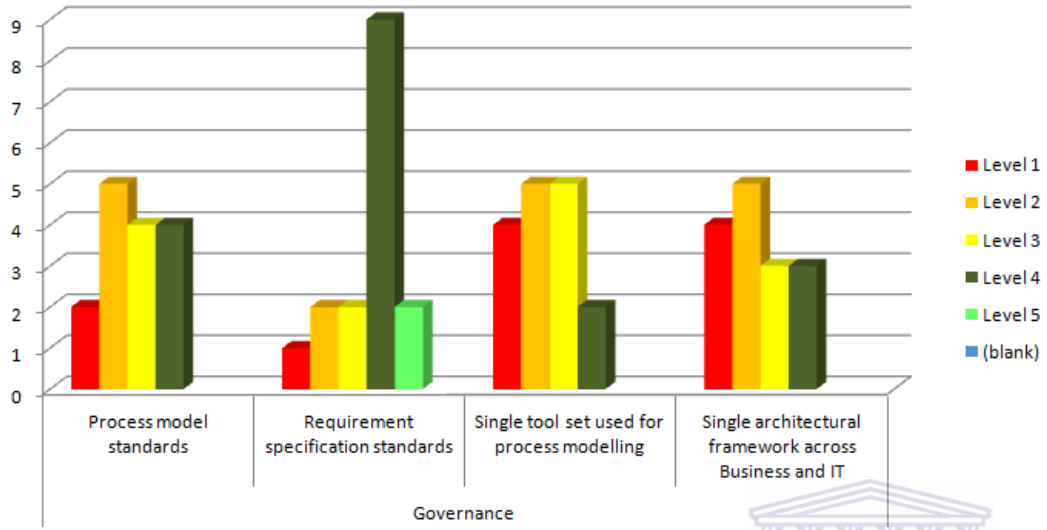

Chart 37: Governance Maturity Levels Organisation D (Source – Author)

Chart 37, which highlights the state of Governance pertaining to Business Architecture, shows that process model standards are fairly well vested although it can be improved. Requirement specification standards are well vested. A single toolset is not being used nor is a single architectural framework used in all regards.

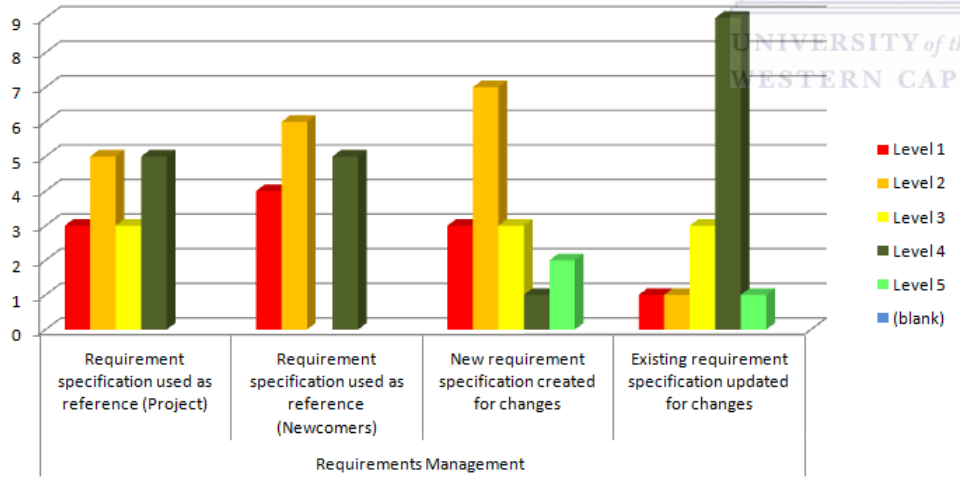

Chart 38: Requirements Management Maturity Levels Organisation D (Source – Author)

Although the standards in terms of requirement specifications are acceptable on average (previous chart), chart 38 shows that there is a significant number of respondents that felt requirements are not used as reference for either the newcomers or when a new project is started. Existing requirements are updated (positive) and there is a good correlation on the views that new documents are not created (negative) to support the rating.

4.3.4.3 Tacit BAAM measurement results

Table 31 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 32 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	Half (8 out 16) respondents strongly thought they are on par with competitors, while 6 thought they are somewhat behind in terms of explicit BA. Another respondent felt they are behind and 1 respondent had no view.
	Acceptance of Business Architecture definition	Half of the respondents (50%) thought the definition of BA to be acceptable. 25% considered the definition incomplete and 12% considered it as too vague. 13% held no view.
	Business Architecture used as reference for newcomers	3 respondents strongly disagreed that newcomers are using BA as reference, whilst another 6 disagreed. A further 6 neither disagreed nor agreed and another 1 agreed that it does get used as reference.
	Business Architecture used as reference for projects	Four respondents strongly disagreed that newcomers are using BA as reference, whilst another 4 disagreed. Three respondents neither disagreed nor agreed. 5 respondents agreed that it does get used as reference
	Importance of using a single architecture framework	9 respondents strongly agreed that a single framework would be essential. A further 5 thinks a single architecture framework will be ideal. 2 respondents think it will not make any difference if different frameworks are used
Knowledge Sharing Culture	Level of knowledge sharing	2 respondents strongly agreed that a culture of knowledge sharing exists, whilst a further (1) respondent agreed. 9 respondents were neutral in their response with 4 respondents disagreeing with the statement.
	Verbal vs. Non-verbal knowledge sharing	The majority of respondents felt that knowledge is shared verbally (2 + 7), whereas only 1 respondent indicated the documentation of knowledge as the norm. Three respondents indicated that knowledge is sometimes documented and three more said it is documented.
Quality Management	Quality of requirements	Most (5 + 4 +2) rated requirements to be either acceptable, good or of excellent quality. Two respondents had no view on the statement and 1 said quality is poor. Another 2 respondents considered requirement quality to be unacceptable.

Table 31: Tacit BAAM Results Organisation D (Source – Author)

Table 23 shows the Benefit and Challenges view respectively for Organisation D. In terms of benefits there is a consistent view that BA will assist with the prioritisation of future projects as well as improve Business / IT alignment. The highest rated challenge would be the time and effort needed to create BA.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	13
	Will offer a shared view of the organisation and thus improve communication	13
	Will assist with prioritisation of future projects	13
	Will assist in delivering strategic change requirements	15
	Will increase alignment between Business and IT	16
	Will highlight inefficiencies and duplication of functions	13
	Will be a knowledge asset in the organisation	13
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	13
	Maintenance of the business architecture	12
	Demonstrating / calculating benefits of improved business architecture	9
	Large financial investment required to improve business architectures	6
	Getting funding to improve business architecture	6
	Modelling tool strategy and implementation of tool standards & training	10
	Updating our skills to deliver improved business architecture	8
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	8
	Getting buy-in from management	8
	Getting buy-in from staff	9

Table 32: Benefits and Challenge View Organisation D (Source – Author)

4.3.5 Organisation E

4.3.5.1 Respondent demographics of organisation

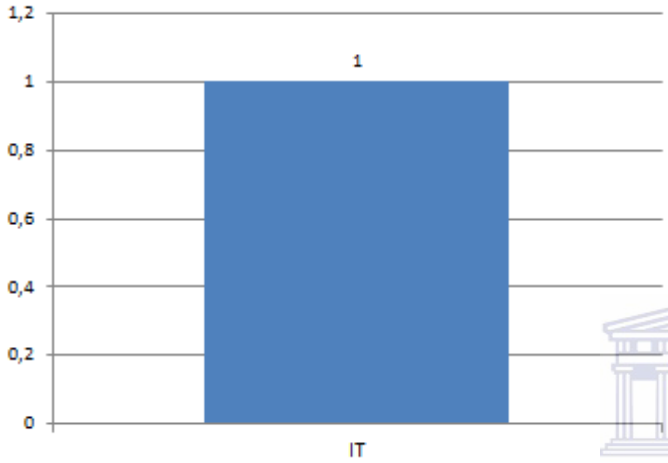

Chart 39: Organisational area breakdown Organisation E (Source – Author)

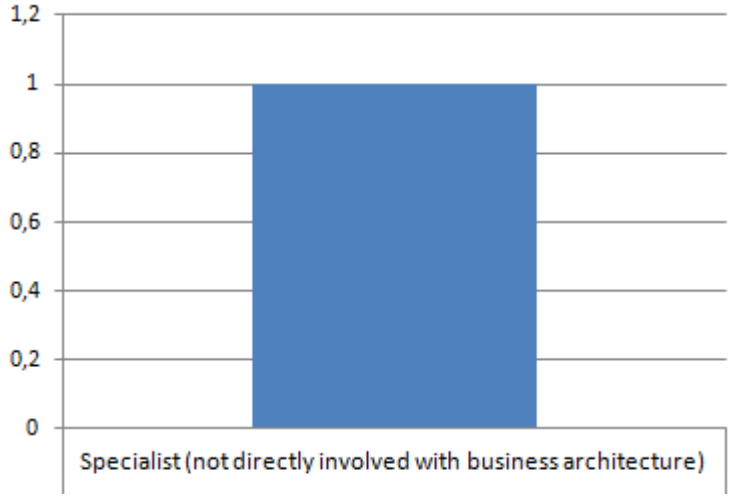

Chart 40: Role breakdown Organisation E (Source – Author)

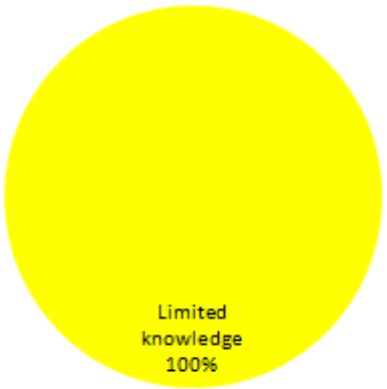

Chart 41: Business Architecture Knowledge Organisation E (Source – Author)

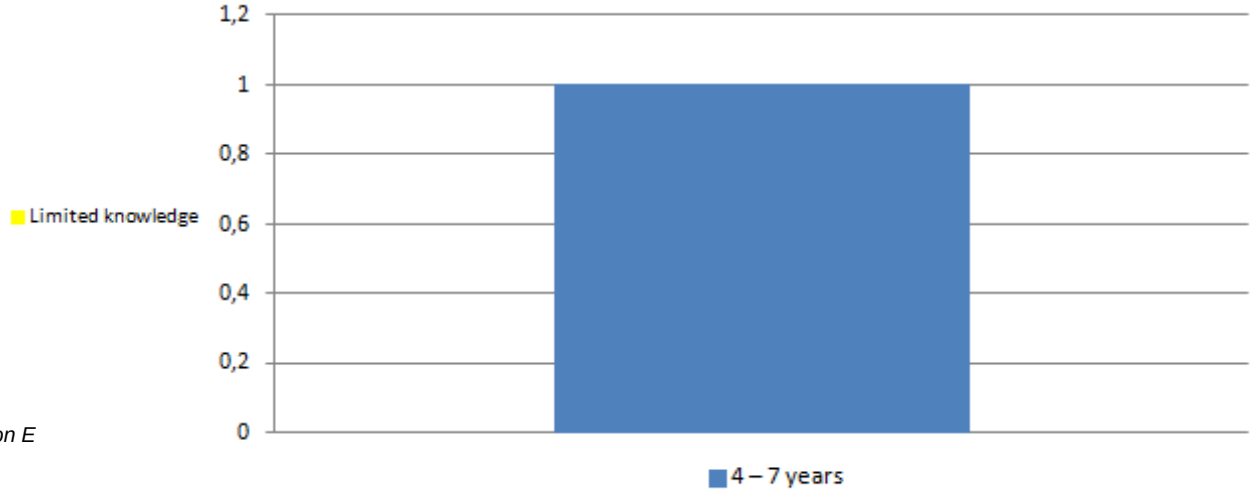

Chart 42: Service Years Organisation E (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience, since it may provide additional clues to understand the findings of the BAAM. For the organisations where only a single response was received, this remains useful. The charts need less explanation though. For completeness sake the narrative is continued regardless.

In this regard chart 39 indicates that the respondent is from IT, with chart 40 showing that the respondent is a specialist not directly responsible for Business Architecture.

Chart 41 shows that the respondent has limited knowledge of Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 42 shows that the respondent has been with the organisation between 4 and 7 years.

The explicit BAAM findings of Organisation E will be presented in the next section.

4.3.5.2 Explicit BAAM measurement results

Company: **Organisation E** *n = 1*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					
		Level 1	Level 2	Level 3	Level 4	Level 5	No View
Strategic Alignment	Enable Client Centricity		1				
	Enable Competitive Advantage		1				
	Enable Operational Efficiency		1				
	Growing the Business		1				
	Increasing Agility		1				
	Innovation		1				
Process Maturity	Integration: Business architecture & IT architecture	1					
	Process mapping across business units	1					
	Process Models used as reference (Newcomers)	1					
	Sufficient level of process detail	1					
	Usage level of process architecture patterns	1					
Requirements Management	Requirement specification used as reference (Project)	1					
	Requirement specification used as reference (Newcomers)	1					
	New requirement specification created for changes			1			
	Existing requirement specification updated for changes		1				
Governance	Process model standards	1					
	Requirement specification standards		1				
	Single tool set used for process modelling	1					
	Single architectural framework across Business and IT	1					
	Total	10	8	1			0

Weigthed average **1,4**

I.e. According to the BAAM the organisation is between Level 1 and 2 of Business Architecture maturity

Table 33: Explicit BAAM Results Organisation E (Source – Author)

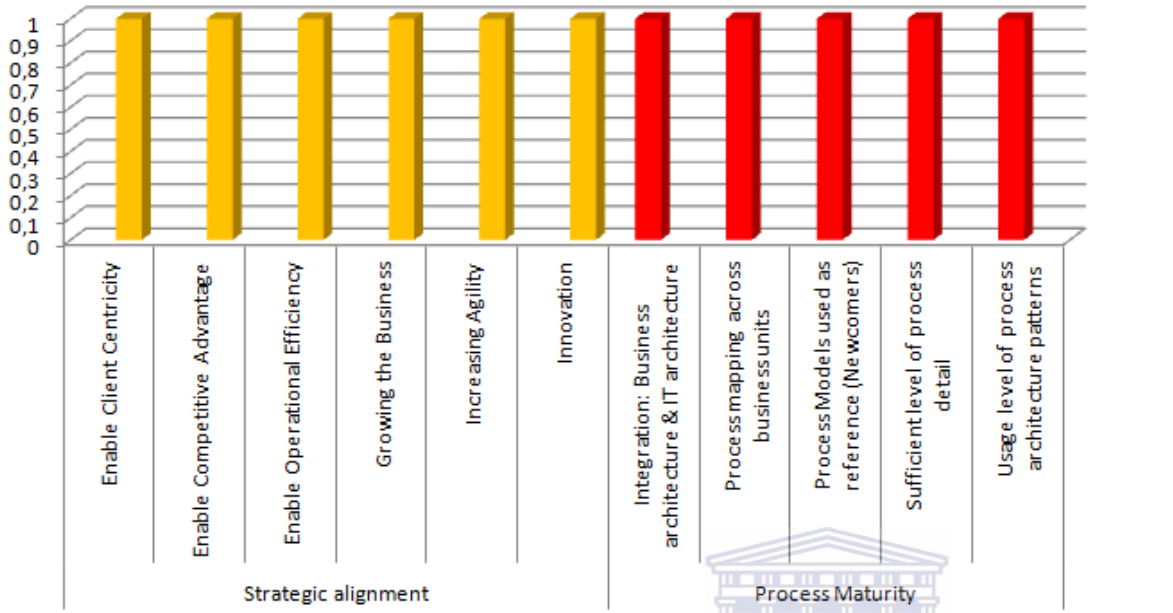

Chart 43: Strategic Alignment & Process Maturity Levels Organisation E (Source – Author)

As for the previous organisation the following charts (43 & 44) shows the results of the explicit BAAM measurable using on a bar chart. These charts use a Red/Amber/Green (and shades thereof) colour scheme to make it visually detect the areas of concern. In terms of strategic alignment there is a somewhat more positive view but on a level 2 there is considerable work required to on both items

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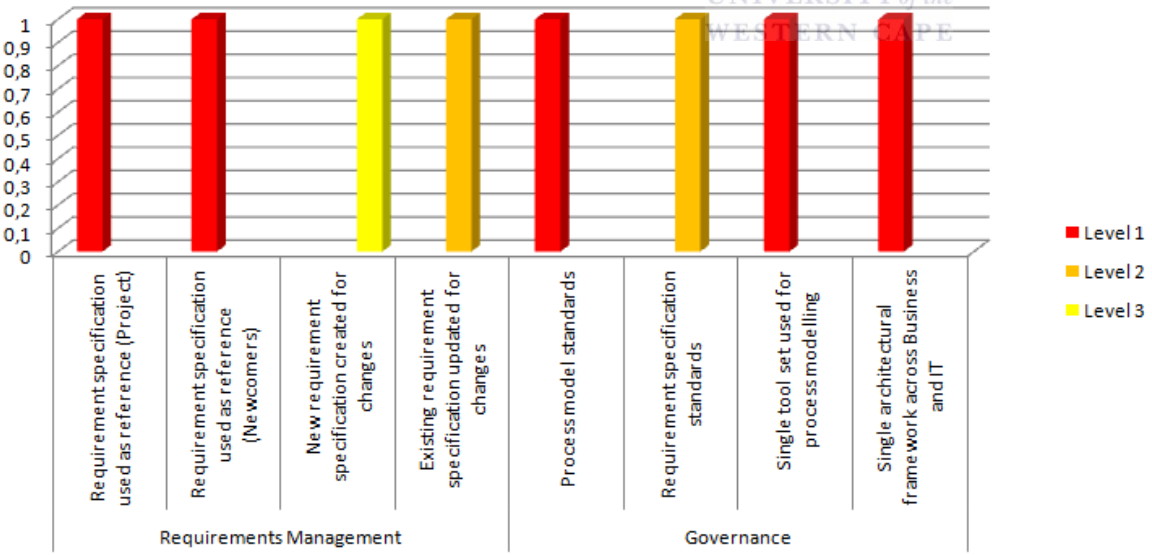


Chart 44: Requirements Management & Governance Levels Organisation E (Source – Author)

is

Chart 44 reveals some serious concerns with regard to the level of Requirements Management and the only positive element a tendency update existing specifications. The prevalence of still creating a new document is certainly derailing BA efforts. The rest of the ratings are either a level 1 or

2.

4.3.5.3 Tacit BAAM measurement results

Table 34 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 35 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	The respondent felt strongly that the organisation is behind its competitors in terms of explicit BA.
	Acceptance of Business Architecture definition	The respondent felt that the definition is too vague.
	Business Architecture used as reference for newcomers	The respondent felt strongly that newcomers are not using BA as reference.
	Business Architecture used as reference for projects	The respondent felt strongly that BA is not used as a reference for new projects.
	Importance of using a single architecture framework	The respondent indicated that a single architecture framework would be essential.
Knowledge Sharing Culture	Level of knowledge sharing	The respondent indicated that knowledge is never shared.
	Verbal vs. Non-verbal knowledge sharing	The respondent felt that knowledge is sometimes documented.
Quality Management	Quality of requirements	The respondent viewed requirement quality as excellent.

Table 34: Tacit BAAM Results Organisation E (Source – Author)

Table 35 shows the Benefit and Challenges view respectively for Organisation E. In terms of benefits the respondent recognised all benefits and all challenges/barriers in equal measure.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	1
	Will offer a shared view of the organisation and thus improve communication	1
	Will assist with prioritisation of future projects	1
	Will assist in delivering strategic change requirements	1
	Will increase alignment between Business and IT	1
	Will highlight inefficiencies and duplication of functions	1
	Will be a knowledge asset in the organisation	1
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	1
	Maintenance of the business architecture	1
	Demonstrating / calculating benefits of improved business architecture	1
	Large financial investment required to improve business architectures	1
	Getting funding to improve business architecture	1
	Modelling tool strategy and implementation of tool standards & training	1
	Updating our skills to deliver improved business architecture	1
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	1
	Getting buy-in from management	1
	Getting buy-in from staff	1

Table 35: Benefits and Challenge View Organisation E (Source – Author)

4.3.6 Organisation F

4.3.6.1 Respondent demographics of organisation

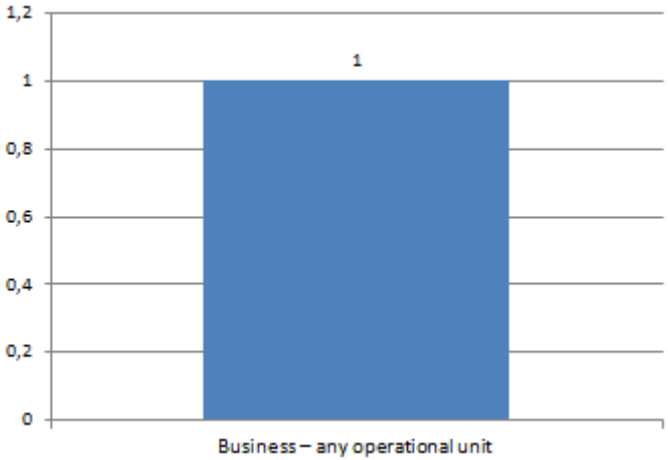


Chart 45: Organisational area breakdown Organisation F (Source – Author)

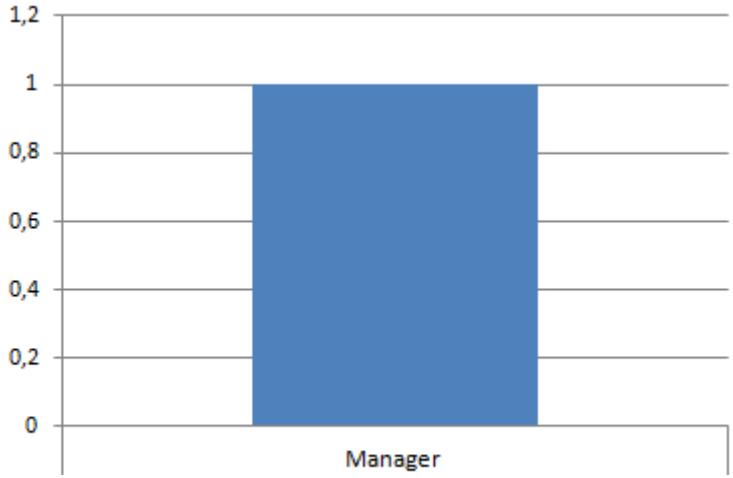


Chart 46: Role breakdown Organisation F (Source – Author)

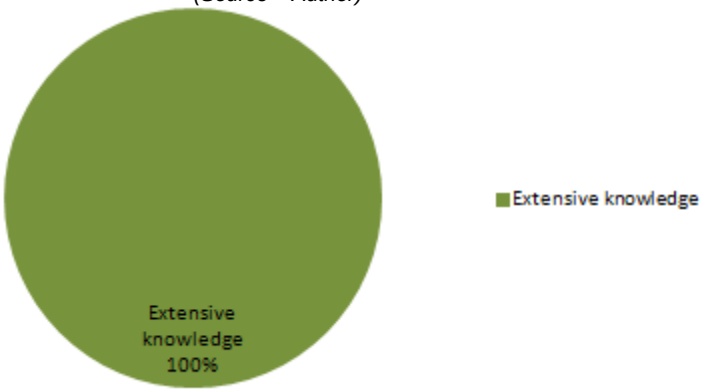


Chart 47: Business Architecture Knowledge Organisation F (Source – Author)

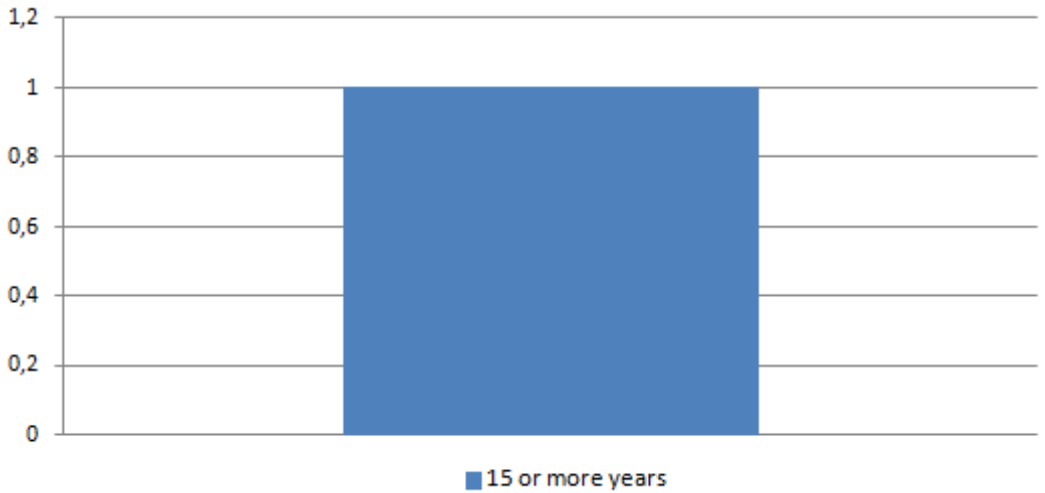


Chart 48: Service Years Organisation F (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience. It may provide additional clues to understand the findings of the BAAM. For the organisations where only a single response was received, this remains useful. The charts need less explanation though. For completeness sake the narrative is continued regardless.

In this regard chart 45 indicates that the respondent is from Business. Chart 46 shows that the respondent is a Manager.

Chart 47 shows that the respondent has extensive knowledge of Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 48 shows that the respondent has been with the organisation for longer than 15 years.

The explicit BAAM findings of Organisation F will be presented in the next section.

4.3.6.2 Explicit BAAM measurement results

Company: **Organisation F** *n = 1*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity			1			
	Enable Competitive Advantage	1					
	Enable Operational Efficiency	1					
	Growing the Business		1				
	Increasing Agility		1				
	Innovation		1				
Process Maturity	Integration: Business architecture & IT architecture	1					
	Process mapping across business units	1					
	Process Models used as reference (Newcomers)		1				
	Sufficient level of process detail	1					
	Usage level of process architecture patterns	1					
Requirements Management	Requirement specification used as reference (Project)		1				
	Requirement specification used as reference (Newcomers)	1					
	New requirement specification created for changes			1			
	Existing requirement specification updated for changes	1					
Governance	Process model standards	1					
	Requirement specification standards	1					
	Single tool set used for process modelling	1					
	Single architectural framework across Business and IT	1					
	Total	12	5	2			0

Weigthed average **1,4**

I.e. According to the BAAM the organisation is between Level 1 and 2 of Business Architecture maturity

Table 36: Explicit BAAM Results Organisation F (Source – Author)

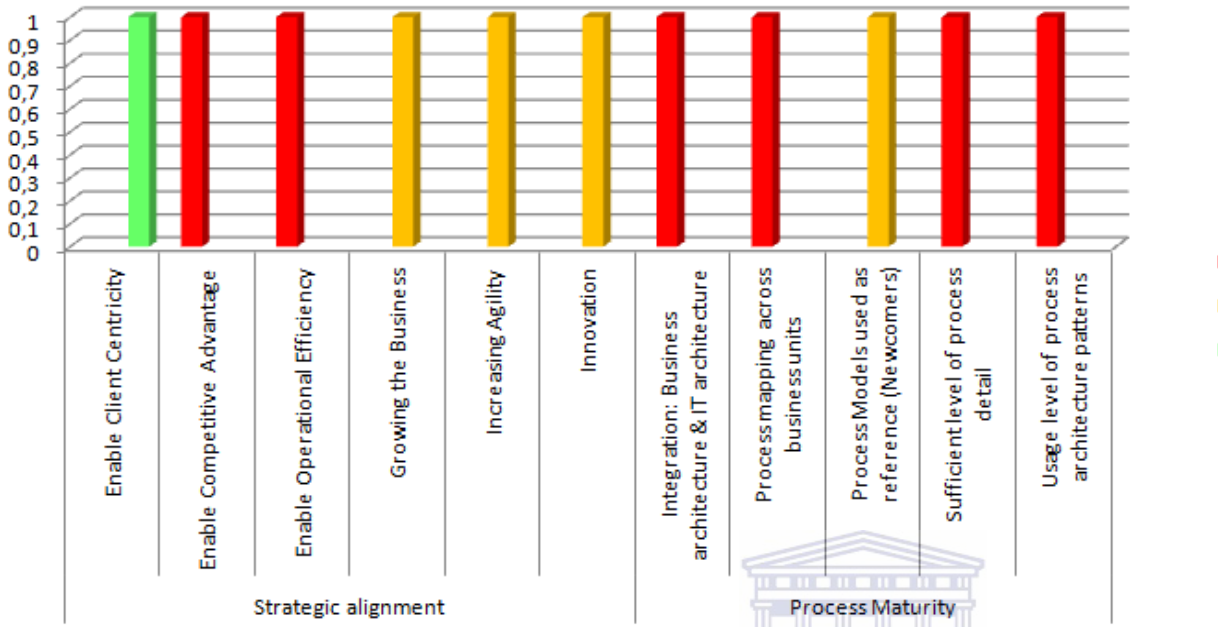


Chart 49: Strategic Alignment & Process Maturity Levels Organisation F (Source – Author)

Chart 49 shows that both strategic alignment and process maturity has been rated poorly either on a level 1 or 2. The only positive response was regarding the enabling of client centricity which is rated at a level 5.

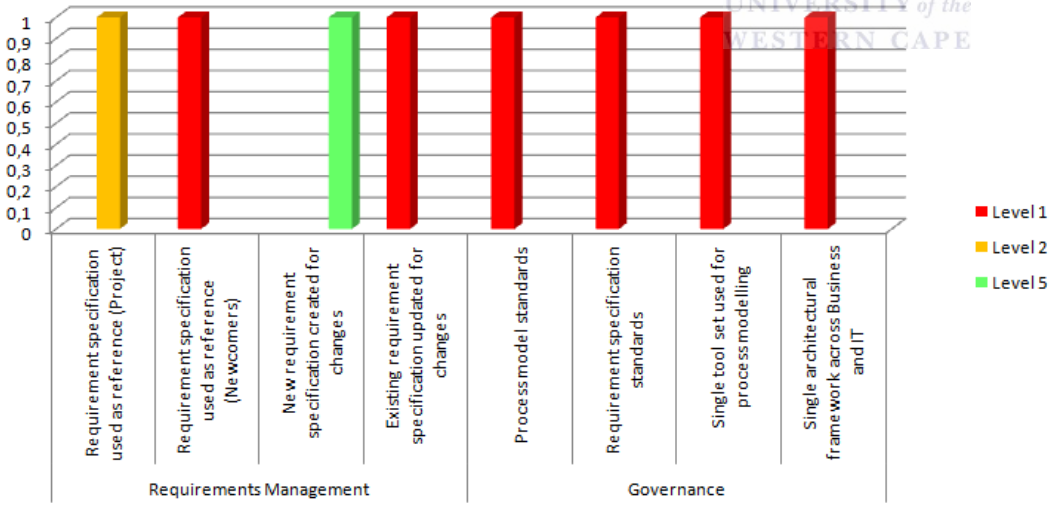


Chart 50: Requirements Management & Governance Levels Organisation F (Source – Author)

Chart 50, confirms that governance in all respects must be improved upon. The very "positive" rating towards creating a new document as opposed to updating existing ones is further derailing attempts at BA improvements.

4.3.6.3 Tacit BAAM measurement results

Table 37 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 38 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	The respondent felt that the organisation is somewhat ahead of its competitors in terms of explicit BA.
	Acceptance of Business Architecture definition	The respondent agreed with the definition.
	Business Architecture used as reference for newcomers	The respondent felt that newcomers are sometimes using BA as reference.
	Business Architecture used as reference for projects	The respondent did not have a view on whether BA is used as a reference for new projects.
	Importance of using a single architecture framework	The respondent indicated that a single architecture framework would be essential.
Knowledge Sharing Culture	Level of knowledge sharing	The respondent indicated that knowledge is not shared.
	Verbal vs. Non-verbal knowledge sharing	The respondent felt that knowledge is mostly shared verbally.
Quality Management	Quality of requirements	The respondent viewed requirement quality as excellent.

Table 37: Tacit BAAM Results Organisation F (Source – Author)

Table 38 shows the Benefit and Challenges view respectively for Organisation F. In terms of benefits the respondent only acknowledged two benefits and highlighted four challenges/barriers.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	0
	Will offer a shared view of the organisation and thus improve communication	0
	Will assist with prioritisation of future projects	0
	Will assist in delivering strategic change requirements	0
	Will increase alignment between Business and IT	1
	Will highlight inefficiencies and duplication of functions	0
	Will be a knowledge asset in the organisation	1
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	1
	Maintenance of the business architecture	1
	Demonstrating / calculating benefits of improved business architecture	1
	Large financial investment required to improve business architectures	0
	Getting funding to improve business architecture	0
	Modelling tool strategy and implementation of tool standards & training	0
	Updating our skills to deliver improved business architecture	0
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	0
	Getting buy-in from management	1
	Getting buy-in from staff	0

Table 38: Benefits and Challenge View Organisation F (Source – Author)

4.3.7 Organisation G

4.3.7.1 Respondent demographics of organisation

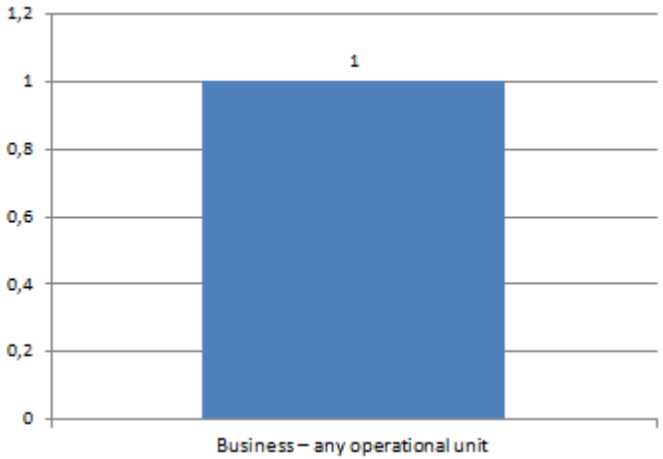


Chart 51: Organisational area breakdown Organisation G (Source – Author)

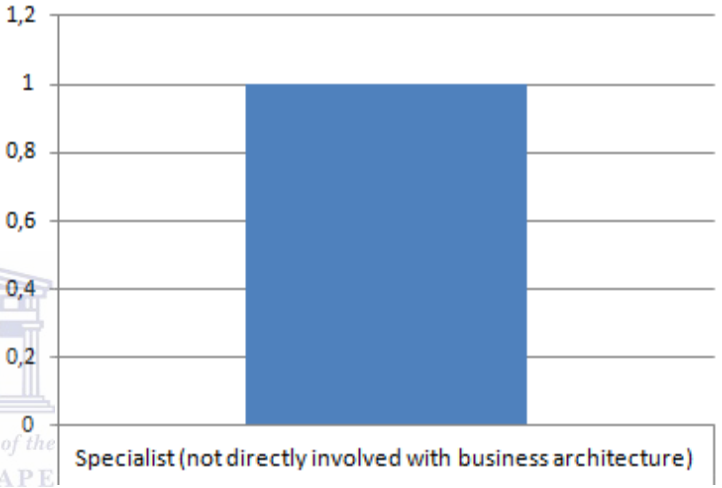


Chart 52 Role breakdown Organisation G (Source – Author)

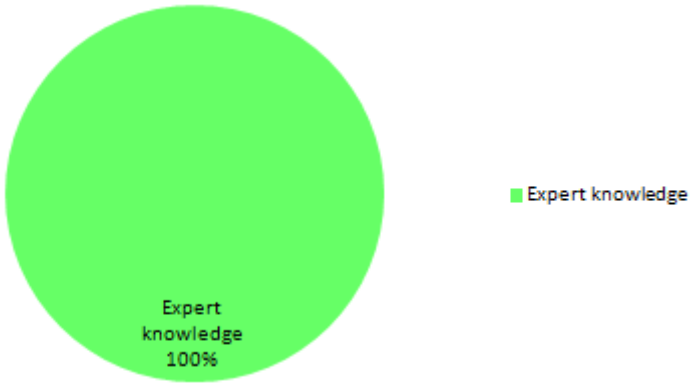


Chart 53: Business Architecture Knowledge Organisation G (Source – Author)

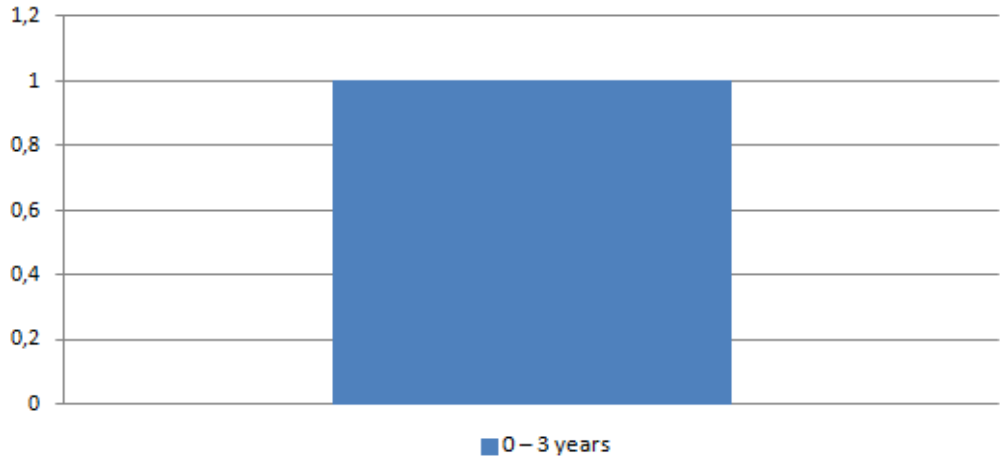


Chart 54: Service Years Organisation G (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience, since it may provide additional clues to understand the findings of the BAAM. For the organisations where only a single response was received, this remains useful. The charts need less explanation though. For completeness sake the narrative is continued regardless.

In this regard chart 51 indicates that the respondent is from Business, with chart 52 showing that the respondent is a specialist not directly responsible for Business Architecture.

Chart 53 shows that the respondent has expert knowledge of Business Architecture Knowledge.

Finally in terms of getting a better understanding of whom the respondents were, chart 54 shows that the respondent has been with the organisation between 0 and 3 years.

The explicit BAAM findings of Organisation G will be presented in the next section.

4.3.7.2 Explicit BAAM measurement results

Company: Organisation G *n = 1*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity		1				
	Enable Competitive Advantage		1				
	Enable Operational Efficiency		1				
	Growing the Business			1			
	Increasing Agility				1		
	Innovation			1			
Process Maturity	Integration: Business architecture & IT architecture	1					
	Process mapping across business units	1					
	Process Models used as reference (Newcomers)		1				
	Sufficient level of process detail		1				
	Usage level of process architecture patterns	1					
Requirements Management	Requirement specification used as reference (Project)		1				
	Requirement specification used as reference (Newcomers)	1					
	New requirement specification created for changes			1			
	Existing requirement specification updated for changes		1				
Governance	Process model standards	1					
	Requirement specification standards	1					
	Single tool set used for process modelling	1					
	Single architectural framework across Business and IT	1					
	Total	8	7	3	1		0

Weigthed average **1,5**

I.e. According to the BAAM the organisation is between Level 1 and 2 of Business Architecture maturity

Table 39: Explicit BAAM Results Organisation G (Source – Author)

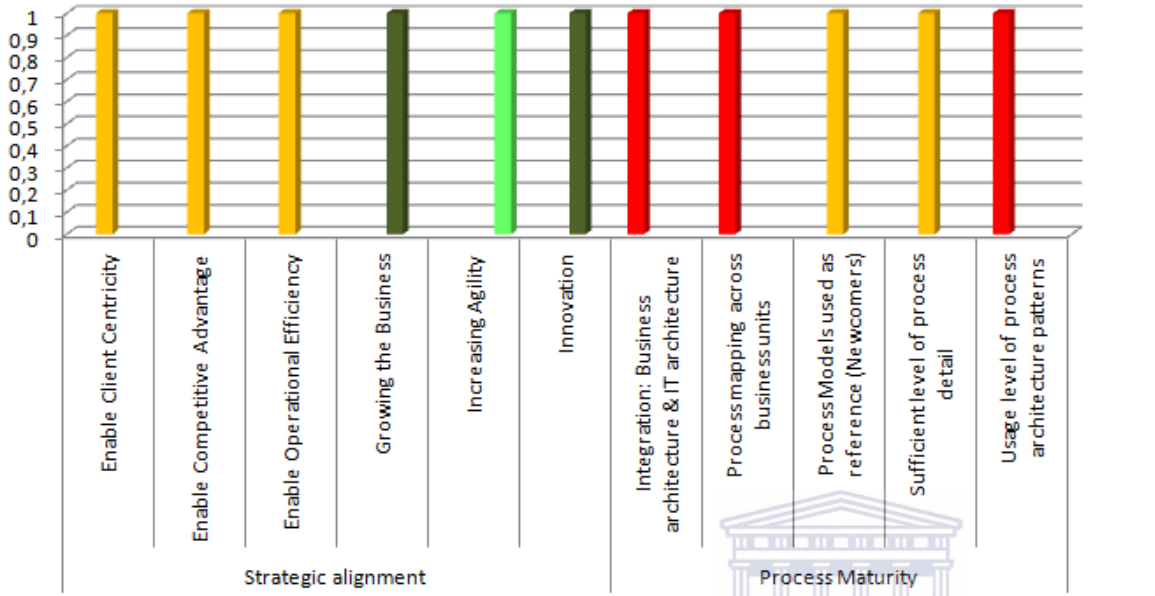


Chart 54: Strategic Alignment & Process Maturity Levels Organisation G (Source – Author)

As for the previous organisation the following charts (54 & 55) shows the results of the explicit BAAM measurable using on a bar chart. These charts use a Red/Amber/Green (and shades thereof) colour scheme to make it visually detect the areas of concern. In terms of strategic alignment the organisation is considered slightly more mature than the overall maturity with some Level 2 and even 4 / 5 responses. Process maturity did less well with level 1 / 2 ratings.

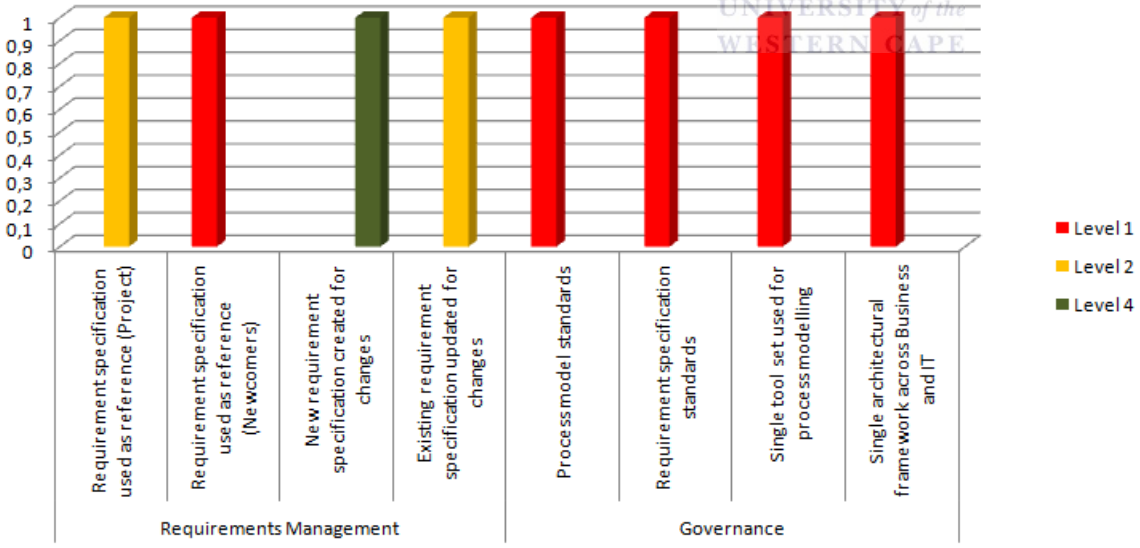


Chart 55: Requirements Management & Governance Levels Organisation G (Source – Author)

Chart 55, reveals some serious concerns with regard to the state of Governance whilst the requirement management also did rather poorly. The "positive" view on creating a new document instead of updating an existing one is not assisting with making BA more explicit.

Tacit BAAM measurement results

Table 40 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 41 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	The respondent felt strongly that the organisation is behind its competitors in terms of explicit BA.
	Acceptance of Business Architecture definition	The respondent agreed with the definition.
	Business Architecture used as reference for newcomers	The respondent felt strongly that newcomers are not using BA as reference.
	Business Architecture used as reference for projects	The respondent felt that BA is used to a small extent as a reference for new projects.
	Importance of using a single architecture framework	The respondent indicated that a single architecture framework would be essential.
Knowledge Sharing Culture	Level of knowledge sharing	The respondent indicated that knowledge is never shared.
	Verbal vs. Non-verbal knowledge sharing	The respondent felt that knowledge is sometimes documented.
Quality Management	Quality of requirements	The respondent had no view on the quality of requirements.

Table 40: Tacit BAAM Results Organisation G (Source – Author)

Table 41 shows the Benefit and Challenges view respectively for Organisation G. In terms of benefits the respondent recognised all benefits equally. All barriers /challenges were acknowledged except for obtaining buy-in from staff.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	1
	Will offer a shared view of the organisation and thus improve communication	1
	Will assist with prioritisation of future projects	1
	Will assist in delivering strategic change requirements	1
	Will increase alignment between Business and IT	1
	Will highlight inefficiencies and duplication of functions	1
	Will be a knowledge asset in the organisation	1
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	1
	Maintenance of the business architecture	1
	Demonstrating / calculating benefits of improved business architecture	1
	Large financial investment required to improve business architectures	1
	Getting funding to improve business architecture	1
	Modelling tool strategy and implementation of tool standards & training	1
	Updating our skills to deliver improved business architecture	1
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	1
	Getting buy-in from management	1
	Getting buy-in from staff	0

Table 41: Benefits and Challenge View Organisation G (Source – Author)

4.3.8 Organisation H

4.3.8.1 Respondent demographics of organisation

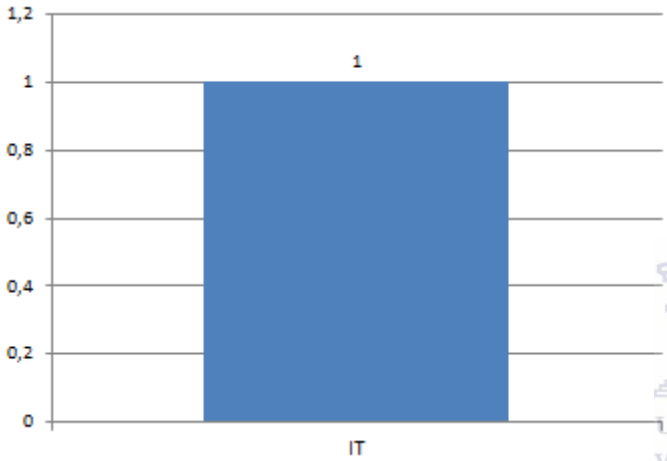


Chart 56: Organisational area breakdown Organisation H (Source – Author)

Chart 57: Role breakdown Organisation H (Source – Author)

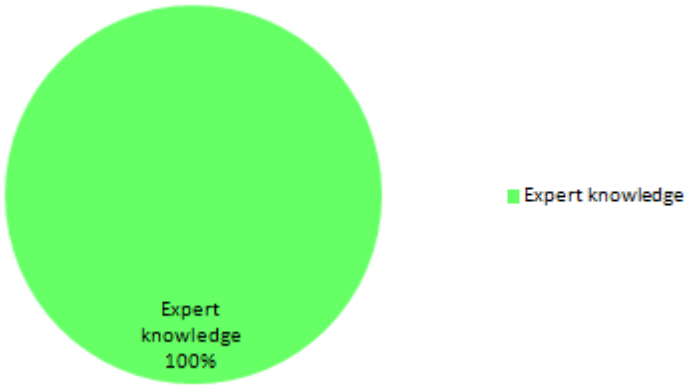


Chart 58: Business Architecture Knowledge Organisation H (Source – Author)

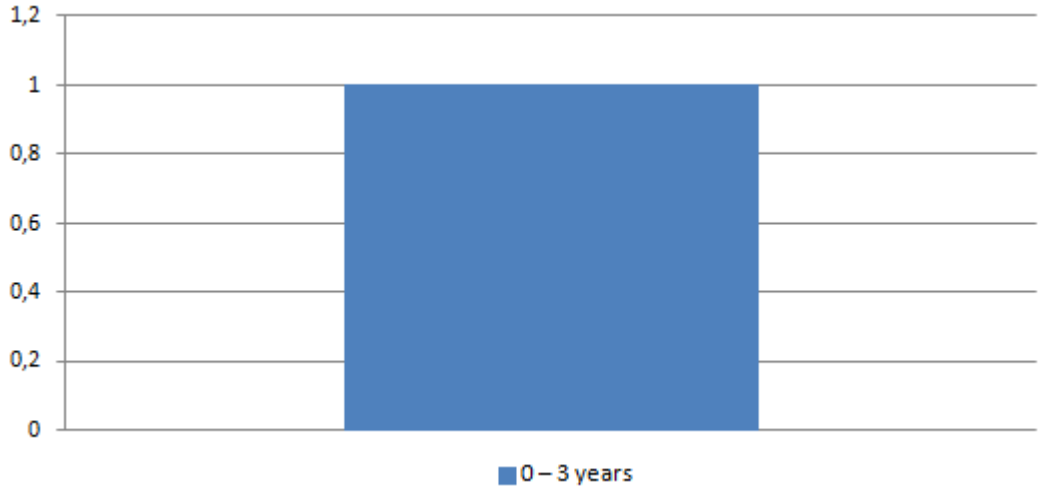


Chart 59: Service Years Organisation H (Source – Author)

As mentioned with the findings for the previous organisations, it is important to understand the target audience. It may provide additional clues to understand the findings of the BAAM. For the organisations where only a single response was received, this remains useful. The charts need less explanation though. For completeness sake the narrative is continued regardless.

In this regard chart 56 indicates that the respondent is from IT. Chart 57 showing that the respondent is a specialist directly responsible for Business Architecture.

Chart 58 shows that the respondent has expert knowledge of Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 59 shows that the respondent has been with the organisation between 0 and 3 years.

The explicit BAAM findings of Organisation H will be presented in the next section.

4.3.8.2 Explicit BAAM measurement results

Company: **Organisation H** *n = 1*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					
		Level 1	Level 2	Level 3	Level 4	Level 5	No View
Strategic Alignment	Enable Client Centricity					1	
	Enable Competitive Advantage					1	
	Enable Operational Efficiency					1	
	Growing the Business					1	
	Increasing Agility					1	
	Innovation					1	
Process Maturity	Integration: Business architecture & IT architecture					1	
	Process mapping across business units			1			
	Process Models used as reference (Newcomers)					1	
	Sufficient level of process detail				1		
	Usage level of process architecture patterns			1			
Requirements Management	Requirement specification used as reference (Project)			1			
	Requirement specification used as reference (Newcomers)				1		
	New requirement specification created for changes		1				
	Existing requirement specification updated for changes				1		
Governance	Process model standards					1	
	Requirement specification standards					1	
	Single tool set used for process modelling			1			
	Single architectural framework across Business and IT						1
	Total		1	4	3	10	1

Weigthed average **3,9**

I.e. According to the BAAM the organisation is nearly at Level 4 of Business Architecture maturity

Table 42: Explicit BAAM Results Organisation H (Source – Author)

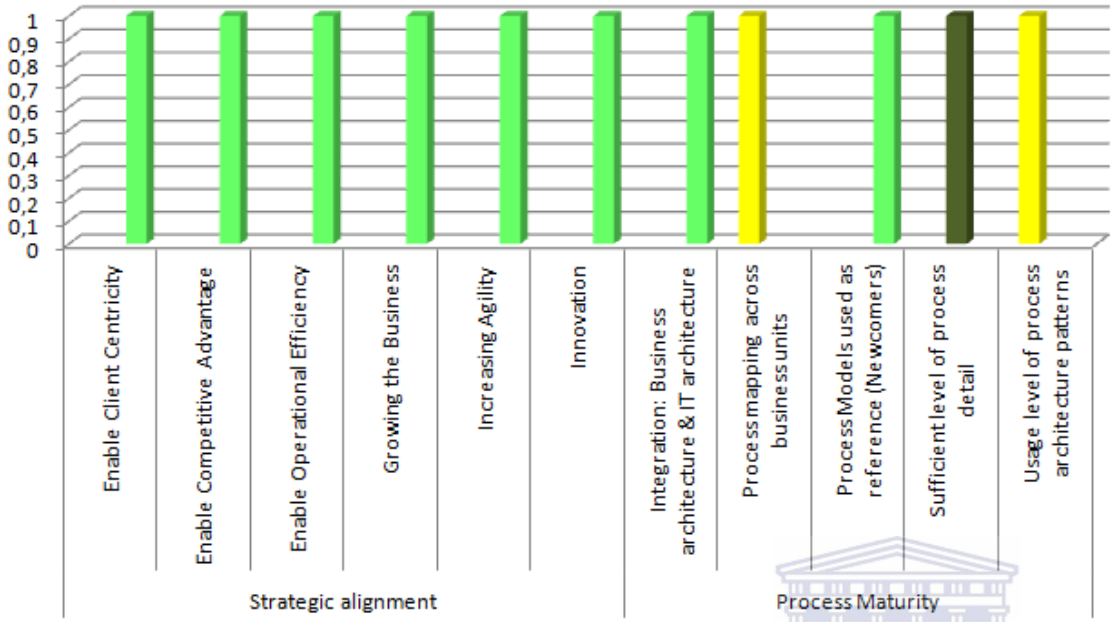


Chart 60: Strategic Alignment & Process Maturity Levels Organisation H (Source – Author)

As for the previous organisation the following charts (60& 61) shows the results of the explicit BAAM measurable using on a bar chart. These charts use a Red/Amber/Green (and shades thereof) colour scheme to make it visually detect the areas of concern. In terms of strategic alignment the organisation is considerably more mature than the overall maturity with some all being on Level 5. Process mapping across units and the use of process patterns can be improved.

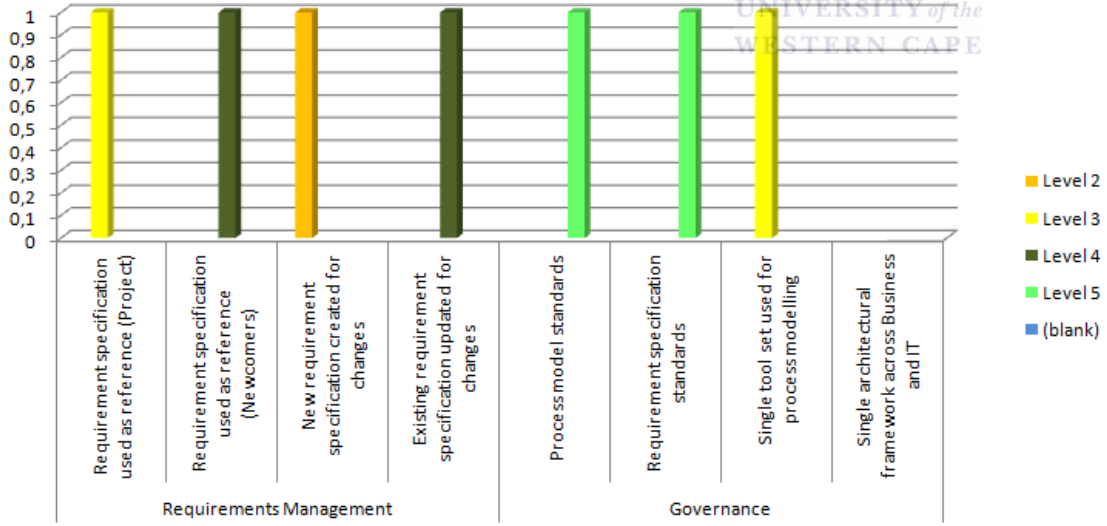


Chart 61: Requirements Management & Governance Levels Organisation H (Source – Author)

Chart 61, reveals few concerns and supports the view that updating existing documents and not creating new ones will lead to a higher overall level of BA maturity. Attention can be paid to using requirement specifications as reference on projects as well as a single toolset for process modelling.

4.3.8.3 Tacit BAAM measurement results

Table 43 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 44 on the next page.

Tacit BAAM Component	Measurable	Finding
Organisational Perception	Competitor benchmark in respect of Business Architecture	The respondent felt strongly that the organisation is ahead of its competitors in terms of explicit BA.
	Acceptance of Business Architecture definition	The respondent felt agreed with the definition.
	Business Architecture used as reference for newcomers	The respondent felt strongly that newcomers are always using BA as reference.
	Business Architecture used as reference for projects	The respondent felt that BA is sometimes used as a reference for new projects.
	Importance of using a single architecture framework	The respondent indicated that a single architecture framework would be essential.
Knowledge Sharing Culture	Level of knowledge sharing	The respondent indicated that knowledge is often shared.
	Verbal vs. Non-verbal knowledge sharing	The respondent felt that knowledge is sometimes documented.
Quality Management	Quality of requirements	The respondent viewed requirement quality as unacceptable.

Table 43: Tacit BAAM Results Organisation H (Source – Author)

Table 44 shows the Benefit and Challenges view respectively for Organisation H. In terms of benefits the respondent recognised all benefits. Interesting the respondent only acknowledged three challenges/barriers, which may be because many of these have already been addressed given the relatively high level of BA maturity in this organisation.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	1
	Will offer a shared view of the organisation and thus improve communication	1
	Will assist with prioritisation of future projects	1
	Will assist in delivering strategic change requirements	1
	Will increase alignment between Business and IT	1
	Will highlight inefficiencies and duplication of functions	1
	Will be a knowledge asset in the organisation	1
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc.)	0
	Maintenance of the business architecture	0
	Demonstrating / calculating benefits of improved business architecture	1
	Large financial investment required to improve business architectures	1
	Getting funding to improve business architecture	0
	Modelling tool strategy and implementation of tool standards & training	0
	Updating our skills to deliver improved business architecture	0
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	0
	Getting buy-in from management	1
	Getting buy-in from staff	0

Table 44: Benefits and Challenge View Organisation H (Source – Author)

4.4 Comparative analysis between 2011 and 2015 results of a particular organisation

Company: **Organisation D** *n = 49*

2011

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity		2		14	33	
	Enable Competitive Advantage		3		27	19	
	Enable Operational Efficiency		1		23	25	
	Growing the Business		1	1	15	32	
	Increasing Agility		6	1	29	13	
	Innovation		2		25	22	
Process Maturity	Integration: Business architecture & IT architecture	9	11	14	11	1	3
	Process mapping across business units	6	17	9	8	1	8
	Process Models used as reference (Newcomers)	4	17	12	13	1	2
	Sufficient level of process detail	1	15	11	14	2	6
	Usage level of process architecture patterns						
Requirements Management	Requirement specification used as reference (Project)	1	22	9	15		2
	Requirement specification used as reference (Newcomers)	6	11	15	11	3	3
	New requirement specification created for changes	1	34	7	4	2	1
	Existing requirement specification updated for changes	1	6	13	24	5	0
Governance	Process model standards	2	19	7	11	5	5
	Requirement specification standards	5	31	4	8		1
	Single tool set used for process modelling	16	23	6	2		2
	Single architectural framework across Business and IT	5	18	15	7		4
	Total	42	73	49	103	24	86

Weigthed average **2,8**

I.e. According to the BAAM the organisation is nearly at Level 3 of Business Architecture maturity

Table 45: Explicit BAAM Results Organisation D 2011 (Source – Author)

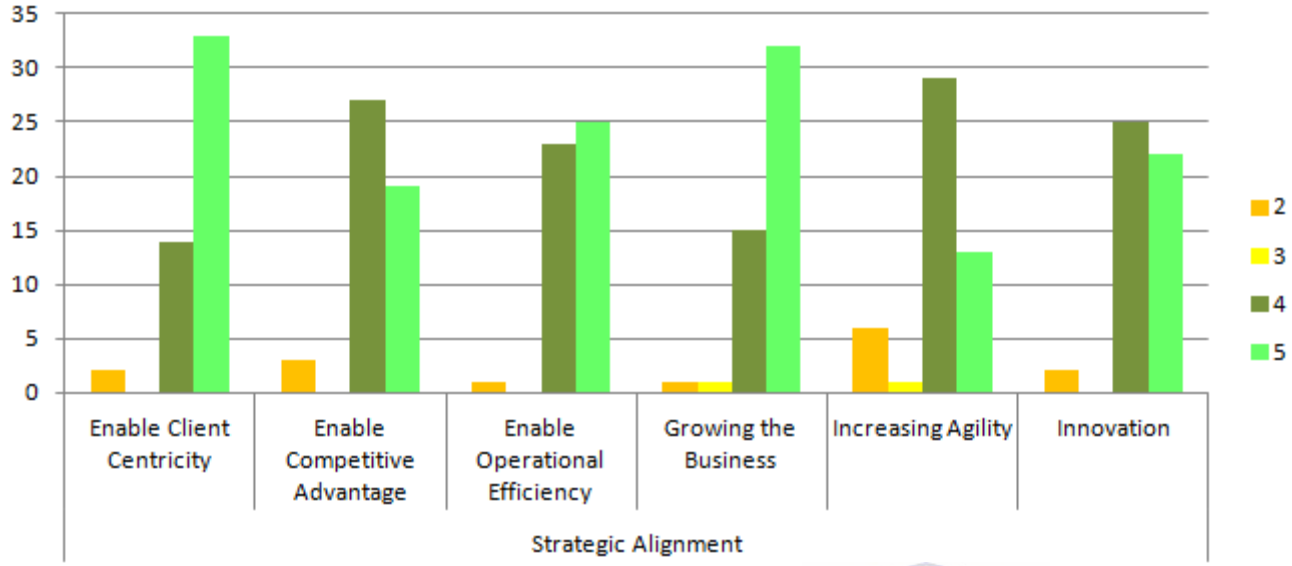


Chart 62: Strategic Alignment – 2011 Organisation D (Source – Author)

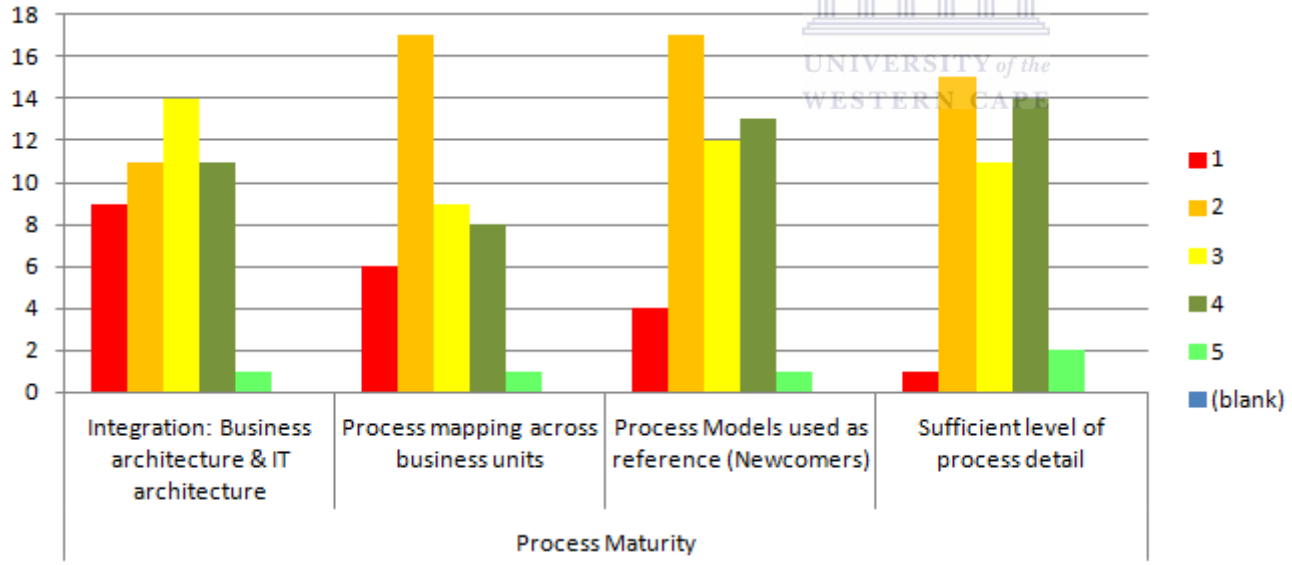


Chart 63: Strategic Alignment – 2011 Organisation D (Source – Author)

When comparing charts 62 to 65 which is based on the 2011 results, to charts 35 - 38 a deterioration of the explicit BAAM maturity can be seen. In 2011 there were no level 1's for example on Strategic alignment and much more level 5's as seen in the 2015 study. The same shift to the left can be seen when comparing the other charts in the set.

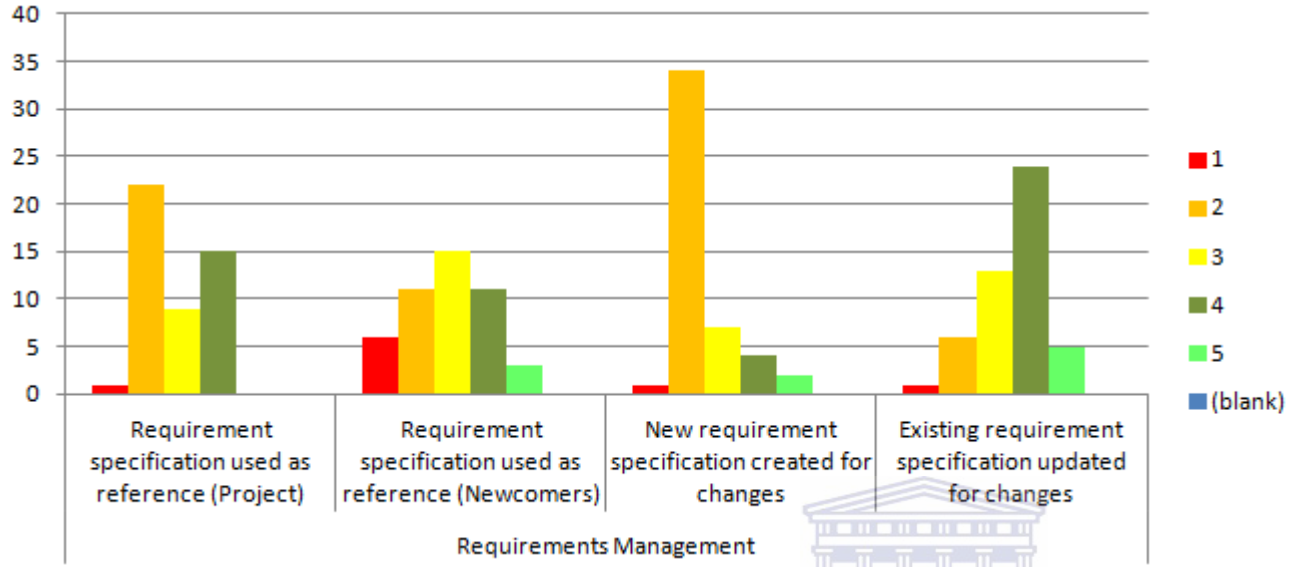


Chart 64: Requirements Management – 2011 Organisation D (Source – Author)

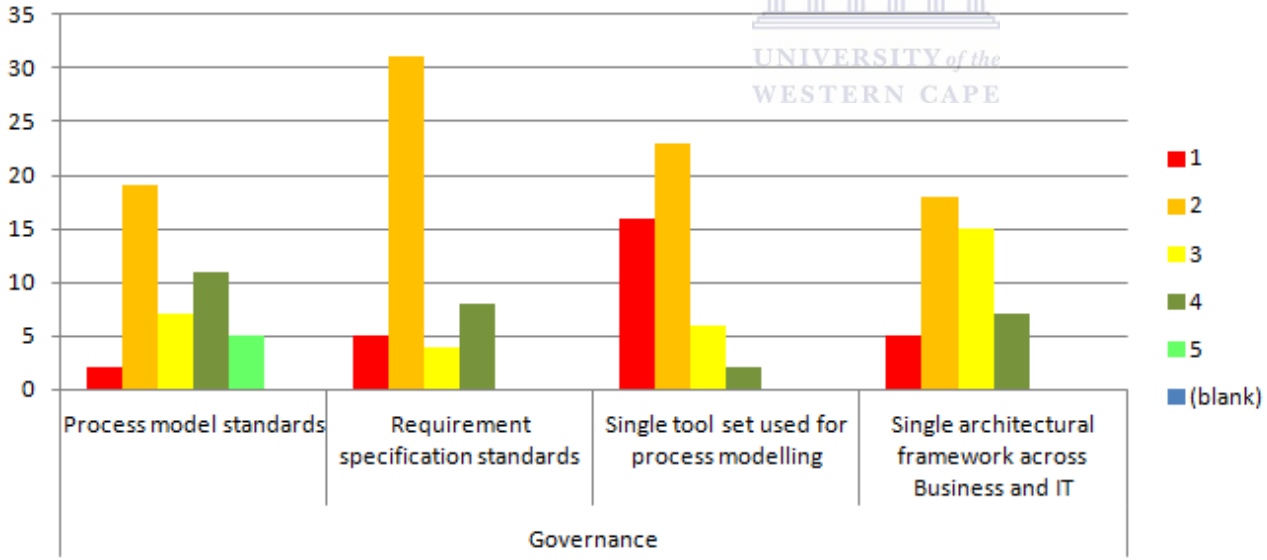


Chart 65: Governance – 2011 Organisation D (Source – Author)

The Governance measurables has shown a slight improvement when compared to chart 38.

Chart 66 shows the shift more clearly. For all the explicit BAAM measurables the average has gone down in terms of the maturity level. The only exception is that of Governance which has increased somewhat but still is not at a high level of maturity. The overall weighted average as a result has gone down from 2, 81 to 2, 77 in the current study.

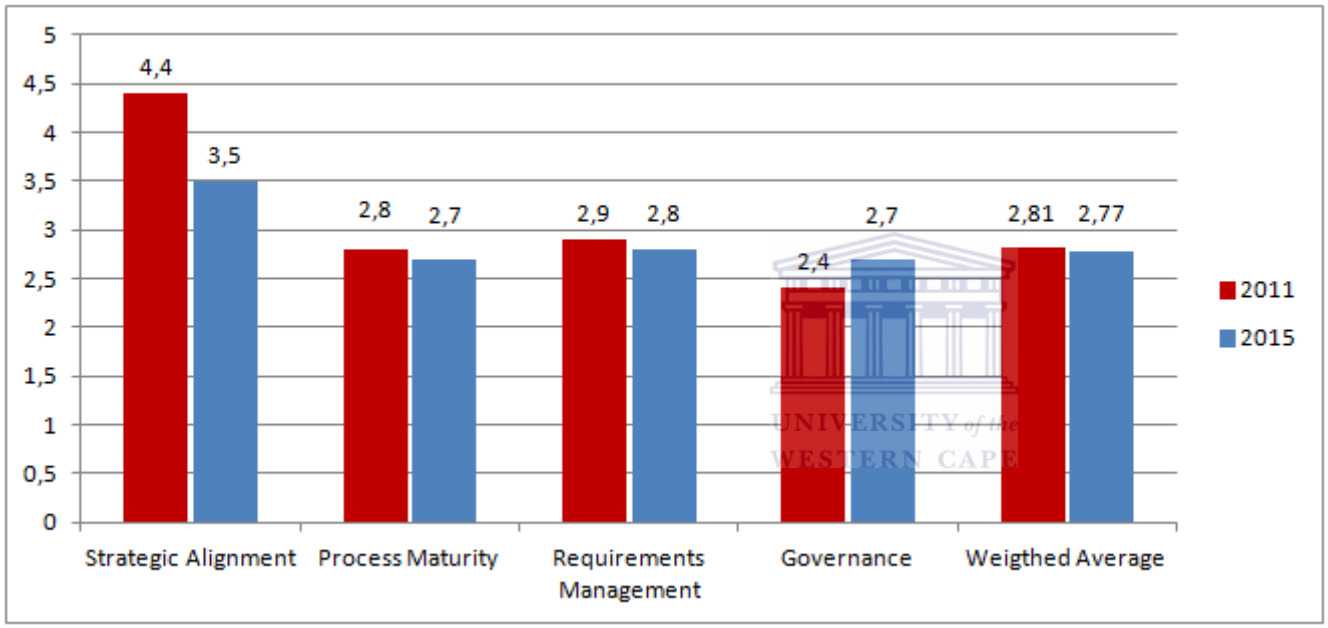


Chart 66: Comparison of 2011 and 2015 Organisation D Explicit BAAM results

Business Architecture Knowledge	2011 Organisation D	2015 Organisation D
First introduction	2.04%	0.00%
Limited knowledge	63.27%	62.50%
Extensive knowledge	34.69%	37.50%
	100.00%	100.00%
	n=49	n=16

Chart 67: Comparison of 2011 and 2015 Organisation D Tacit BAAM result: Business Architecture Knowledge

In terms of the Tacit BAAM measurements, Charts 67 to 76 shows how the organisation's views have changed since the 2011 study when compared to the 2015 study.

Chart 67 indicates a fairly constant level of BA knowledge in the organisation.

How are we doing with Business Architecture against our competitors	2011 Organisation D	2015 Organisation D
No View	8%	6%
Ahead	2%	0%
Somewhat ahead	29%	0%
On par	24%	50%
Somewhat behind	31%	38%
Behind	6%	6%
	100%	100%
	n=49	n=16

Chart 68: Comparison of 2011 and 2015 Organisation D Tacit BAAM result: Business Architecture competitor benchmark

Chart 68 shows that more respondents now feel that the organisation is starting to lag behind its competitors.

Extent of explicit business architecture	2011 Organisation D	2015 Organisation D
I am not sure	26.53%	50.00%
No	28.57%	25.00%
Yes	44.90%	25.00%
	100%	100%
	n=49	n=16

Chart 69 to 74 shows a similar decline in the Tacit results which corresponds with the overall decline in Explicit results.

← *Chart 69: Comparison of 2011 and 2015 Organisation D Tacit BAAM result*

Extend of explicit BA

Business Architecture used as reference (Newcomers)	2011 Organisation D	2015 Organisation D
No View	6.12%	0.00%
Always used	6.12%	0.00%
Often used	20.41%	6.25%
Sometimes used	18.37%	37.50%
Used to small extent	34.69%	37.50%
Not used	14.29%	18.75%
	100%	100%
	n=49	n=16

←*Chart 70: Comparison of 2011 and 2015 Organisation D Explicit BAAM result: using BA as a reference for newcomers*

Business Architecture used as reference (Project)	2011 Organisation D	2015 Organisation D
No View	6.12%	0.00%
Always used	4.08%	0.00%
Often used	26.53%	31.25%
Sometimes used	26.53%	18.75%
Used to small extent	22.45%	25.00%
Not used	14.29%	25.00%
	100%	100%
	n=49	n=16

← *Chart 71: Comparison of 2011 and 2015 Organisation D Explicit BAAM result: using BA as a reference for projects*

Knowledge sharing culture	2011 Organisation D	2015 Organisation D
Knowledge always shared	10%	13%
Knowledge often shared	63%	56%
Knowledge sometimes shared	16%	6%
Knowledge not shared	10%	25%
	100%	100%
	n=49	n=16

Chart 72: Comparison of 2011 and 2015 Organisation D Explicit BAAM result: Knowledge sharing culture

Importance of a Single Enterprise Architecture Framework	2011 Organisation D	2015 Organisation D
Single framework is essential	88%	56%
Single framework is ideal but not essential	0%	31%
Different frameworks will not be a problem	12%	6%
A single framework is definitely not ideal	0%	6%
	100%	100%
	n=49	n=16

Chart 73: Comparison of 2011 and 2015 Organisation D: Importance of a single EA framework

Quality indicator for requirements	2011 Organisation D	2015 Organisation D
No View	8.16%	12.50%
Excellent requirement quality	0.00%	6.25%
Good requirement quality	20.41%	12.50%
Acceptable requirement quality	26.53%	31.25%
Unacceptable requirement quality	32.65%	25.00%
Poor requirements	12.24%	12.50%
	100%	100%
	n=49	n=16

← *Chart 74: Comparison of 2011 and 2015 Organisation D: Quality indicator*

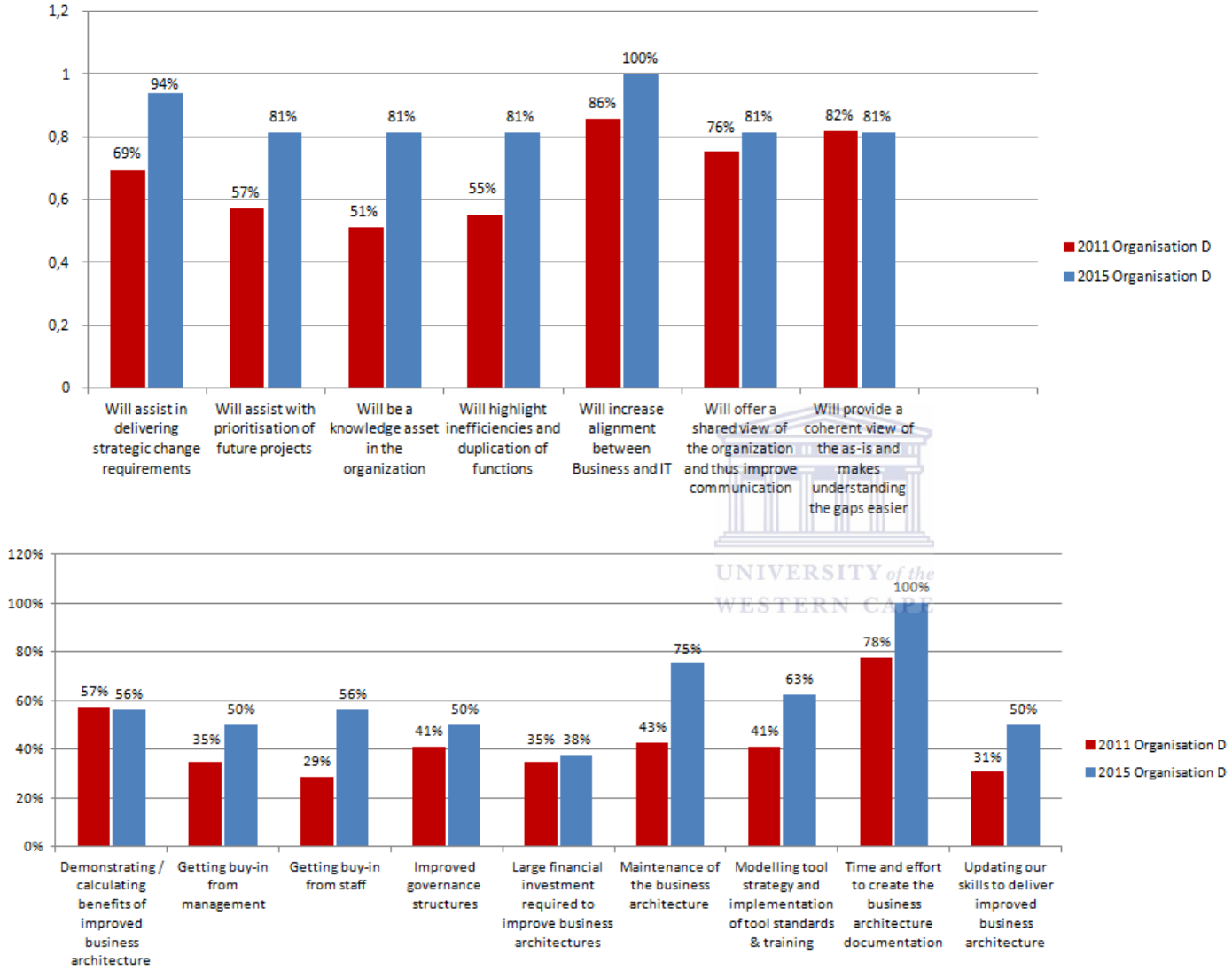


Chart 75 shows a higher level of benefit recognition. Unfortunately Chart 76 show that the view is more negative amongst respondents as the perceived barriers / challenges have been rated to be a bigger challenge than previously on nearly all the measurements.

Chart 75: Comparison of 2011 and 2015 Organisation D: Benefits View

Chart 76: Comparison of 2011 and 2015 Organisation D: Challenge View

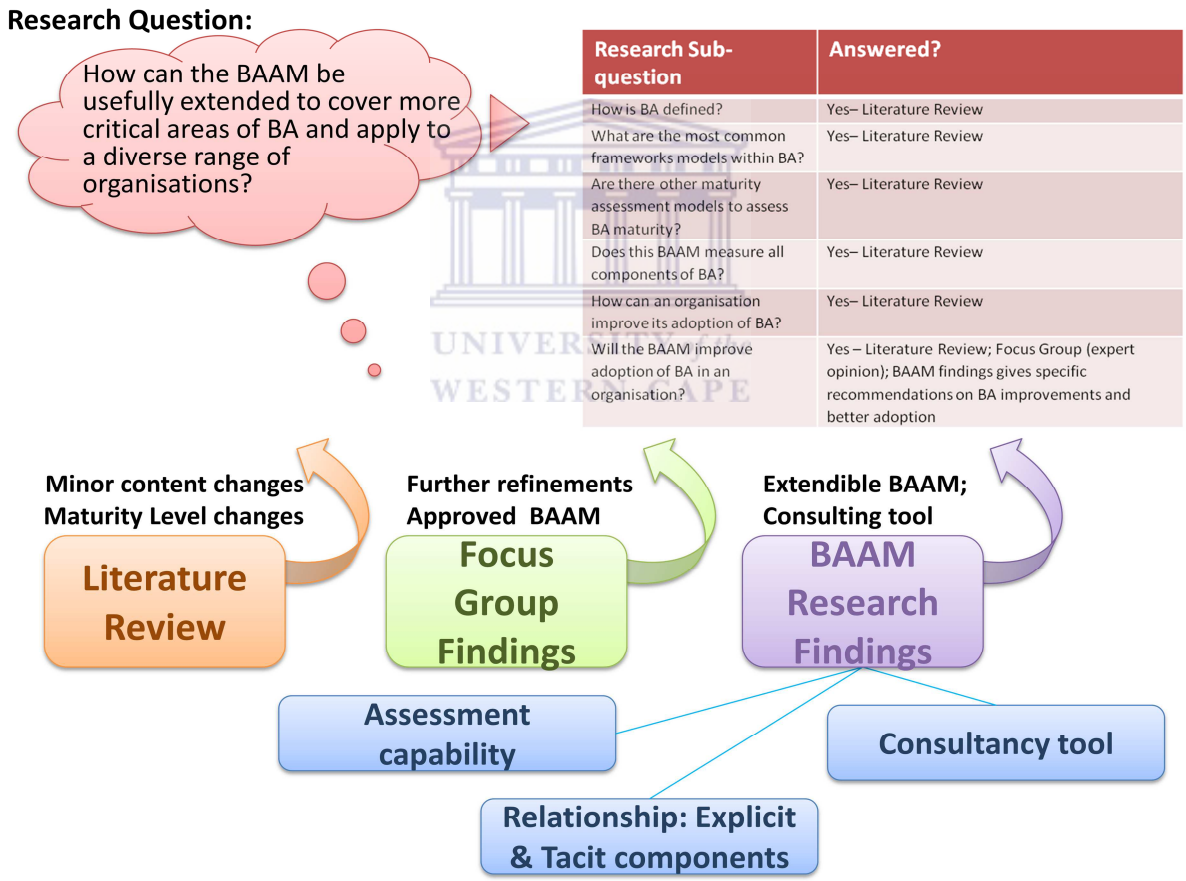
5. Discussion, Recommendations & Conclusion

5.1 Discussion and application of findings

Diagram 11 was created to ensure the discussion of the findings remains focussed on the main research question:

- How can the BAAM be usefully extended to cover more critical areas of BA and apply to a diverse range of organisations?

The diagram shows the main research question and research sub-questions in the top part. In the middle the key outcomes of the research (inclusive of the literature review's contribution) is shown. This section will use diagram 11 to frame the discussion on the Focus Group Findings and the BAAM research findings. The BAAM research findings will be discussed in more detail under the headings: Assessment Capability; Relationship: Explicit and Tacit Components and Consultancy Tool.



Research Sub-question	Answered?
How is BA defined?	Yes– Literature Review
What are the most common frameworks models within BA?	Yes– Literature Review
Are there other maturity assessment models to assess BA maturity?	Yes– Literature Review
Does this BAAM measure all components of BA?	Yes– Literature Review
How can an organisation improve its adoption of BA?	Yes– Literature Review
Will the BAAM improve adoption of BA in an organisation?	Yes – Literature Review; Focus Group (expert opinion); BAAM findings gives specific recommendations on BA improvements and better adoption

Diagram 11: Research question and how it has been addressed through the research (Source – Author)

5.1.1 Focus Group findings

The focus group results were deemed favourable and taken as approval to continue with the study. No indications were given that significant improvements were needed. In some areas less significant improvements were suggested.

All of these suggestions to improve the BAAM were included in the updated BAAM, before it was deployed online to the BAAM survey participants.

The only suggestion not included were the recommendation to change the tacit component names. The majority of respondents were comfortable with the naming. It was only one respondent who suggested a change. To acknowledge the comment, however, more care was taken to explain the BAAM in this research. The explanation was also included in the sample organisation report to address any confusion that may occur.

Following the focus group the update BAAM framework can be considered to be approved and academically vetted.

5.1.2 BAAM Research Findings

5.1.2.1 Assessment capability

Through the research it was illustrated that the BAAM was able to reveal the business architecture maturity level for the 8 organisations which participated in the research.

The findings of the BAAM measurement have been consistent across its measurements and across the organisations. This can be contributed to the direct nature of the questions and its obvious bearing on business architecture (especially true of the explicit BAAM).

Table 46 shows a summary of the Organisations, their own rating and the BAAM's rating of business architecture maturity. It also indicates the difference between the two ratings and offer possible reasons for the differences.

Company	n	Own BA rating	BAAM rating	Differ?	Possible reasons (big deviation)
Organisation A	7	1,4	2,2	0,80	Limited knowledge on BA, mostly managers, could have lead them to underestimate the maturity level
Organisation B	5	1	1,8	0,85	Limited knowledge on BA, mostly managers, could have lead them to underestimate the maturity level
Organisation C	5	1,2	2,6	1,44	Limited knowledge on BA, could have lead them to underestimate the maturity level
Organisation D	16	1,9	2,8	0,83	Predominantly older generation with a bias towards seeing the challenges of improving BA
Organisation E	1	1	1,4	0,40	No apparent reason, deviation not that big
Organisation F	1	1	1,4	0,40	Extensive knowledge, and years of service could have resulted in the own rating being very aligned with the BAAM
Organisation G	1	1	1,5	0,50	Expert knowledge, but short service years, no apparent reason
Organisation H	1	3	3,9	0,90	Expert BA knowledge would have expect the own rating to be more accurate, but respondent has been with organisation for a short period

Table 46: Overall BAAM results per organisation per BAAM rating (Source – Author)

In all instances the BAAM's maturity rating was higher (i.e. the difference) than what the respondents thought it would be. Table 46 provides some possible reason why the difference is there considering the organisational context. On a more holistic level the following additional explanations can be considered:

- The rating scale offered to respondents for their own rating did not allow respondents to indicate the exact point they may be at per maturity level.
- The BAAM measures on a much more granular level. It should therefore provide a more objective and scientifically determined rating as opposed to the relative subjective rating of respondents.
- The tacit factors that prevail in organisations can perhaps influence why in some instances the organisation's view was far less positive on BA maturity.

Further analysis (on larger statistical volumes) would be required to determine definitive motivation for the BAAM's more positive rating on BA maturity.

Regardless, the BAAM will provide organisations with better in-depth and facts- based on their BA maturity levels. More importantly the BAAM roadmap offer specific recommendations on what to do next to improve their BA maturity if desired. Understanding which challenges prevail in the collective organisational mind-set and which benefits are being aspired to, will further enable attempts at improving BA in the organisation.

A further bonus of the BAAM is its apparent ability to illustrate

- comparisons between past ratings and the current view and
- the possible reason for a shift that may have occurred.

5.1.2.2 Relationship: Explicit & Tacit components

There has been sufficient evidence and justification to include and retain the tacit component in the BAAM framework. As is the case with tacit matters, there remains an elusive element to how the tacit BAAM relates to the explicit BAAM measurements. Whilst a direct link between exactly how the tacit components influences the ratings determined through the explicit BAAM could not be identified in this data set, the following observations are apparent:

- The left side of the BAAM (explicit) is a useful tool with which to determine the maturity score for business architecture.
- The right side of the BAAM (tacit) provides clues on why an organisation is at a certain level of maturity (high incidence of challenges foreseen, weak belief in the benefits, high incidences of verbal knowledge sharing etc.) Examples:
    - Organisation D has dropped in its maturity between 2011 and 2015. There is a higher prevalence in their views on the challenges they foresee to improve BA. Their perceptions may have thus become more negative.
    - Organisation H has the highest level of BA maturity (albeit only a sample of 1). It also has the highest incidence of documented knowledge as opposed to a propensity to share knowledge verbally.

- The clues that the tacit BAAM provides can directly be used in creating a more context sensitive roadmap for the particular organisation. (An example of this is presented in the sample BAAM report as will be discussed under the Consulting Tool heading.)
- The tacit BAAM response contains correlating questions which will indicate if a false response were provided elsewhere in the BAAM. An example would be answering positively to having "Explicit (i.e. documented) Business Architecture" in place whilst the response to the existence of good process models is negative.

5.1.2.3 Consultancy Tool

The BAAM framework will be a great way with which to assist participating organisations with quickly assessing their current business architecture maturity. The survey requires very little time and the result is a credible, professional report to the organisation which lays out the detailed areas of current success and future improvement.

There is some manual effort involved to process the organisation's responses and produce a tailor made report for the organisation.

The BAAM can be used on an on-going basis to confirm whether the efforts are paying off to improve BA adoption. Furthermore, having an objective report will reduce the emotive arguments that may be prevalent on the subject of Business Architecture.

A sample of such a report can be viewed in the Appendix. A follow-up report will be similar in format, but the content will focus more on the comparative analysis and have less background to the concept of BA.

5.2 Recommendations

A key recommendation following this study is that the BAAM is certainly ready to be introduced to as many organisations as possible. Only through using it consistently will we be able to learn more about its usefulness and the potential that this study has highlighted.

It is prudent to also acknowledge the (intentional) limitations of this study and the current state of the BAAM framework with a view on further study and improvement.

- The roadmap component in the BAAM offers practical and context sensitive recommendations on who to improve BA in organisations. However, this roadmap can surely be improved upon following continually use of the BAAM in practice.
- The link and/or correlation between the Explicit and Tacit BAAM component should be investigated on a larger statistical base. This should reveal clearer motivations for the differences in the BAAM's rating and the collective view in the organisation.
- A database should be created to accurately compare data sets between current and previous assessments. This would enable the identification of the key elements that will keep the organisation on track. Perhaps this will lead to a condensed BAAM framework more suitable for repeat assessments.

5.3 Conclusion

The BAAM framework has matured from the beta version to a deployable online consultancy tool that will assist organisations to assess their current business architecture maturity through the efforts of this study. With the inclusion of a roadmap that offers a prescriptive purpose the BAAM framework can now be considered a true maturity model.

The main research question (below) has been addressed and solutions were offered on how the BAAM can be usefully extended to cover more critical areas of BA. It has been tested in 8 unrelated organisations and the results have been consistent.

- How can the BAAM be usefully extended to cover more critical areas of BA and apply to a diverse range of organisations?

This study can be considered a success since the main and research sub-questions have all been answered through following a structured research methodology. Table 47 below summarises the research sub-questions in conclusion and confirms that the questions were answered.

Research sub-question	Answered?
• How is BA defined?	Yes– Literature Review
• What are the most common frameworks & models within BA?	Yes– Literature Review
• Are there other maturity assessment models to assess BA maturity?	Yes– Literature Review
• Does this BAAM measure all components of BA?	Yes– Literature Review
• How can an organisation improve its adoption of BA?	Yes– Literature Review
• Will the BAAM improve adoption of BA in an organisation?	Yes – Literature Review; Focus Group (expert opinion); BAAM findings gives specific recommendations on BA improvements and better adoption

Table 47: Extend to which the research sub-questions has been addressed (Source – Author)

5.4 Future research

Possible future research areas to further the body of knowledge on business architecture assessment models would be:

- Investigating the ability of the BAAM to show trends and be proven effective over time in its measurements.
- Investigating the correlation (if any) between the explicit and tacit components of the BAAM.
- Developing methods to improve the manual data analysis and manual reporting of findings for a specific organisation's report.
- Exploring any definite links between the BAAM and Futures research.

5.5 Contribution of the research

Academic

- An academically validated BAAM framework and the extensive documentation of its findings have reduced the current gaps in the literature on this topic.

Business

- Organisations have a useful tool through the BAAM framework to assess its BA maturity and improve its adoption by following the context specific recommendations stipulated in their custom roadmap.
- The BAAM can become a possible commercial consulting tool. The accuracy of its predictive abilities, which can only be tested through statistical analysis over time, will need to be confirmed by deploying the BAAM often and in more and more organisations.

5.6 Final thoughts

In the first chapter the indirect link between Futures Research and the BAAM framework were considered. Whilst this study was never intended to be about Futures Research or to further that study field, it seems prudent to reflect on how the BAAM may potentially support Futures Research.

Futures research relies on the ability to measure indicators that will trigger scenario planning to be put into action. To more accurately identify these triggers will require insight into what needs to be tweaked within the business environment. The BAAM provides excellent insight into the as-is business architecture. It is able to assess for a change in the triggers that may be linked to Futures research. The improved BAAM offers a way to measure business architecture status, tapping into the value of future scenario planning and together steer change in organisations.

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7. List of Diagrams, tables and charts

8. List of appendixes

Appendix A – Sample BAAM report

Appendix B – Other Tacit Result charts per Organisation not all used in the main report

10/31/2015

Business Architecture Assessment Report

Organisation A

Author: Delina Pretorius

Business Architecture Assessment Report

Organisation A

Background

What is Business Architecture?

Business Architecture (BA) is a critical component of a successful Enterprise Architecture approach, bridging the chasm between strategic business vision and the delivery of successful solutions required (Sereff 2012 : 633). Pulkinnen & Hirvonen (2007: 1610) formulated the Enterprise Architecture (EA) grid in 2004 (shown in table 1 below) to illustrate that the typical enterprise can be viewed from different angles. The EA grid comprises of four main architecture components of an enterprise (one of which is business architecture), and gives consideration to three decision making levels.

The EA Grid

	Business Architecture (BA)	**Information Architecture (IA)**	**Systems (applications) Architecture (SA/AA)**	**Technology Architecture (TA)**
Enterprise level	Business and management decisions, portfolio of businesses, Mission, business strategies and visions	Strategic information management considerations; information value chain	Strategic systems portfolio (application portfolio)	Strategic technology portfolio; Vendor relationships, Enterprise technology guidelines and policies
Domain level	Services/products in the domain, Business process for their production	Information management of the domain	Domain systems map Interoperability	Technologies Infrastructure: Platforms, networks, data communication
Systems level	Business requirements for the systems and data management	Data architectures Data harmonization principles Data storages	Systems architecture; ISA. Application patterns; Developer guidelines	System level technology architecture; Technical implementation guidelines

Table 1: The Enterprise Architecture Grid (Source - Pulkinnen et al 2007: 1610)

The more accurate the view on Business Architecture, the better positioned an organization will be to respond to change in a fast, appropriate manner and the better it will able to plan its resources for optimal reuse. The importance of Business Architecture can therefore not be denied, yet there are few assessment models aimed at establishing the maturity of specifically Business Architecture in an organization.

Objectives of the Business Architecture Assessment Model

Organizations have limited ways with which to assess Business Architecture maturity and improve its adoption (Van der Raadt et al 2005: 357). Whyte and Pretorius (2012: 306) developed a Business Architecture Assessment Model (BAAM) in 2012 and it is aimed specifically at measuring the current Business Architecture maturity in an organization in order to provide recommendations on how to improve the Business Architecture maturity and thus making the Business Architecture view more accurate.

The BAAM

Diagram 1 illustrates the BAAM which consists of an explicit and a tacit assessment of Business Architecture. Each of these parts again focuses on 4 further areas related to Business Architecture.

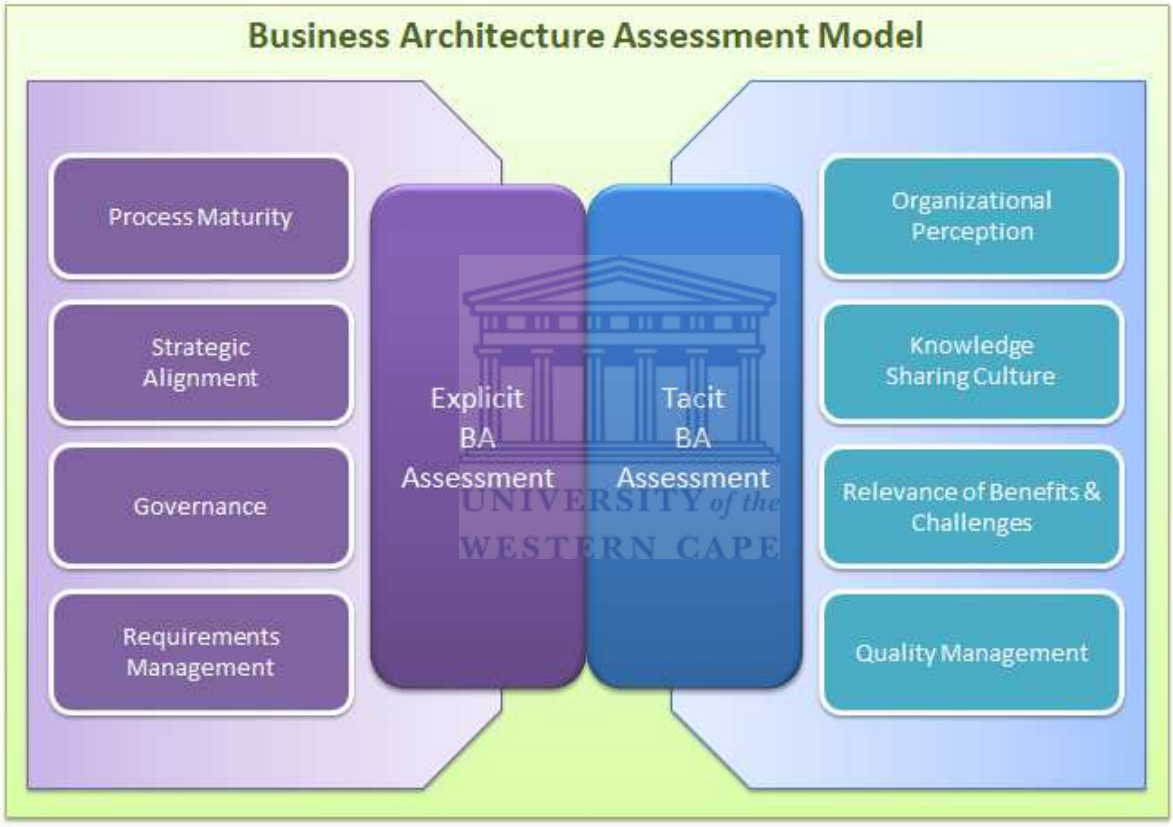


Diagram 1: Components of the Business Architecture Assessment Model – BAAM (Source: Whyte & Pretorius 2012: 307)

Whyte and Pretorius' (2012: 306) description of what is included in BA is extensive and goes wider than a mere focus on the traditional process mapping and requirements documentation. Based on their extensive research they constructed the BAAM to include four explicit BA components and allowed for four so-called tacit BA components. The BAAM has been improved following further research in 2015 and it is now possible to test in at participating organizations.

Table 2 shows the explicit BAAM components on the left side of the BAAM more clearly along with the scope of what it measures.

Explicit BAAM components	Measurement scope
Process Maturity	Almost expectedly, the Process Maturity component of the BAAM is concerned with the measurement of the degree to which processes are mapped in the organization, but also how well modelling tools are applied. In addition it surveys the BA frameworks in use at a particular organization.
Strategic Alignment	In terms of Strategic Alignment, the BAAM evaluates the level support from respective business units in an organization towards generic key strategic drivers.
Governance	Effective governance is vital in sustaining BA maturity. The BAAM includes probing questions around whether standards are in place for requirements documentation and process modeling respectively. It also checks if BA artifacts are used as reference for newcomers to enable an understanding of the organization. The reasoning was that if BA was accurate and explicit it will be the key reference point to newcomers.
Requirements management	To round off the explicit BAAM components the extent to which requirements management assists with gaining a holistic view of the organization is assessed. When existing requirements are updated for new changes versus documenting only the new change requirements separately, it will assist with strengthening BA maturity in an organization.

Table 2: Summary of explicit BAAM components and their measurement scope (Source: Author)

Whyte and Pretorius (2012: 306) uncovered other factors which they deemed to be as important to BA as the traditionally accepted explicit components discussed above. They termed the factors, which in their view could either derail or support BA maturity as the tacit BA components of the BAAM. To explain the tacit BAAM components in more detail, Table 3 shows the tacit BAAM components and its measurement scope.

Tacit BAAM components	Measurement scope
Organizational Perception	The organizational perception component checks for consistency in definitions of BA, viewpoints on current BA maturity levels in the organisation and the degree to which Business and IT alignment had been achieved.
Knowledge Sharing Culture	Whether a knowledge sharing culture exists in the organization is checked through the BAAM. Whilst a knowledge sharing culture is good for an organization's BA, high prevalence of sharing knowledge verbally could be derailing the explicit BA efforts.
Relevance of Benefits and Challenges	The assessment looks at both benefits and challenges related to improving BA. These insights are relevant to a particular organization and make the results and ultimate recommendations more appropriate to inform strategic change.
Quality Management	Finally the quality of requirements management is also verified since good quality management is a key component to address BA maturity.

Table 3: Summary of tacit BAAM components and their measurement scope (Source: Author)

The BAAM's output indicates on which maturity level the organization is functioning. The generic maturity levels of the BAAM are shown in Diagram 2.

It is important to note the Maturity Level of the BAAM only considers the Explicit BAAM. The tacit components are seen as factors that will either promote or detract from the BA implementation. The tacit elements are too vague to directly link them to BA maturity.

The colour scheme uses the Red/Amber/Green (and shades thereof) notation as is popular amongst project reporting. It is worthwhile to bear in mind that any improvement recommendations will remain generic until it can be overlaid with the actual BAAM findings for an organization.

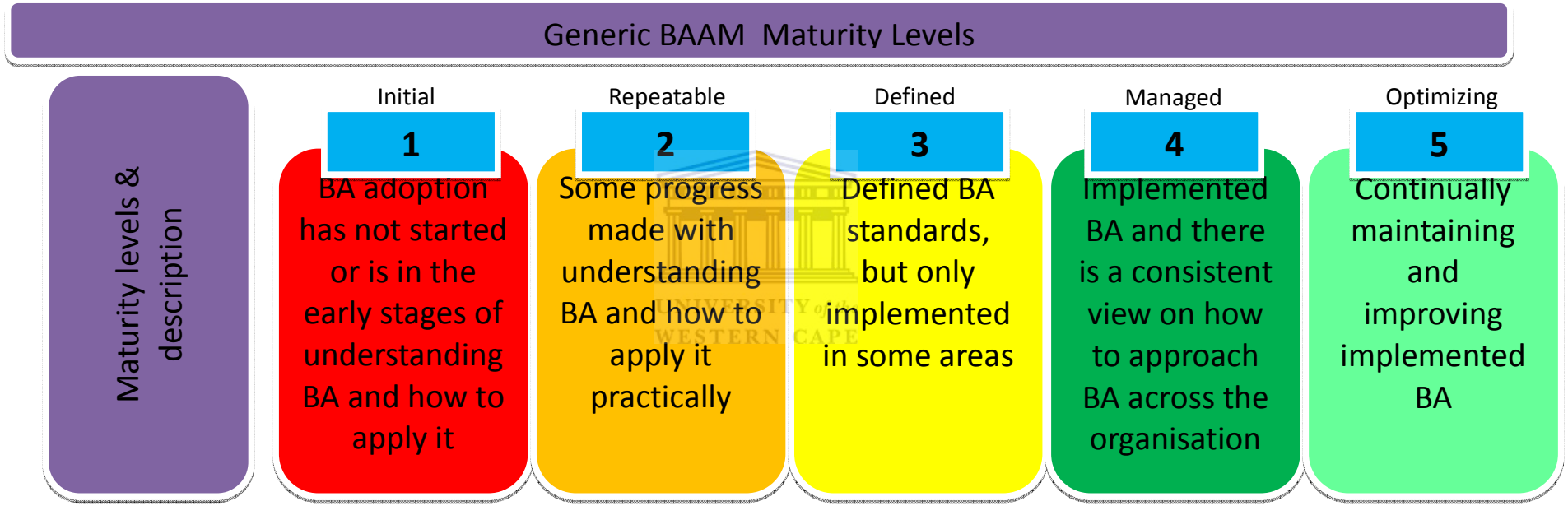


Diagram 2: Generic BAAM maturity levels (Source: Author)

Findings

Respondent demographics of the organisation

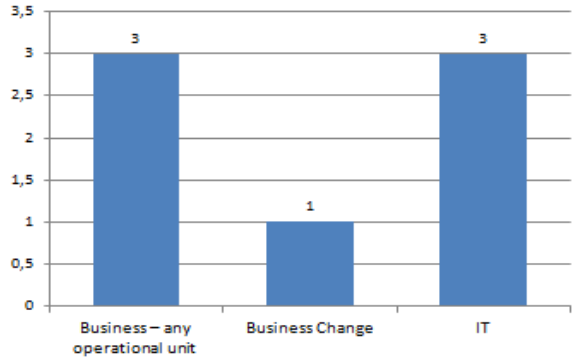


Chart 1: Organizational area breakdown (Source – Author)

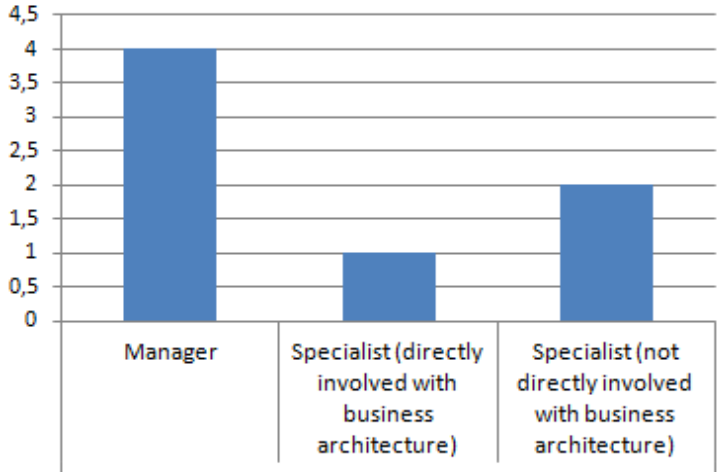
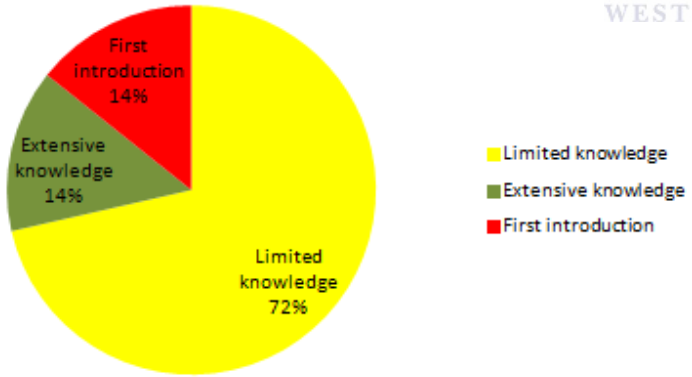


Chart 2: Role breakdown (Source – Author)



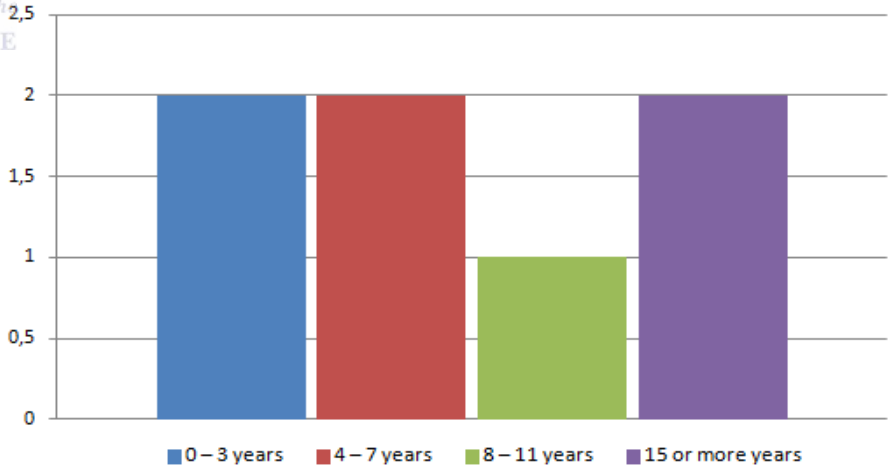


Chart 4: Service Years (Source – Author)

Chart 3: Business Architecture Knowledge

It is important to look at who the target audience is that has responded as it may provide additional context when analysing the findings of the BAAM. In this regard chart 1 indicates the breakdown of the respondents in terms of their organisational area. Chart 1 reveals that an even number of respondents were in the Business operations are and IT respectively. A single respondent were from the Business Change area.

In addition chart 2 shows that 4 respondents are Managers in the organisation and two respondents are specialists who are not directly responsible for Business Architecture. A single respondent is a specialist with direct responsibility for Business Architecture.

Chart 3 shows the level of Business Architecture Knowledge in the organisation. From the chart it can be seen that 14% of respondents have extensive knowledge about Business Architecture, whereas another 14% claimed have had their first interaction with the concept through the survey. Encouraging is that the majority (72%) of respondents at least have limited knowledge about Business Architecture. There were no respondents that have expert knowledge of Business Architecture.

Finally in terms of getting a better understanding of whom the respondents were, chart 4 shows that one respondent has been with the organisation between 8 and 11 years, with the rest being evenly split between the categories: 0 – 3; 4 – 7 and 15 or more years. There were no respondents in the 12 – 14 year category.

In the next section the Explicit BAAM findings will be discussed.

Explicit BAAM measurement results

Company: **Organisation A** *n = 7*

	Explicit Business Architecture Measurables	Maturity Level according to BAAM					No View
		Level 1	Level 2	Level 3	Level 4	Level 5	
Strategic Alignment	Enable Client Centricity		1	1	3	2	
	Enable Competitive Advantage	1	1	1	3	1	
	Enable Operational Efficiency		2	1	3	1	
	Growing the Business		2		3	2	
	Increasing Agility		3		2	1	1
	Innovation		1	1	4	1	
Process Maturity	Integration: Business architecture & IT architecture	3	2	1			1
	Process mapping across business units	2	1	1	2		1
	Process Models used as reference (Newcomers)	3	2	1	1		
	Sufficient level of process detail	3	2		2		
	Usage level of process architecture patterns	4	1				2
Requirements Management	Requirement specification used as reference (Project)	4		1	1	1	
	Requirement specification used as reference (Newcomers)	4	1	1	1		
	New requirement specification created for changes	1	3	2	1		
	Existing requirement specification updated for changes	2	1	2	1		1
Governance	Process model standards	2	2	1	2		
	Requirement specification standards		1	2	3	1	
	Single tool set used for process modelling	2	3	2			
	Single architectural framework across Business and IT	4	1		1		1
	Total	35	30	18	33	10	7

Weigthed average **2,2**

I.e. According to the BAAM the organisation is on Level 2 of Business Architecture maturity

Table 4: Explicit BAAM Results Organisation (Source – Author)

Table 4 above provides the number of respondents and their view on the explicit business architecture measurable maturity. The overall score is a Level 2 maturity.

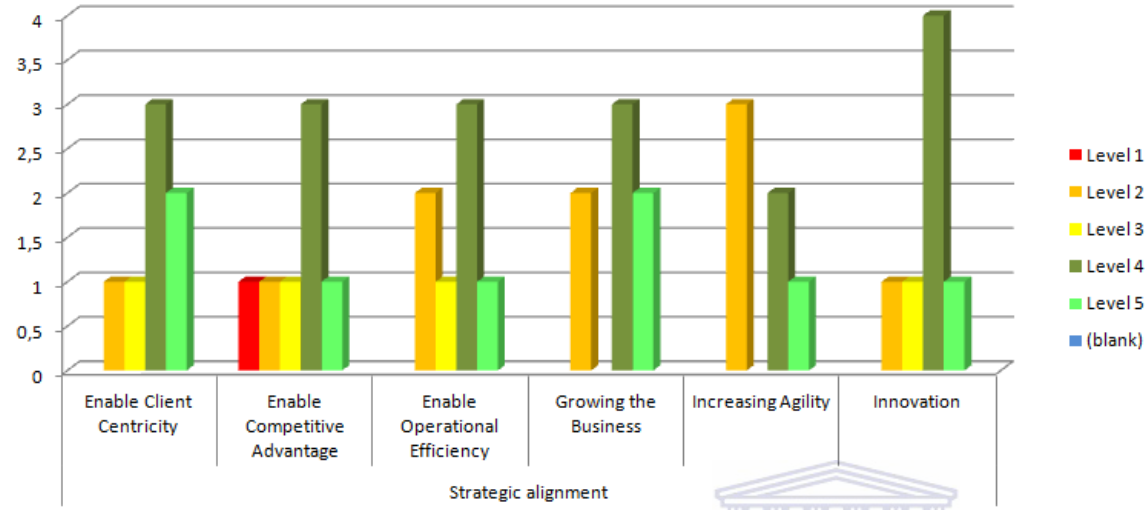


Chart 5: Strategic Alignment Maturity Levels (Source – Author)

The following charts (5 – 8) shows the results of the explicit BAAM measurable using on a bar chart. As with the focus groups, the chart makes use of a Red/Amber/Green (and shades thereof) colour scheme. Once again this makes it very easy to visually detect the areas of concern. In terms of strategic alignment maturity (chart 5) the organization is more mature than the overall maturity with some Level 4 / 5 views being prevalent.

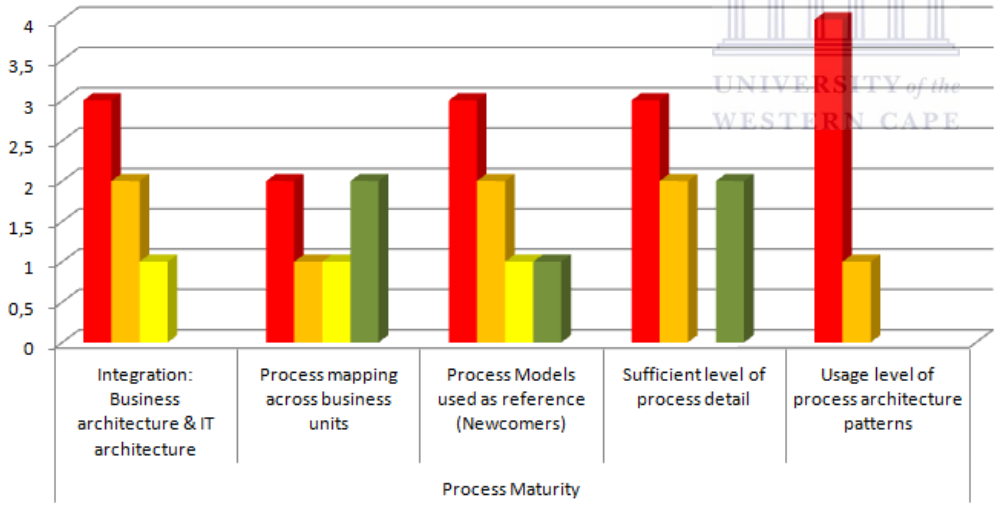


Chart 6: Process Maturity Levels (Source – Author)

Chart 6, however, reveals that there are some serious concerns with regard to the level of Process Maturity in the organisation with a significant number of respondents rating it on either a level 1 or 2. Notwithstanding there are some more positive ratings of Level 3 / 4 also notable.

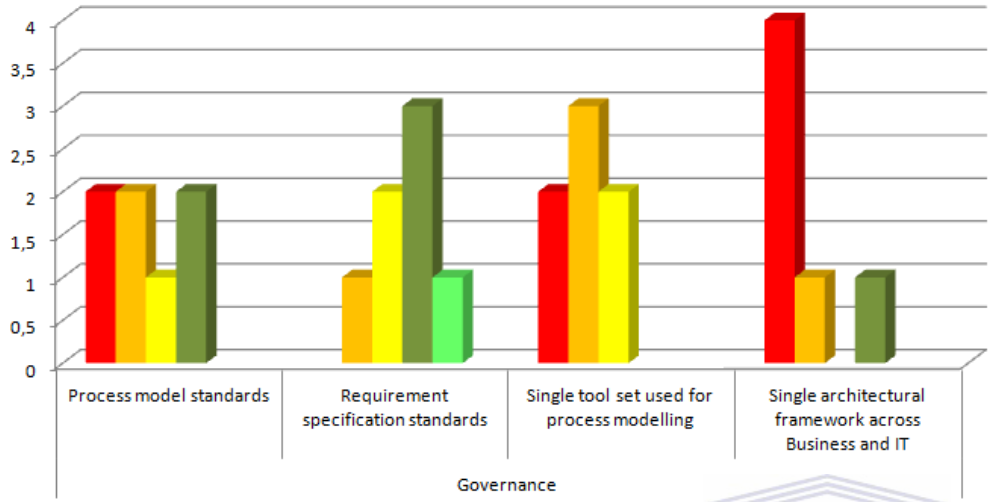


Chart 7: Governance Maturity Levels (Source – Author)

Chart 7, which highlights the state of Governance pertaining to Business Architecture, shows that process modelling standards and the tools used for it can be vastly improved upon. The lack of a single architectural framework across business and IT is clear on this representation. Requirements management standards are rated higher than all the other components considered as Governance.

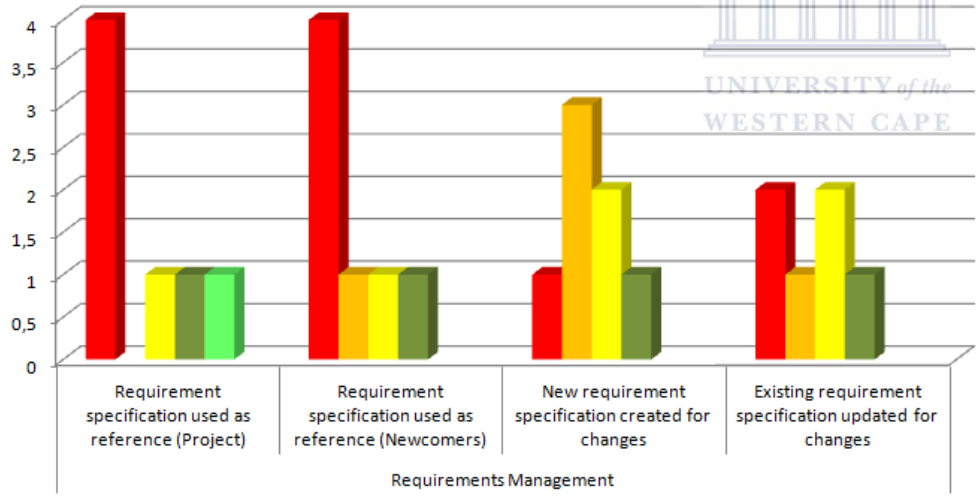


Chart 8: Requirements Management Maturity Levels (Source – Author)

Although the standards in terms of requirement specifications are acceptable on average, chart 8 shows that there is a significant number of respondents that felt requirements are not used as reference for either the newcomers or when a new project is started. There are also some differences in opinion on whether existing requirements are updated instead of creating a new document.

Tacit BAAM measurement results

Table 5 illustrates three of the 4 tacit BAAM component results. The fourth element (Benefits and Challenges) will be shown in Table 6 on the next page.

Tacit BAAM Component	Measurable	Finding
Organizational Perception	Competitor benchmark in respect of Business Architecture	3 out 7 respondents strongly agreed with being behind competitors in terms of explicit BA, whilst another 2 respondents agreed.
	Acceptance of Business Architecture definition	Almost all respondents (5 out of 7) thought the definition of BA to be acceptable. One respondent had not view on the definition; whilst another felt it was incomplete
	Business Architecture used as reference for newcomers	Four (4) respondents strongly disagreed that newcomers are using BA as reference, whilst another (1) disagreed. 1 respondent neither disagreed nor agreed, and another (1) agreed that it does get used as reference
	Business Architecture used as reference for projects	Four respondents strongly disagreed that newcomers are using BA as reference, whilst another disagreed. One respondent neither disagreed nor agreed, and another agreed that it does get used as reference
	Importance of using a single architecture framework	Aside from 1 respondent who neither agreed nor disagreed with using a single architecture framework almost all (6) respondents strongly agreed that a single framework would be essential
Knowledge Sharing Culture	Level of knowledge sharing	3 Respondents strongly agreed that a culture of knowledge sharing exists, whilst a further (1) respondent agreed. Two respondents were neutral in their response with only one respondent disagreeing with the statement.
	Verbal vs. Non-verbal knowledge sharing	The majority of respondents felt that knowledge is shared verbally (2 + 2), whereas only 2 respondents indicated the documentation of knowledge as the norm.
Quality Management	Quality of requirements	Most (2 + 2) rated requirements to be either of excellent or good quality. The rest of the respondents had no view on the statement.

Table 5: Tacit BAAM Results (Source – Author)

Table 6 shows the Benefit and Challenges views respectively.

Tacit BAAM Component	Measurable	Votes
Benefits view	Will provide a coherent view of the as-is and makes understanding the gaps easier	5
	Will offer a shared view of the organization and thus improve communication	5
	Will assist with prioritisation of future projects	6
	Will assist in delivering strategic change requirements	5
	Will increase alignment between Business and IT	6
	Will highlight inefficiencies and duplication of functions	4
	Will be a knowledge asset in the organization	3
Challenges view	Time and effort to create the business architecture documentation (which includes process models, etc)	7
	Maintenance of the business architecture	3
	Demonstrating / calculating benefits of improved business architecture	4
	Large financial investment required to improve business architectures	5
	Getting funding to improve business architecture	4
	Modelling tool strategy and implementation of tool standards & training	4
	Updating our skills to deliver improved business architecture	4
	Improved governance structures to ensure everyone knows the rules and keeps playing according to them	2
	Getting buy-in from management	5
	Getting buy-in from staff	3

Table 6: Benefits and Challenge View (Source – Author)

Tacit BAAM measurement charts

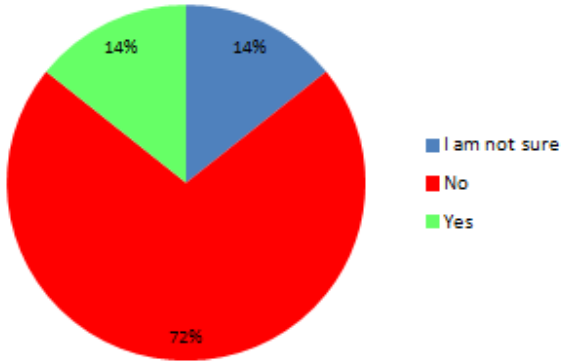


Chart 9: View on whether BA is explicit currently (Source – Author)

Chart 9 indicates that the majority of respondents (72%) do not think that business architecture is currently explicit. Furthermore the respondents some respondents felt that they are behind their competitors in this regard, although some felt that they may be better than their competitors according to chart 10. Chart 11 shows a high level of acceptance towards the definition of BA whilst chart 12 indicates that respondents predominantly felt they are on Level 1 of BA maturity.

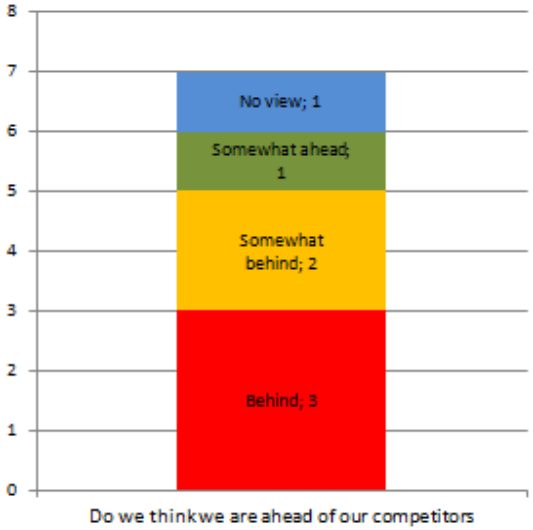


Chart 10: View on how they fare against competitor (Source – Author)

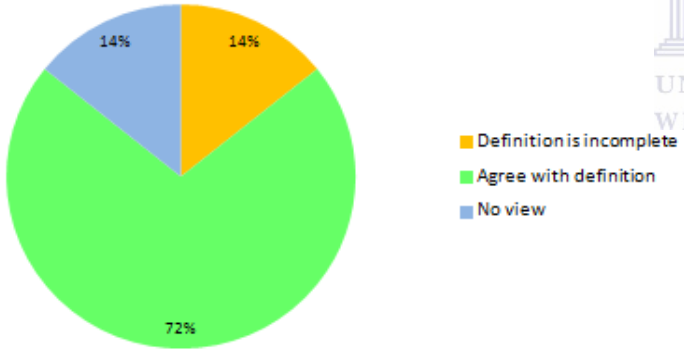


Chart 11: Degree to which the definition of BA is accepted (Source – Author)

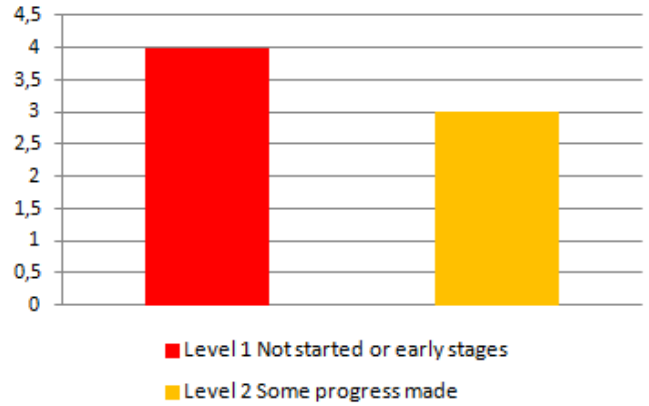


Chart 12: Views on which BA maturity level (Source – Author)

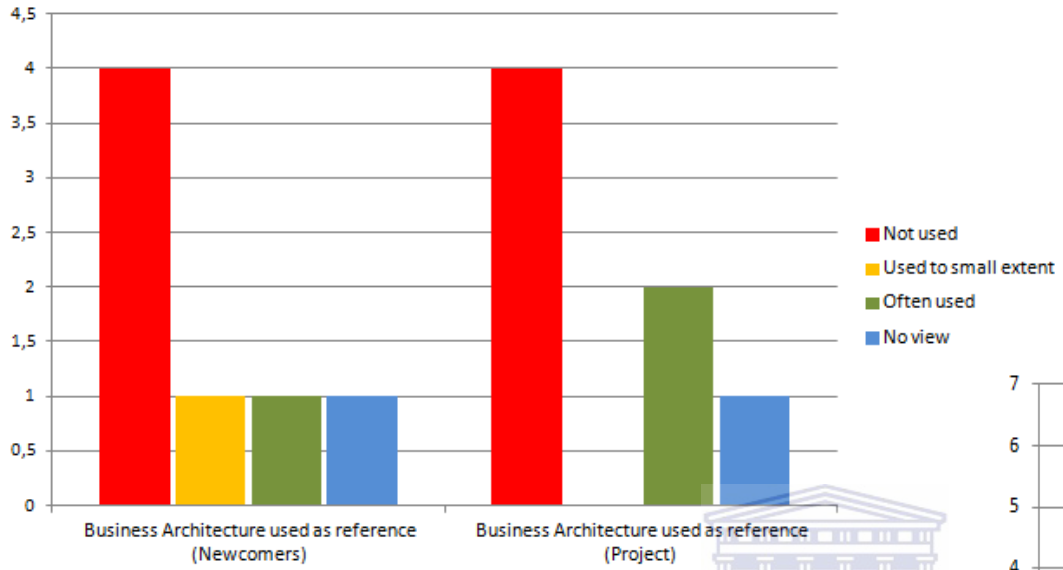


Chart 13: Extent to which BA is used (Source – Author)

Chart 13 indicates that the majority of respondents do not use Business Architecture as reference for newcomers or when assigned to a new project. Chart 14 indicates that most respondents feel a single architectural framework would be essential towards BA maturity

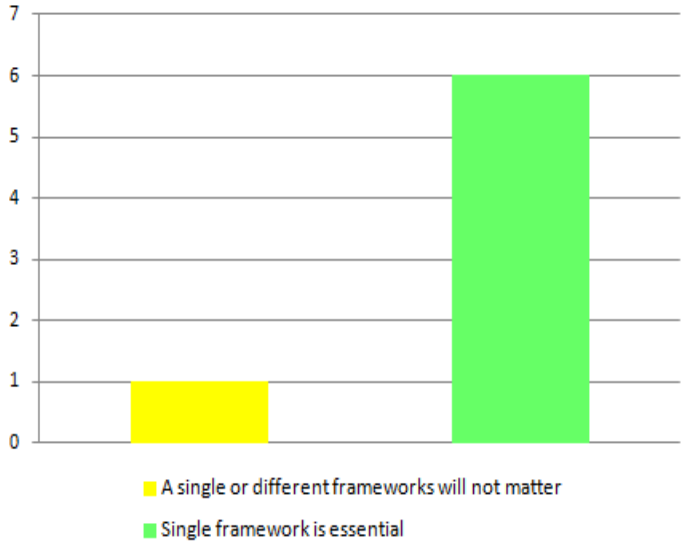


Chart 14: Importance of a single framework (Source – Author)

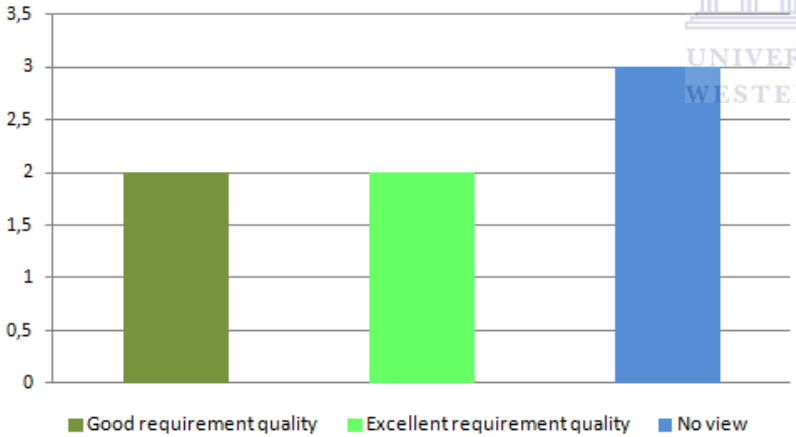


Chart 15: Quality of requirements (Source – Author)

Chart 15 shows that although there are indications of good requirement quality, a significant (almost 50%) of respondents did not have a view on the state of requirement quality.

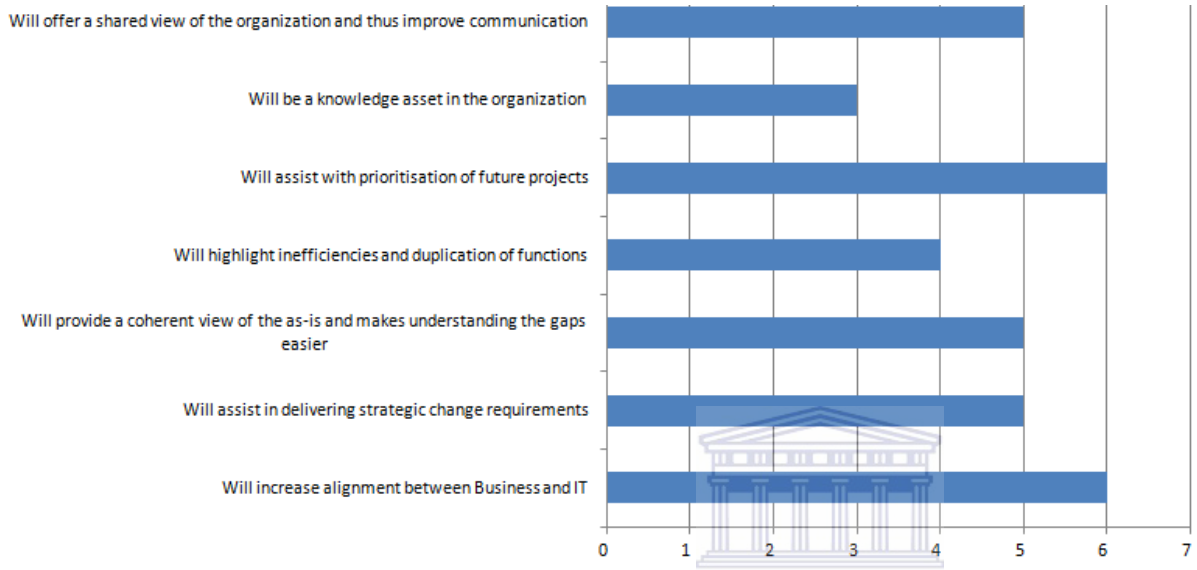


Chart 16: Acceptance of Business Architecture Benefits (Source – Author)

According to chart 16 there is a strong level of acceptance towards the benefits that improved Business Architecture would bring about. Of these benefits the respondents believed that the most benefit would be gained on enabling the prioritization of future projects and improved alignment between Business and IT

According to chart 17 there is also a strong sense that it would be challenging to improve Business Architecture. Of the challenges the time and effort required to create BA in the first place came out strongest. The next two barriers would be to find funding and to obtain management buy-in. Improvement on governance structures were viewed as the least of the challenges.

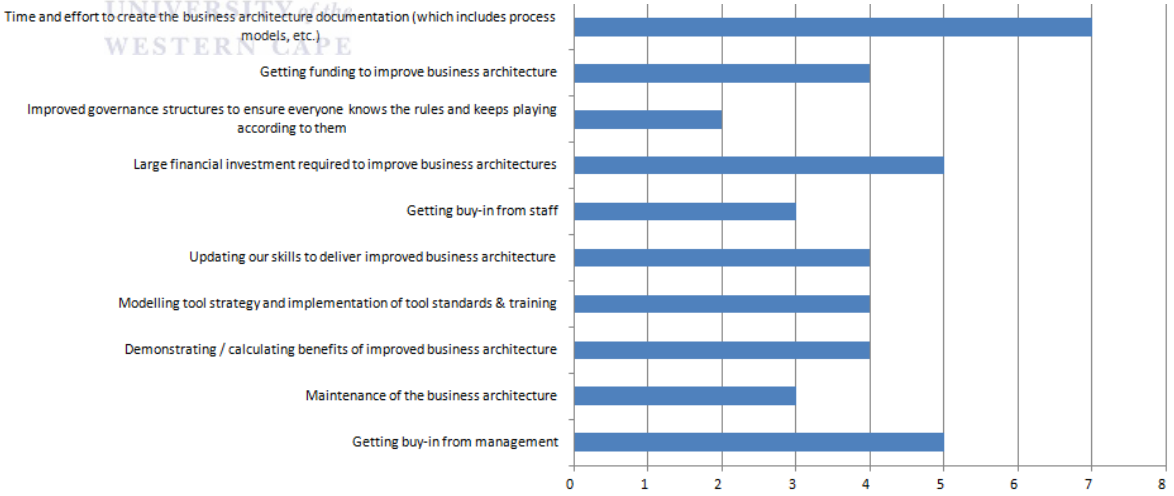


Chart 17: Level of challenges/barriers foreseen (Source – Author)

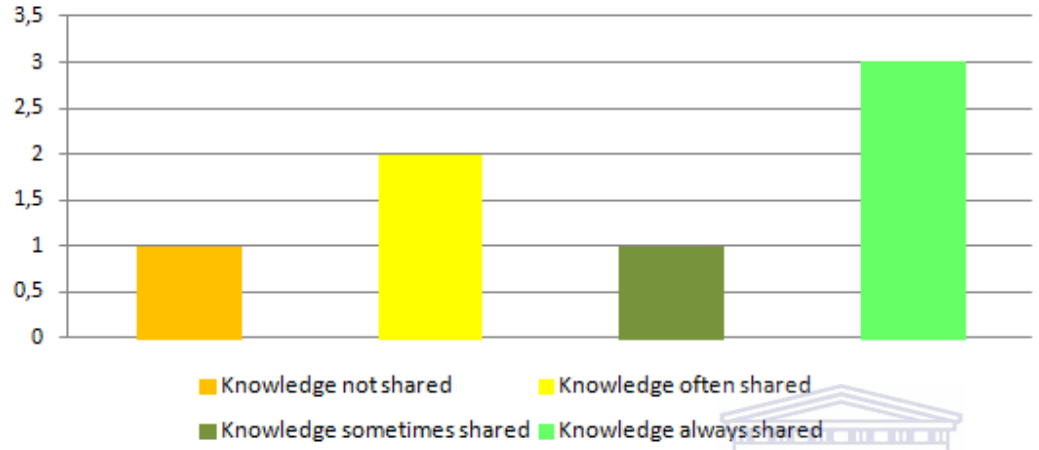


Chart 18: Knowledge sharing (Source – Author)

Chart 18 shows that there is a fairly healthy culture of knowledge sharing in the organization with most respondents saying knowledge is always shared.

Unfortunately chart 19 shows that when knowledge is shared it is not always in documented format with a bias towards sharing knowledge verbally.

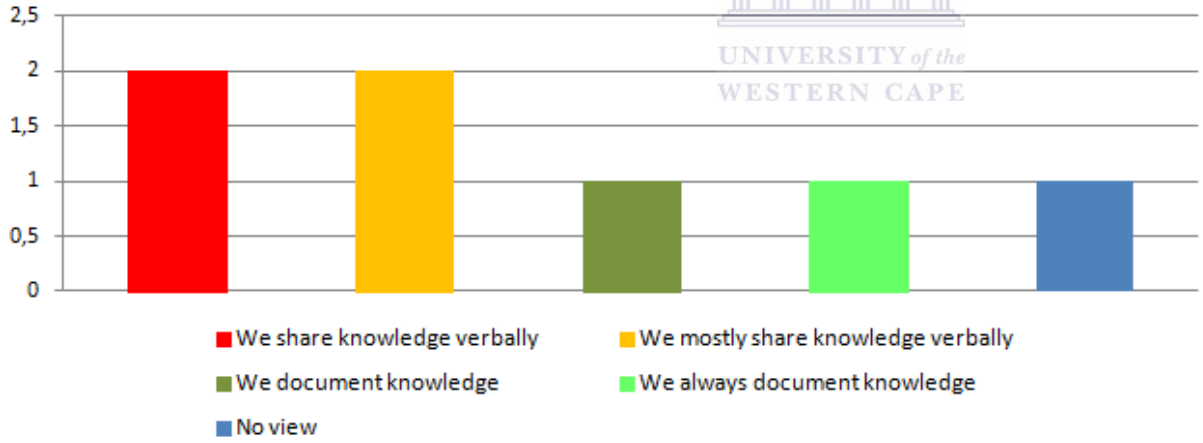


Chart 19: Extent of verbal knowledge sharing (Source – Author)

Recommendations

Congratulations on reaching a level 2 in terms of Business Architecture Maturity. Unfortunately business is ever changing and to be ahead of the competition the Business Architecture of your organization should be improved.

To assist with this goal, the BAAM offers the following context specific recommendations.

General considerations

Most respondents indicated that they have limited knowledge of Business Architecture. Naturally a better knowledge of what Business Architecture is and how to apply it will improve the organization's maturity in respect of Business Architecture. It is noted that 4 of the respondents felt that updating their skills in this regard may be challenging. The necessary change management would therefore be conducted in addition to simply addressing the training requirements.

Specific considerations

Table 7 and 8 will be used to discuss these recommendations in the light of the BAAM findings for your organization.

Explicit BAAM components	**Recommendations**
Process Maturity	Some process mapping have been done between business units, however almost half of the respondents indicated that it is not sufficient, nor at a sufficient level of detail. A focused attempt to document the organization's processes would certainly be a good starting point. The use of process architecture patterns are recommended as they are accelerators for process mapping.
Strategic Alignment	In terms of strategic alignment maturity (chart 5) the organization is more mature than the overall maturity with some Level 4 / 5 views being prevalent. The degree to which the respondents felt that their areas are supporting a competitive advantage should be discussed at a suitable management forum to determine if it needs addressing through additional communication or further action.
Governance	Along with process documentation improvements, agreements will be necessary in terms of which standards will be applied to ensure processes are kept consistent and maintained. Encouraging is that there is evidence of some standards already being in place, but this still seemed somewhat inconsistent. Decisions will be required on using a single architecture framework as well as which toolset to use for process modeling. The respondent's views on requirements management standards were more positive; however, the responses in terms of how requirements are actually managed seem to be divided and raise a question mark over the more positive indications. It is recommended that requirements management standards are revisited and adjusted if needed, to ensure consistency.

Explicit BAAM components	Recommendations
Requirements management	The respondents indicated that requirements are not used often as reference either for projects or for newcomers. Furthermore there is a mixed methodology in terms of creating new or updating existing requirements. Since updating existing requirements will enable a holistic view of the entire enterprise and make future updates faster it is strong recommendation to standardize updates on existing documents.

Table 7: Summary of explicit BAAM recommendations (Source: Author)

Tacit BAAM components	Recommendations
Organizational Perception	An excellent starting point is that there is agreement on the definition of Business Architecture and that the use of a single framework would be essential. Added to this would be the general sense that the organization is lagging behind its competitors in this regard. This creates a good basis from which to launch the improvements into Business Architecture. Over time as the business architecture matures it is bound naturally be used as reference for newcomers and when starting a new project.
Knowledge Sharing Culture	It is encouraging that a knowledge sharing culture exists. However, the tendency to share knowledge verbally (instead of documenting it) is subtly detracting from the successful improvement of Business Architecture. The focus should be on understanding which type of knowledge to document and which to share verbally. The recommendation is to remain practical as excessive documentation will become a burden and create a sense of negativity around Business Architecture.
Relevance of Benefits and Challenges	There is a high level of acceptance for the benefits that improving business architecture would offer. This will assist in presenting a case for change. In particular the view is that BA will assist with the prioritization of future projects as well as improve Business / IT alignment. In terms of challenges, though, the highest rated challenge was the time and efforts needed to create BA, followed by getting management buy-in. Given this view, it would be best to approach improvements of BA in phases and attempts should be made to quantify the time needed to finalize each phase. Change management should be a key element of the improvement project and a core team that includes influential management representation is recommended in order to reach critical mass.
Quality Management	Quality management in terms of requirements is intact and current practices should be maintained. Further efforts to improve the Governance for Requirement Management will naturally support the quality management elements as well.

Table 8: Summary of tacit BAAM recommendations (Source: Author)

It is recommended to perform a follow-up BAAM measure in about six month's time in order to measure the effectiveness of your implementation of the recommendations, provided that the organization has actively been busy improving the state of Business Architecture in Organisation A.

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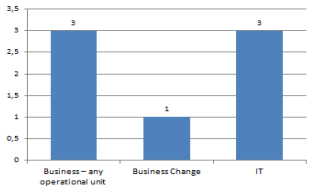
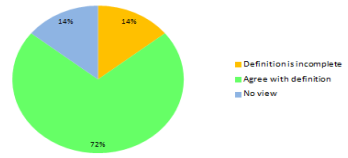
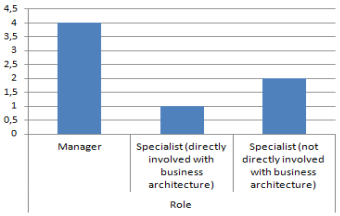
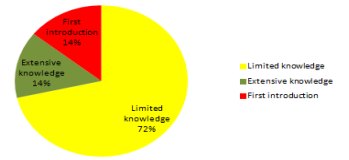
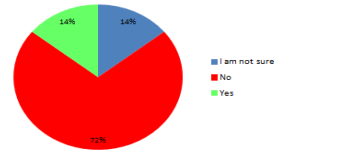
Company: **Organisation A**

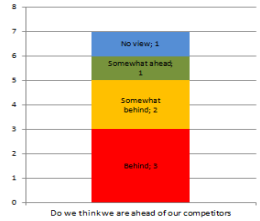


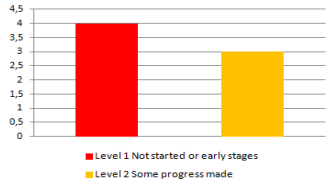


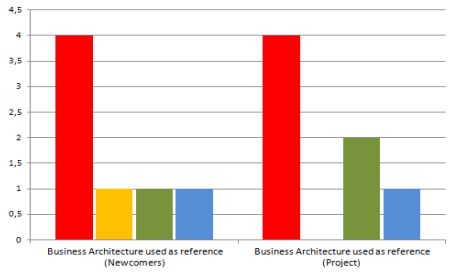


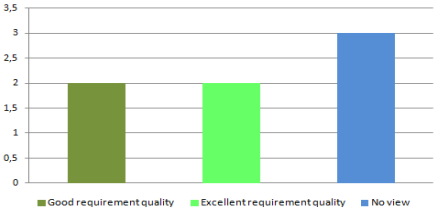


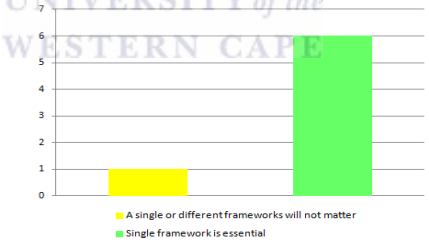


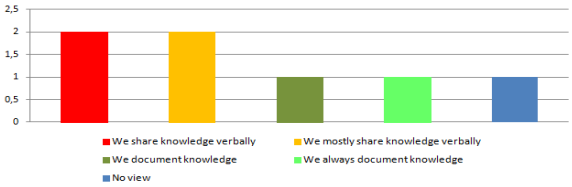


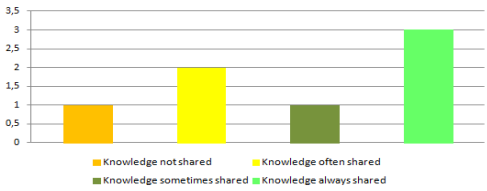


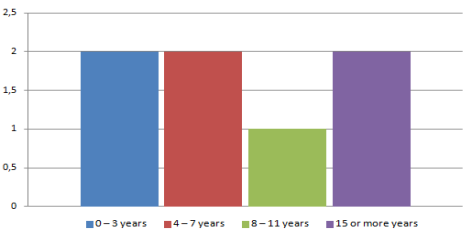


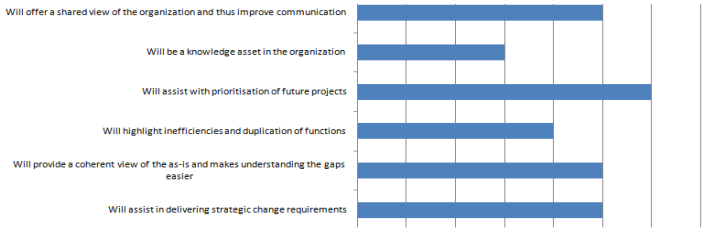


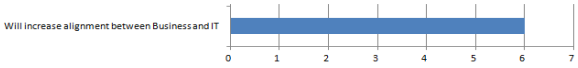


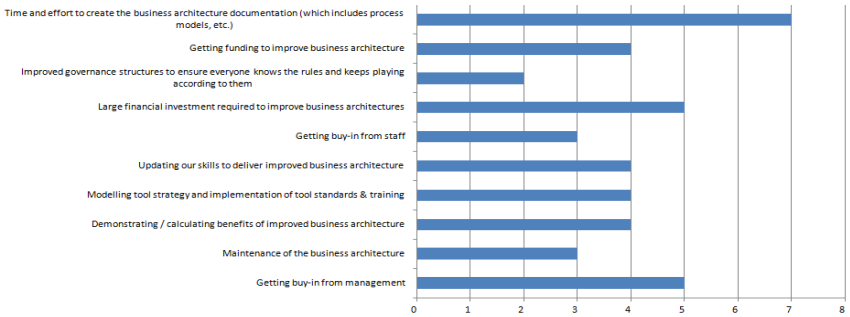












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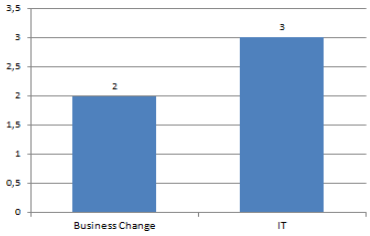
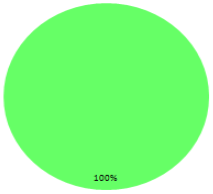
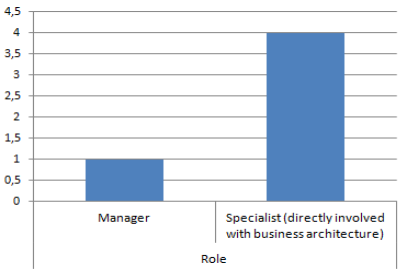
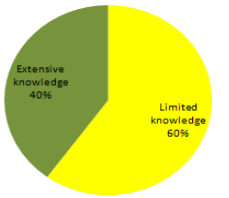
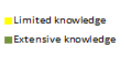
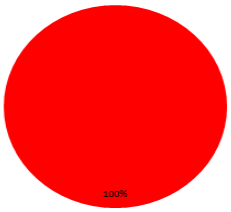


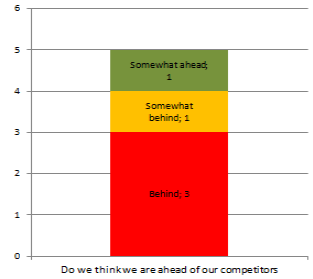


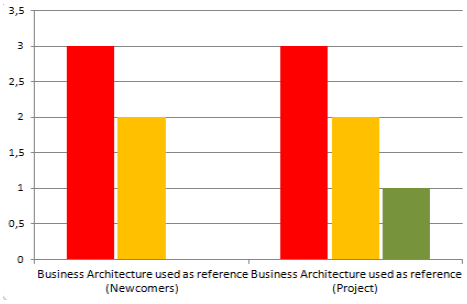


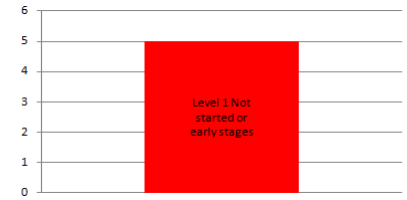


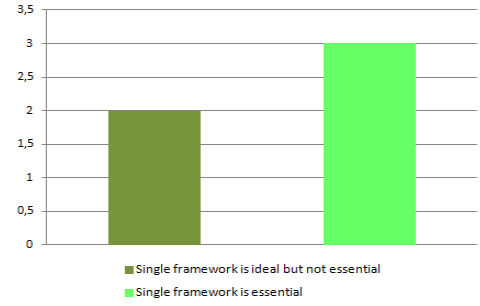


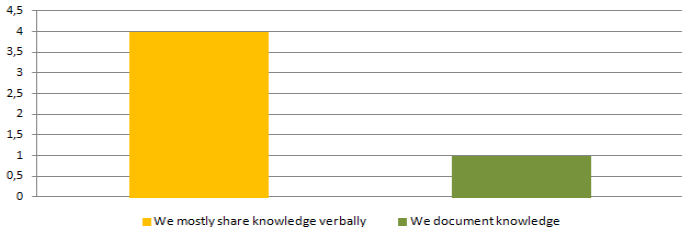


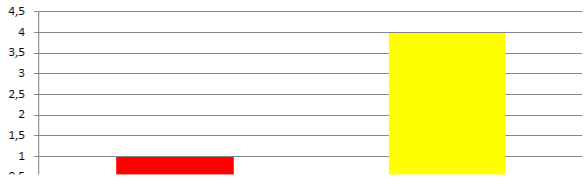


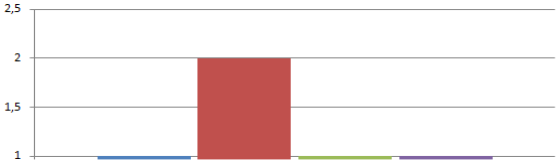


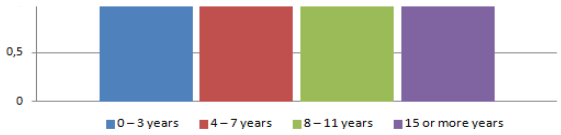


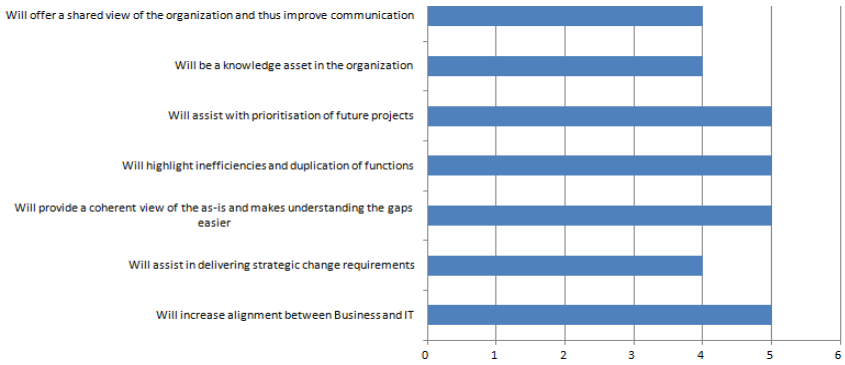


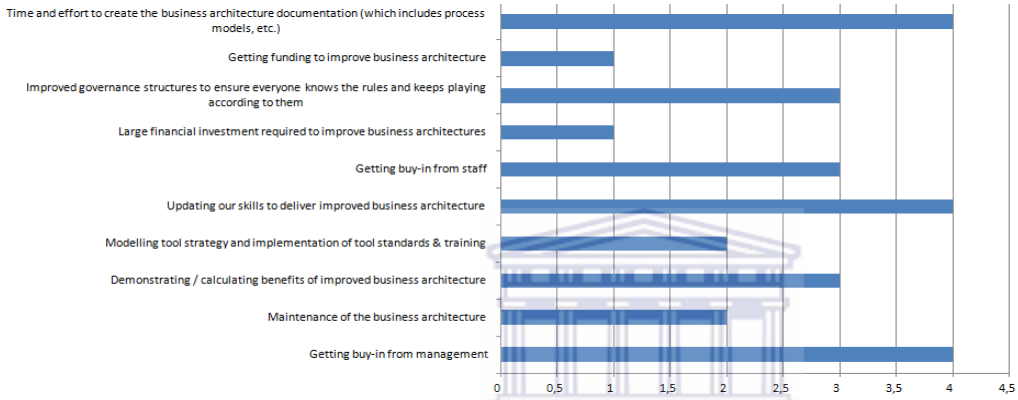




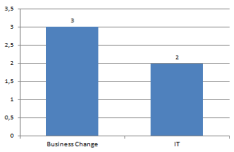


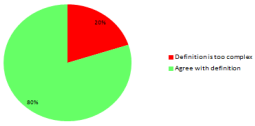


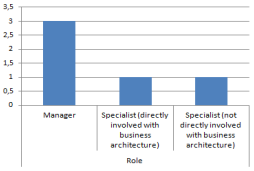


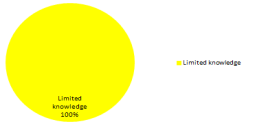


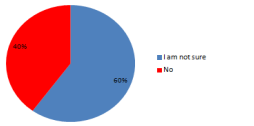
Company: **Organisation C**

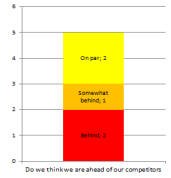


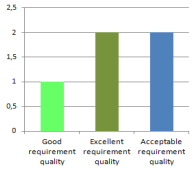


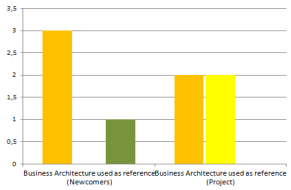


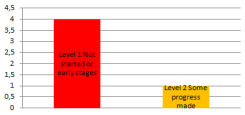


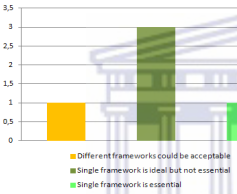


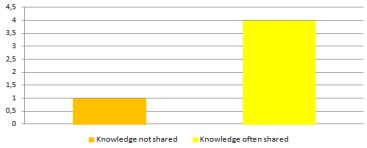


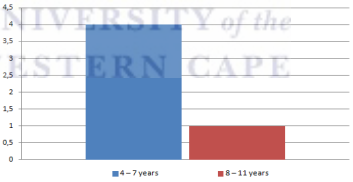


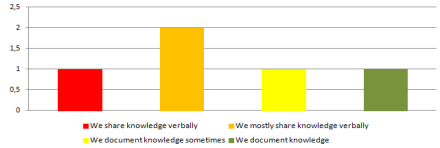


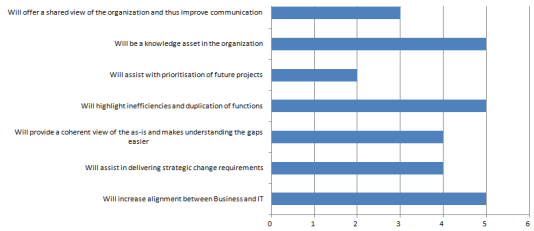












Company: **Organisation D**

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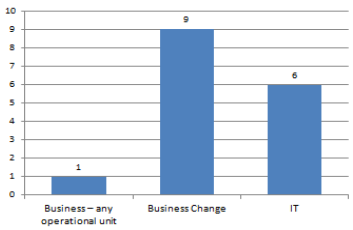

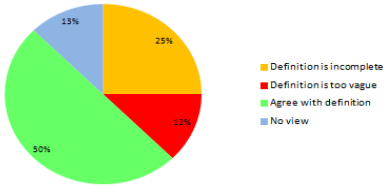

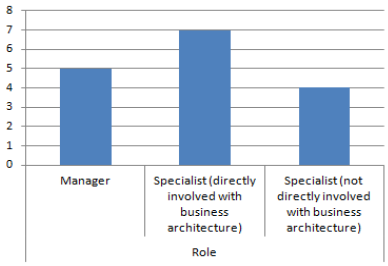

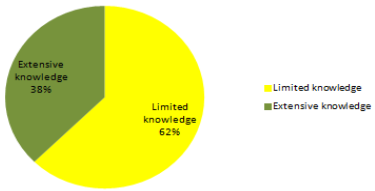

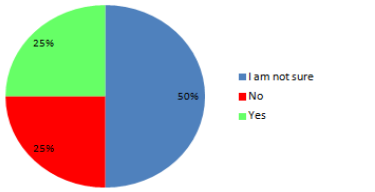

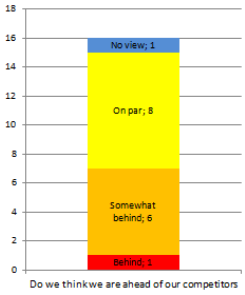

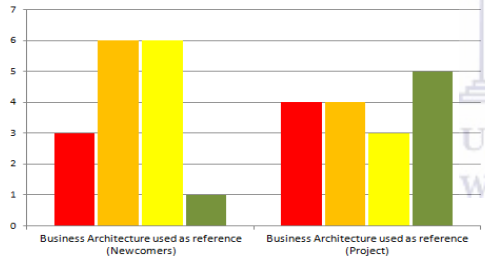

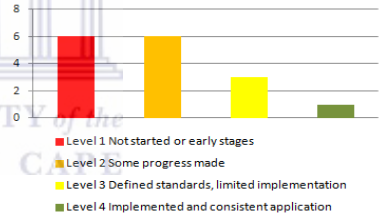

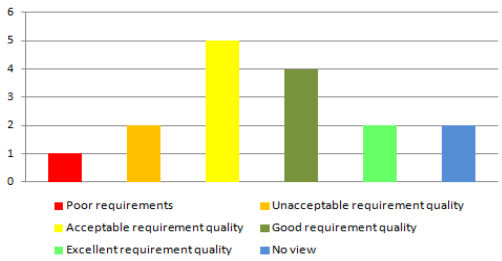

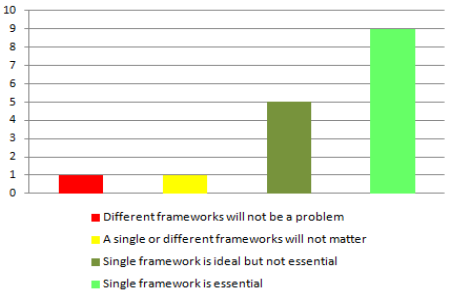

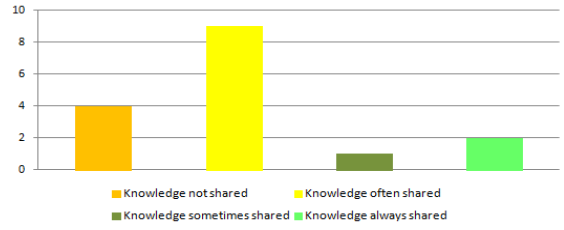

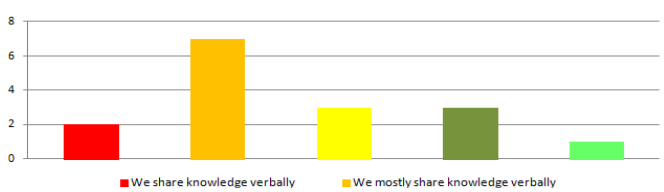

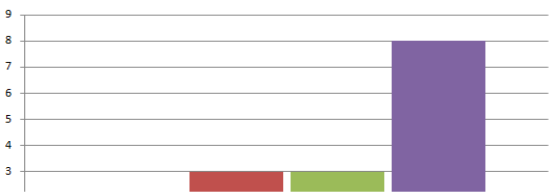

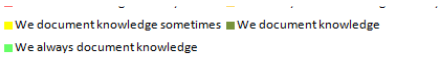

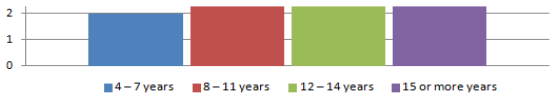

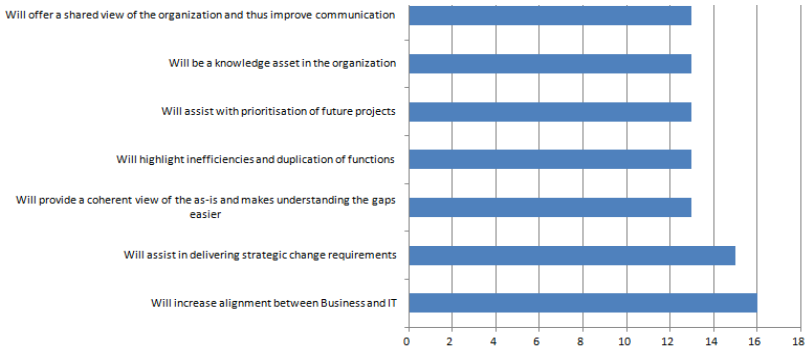

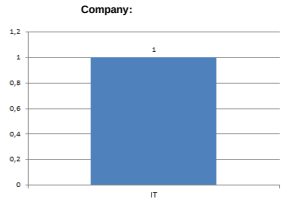

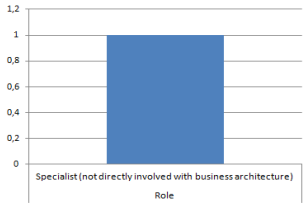

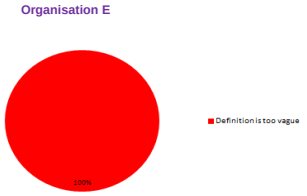

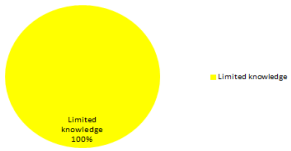

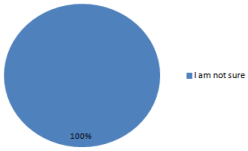

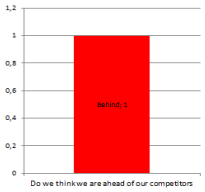

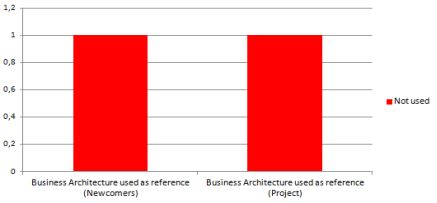

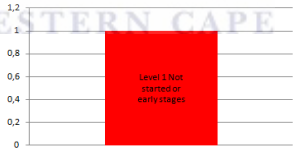

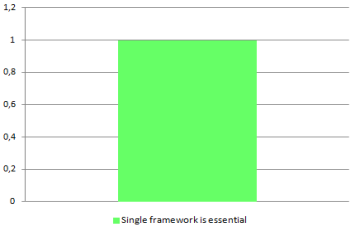

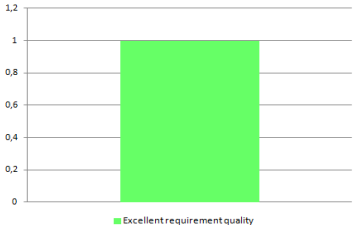

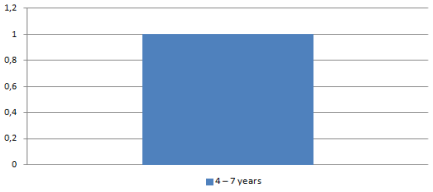

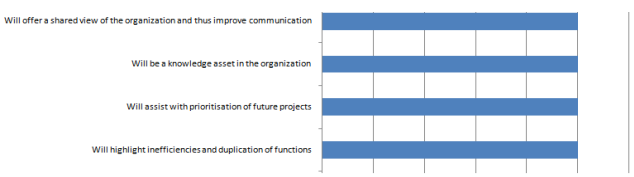

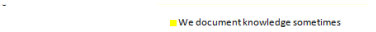

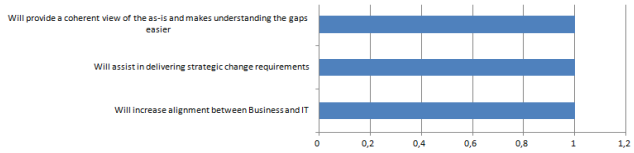

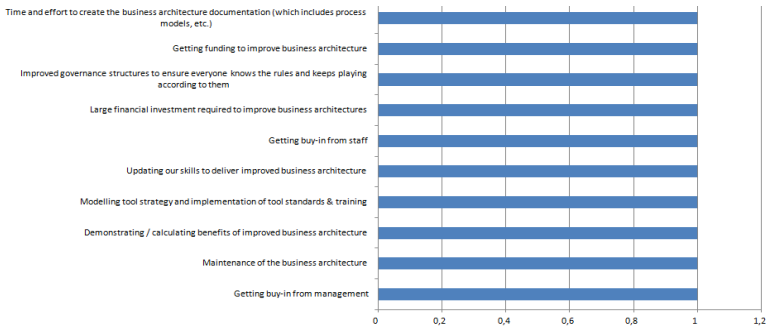

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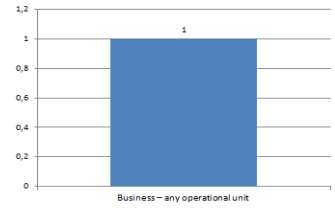

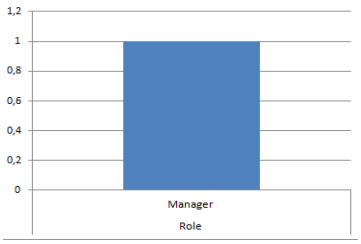

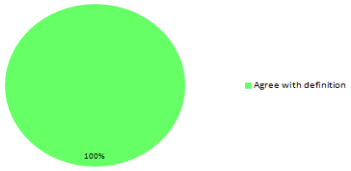

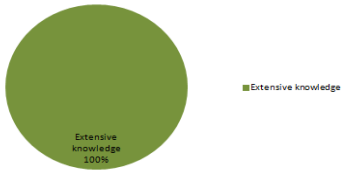

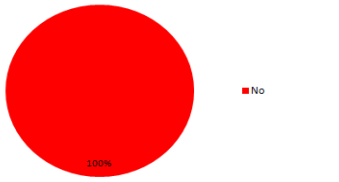

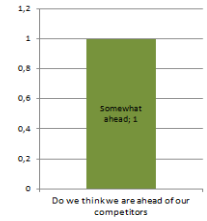

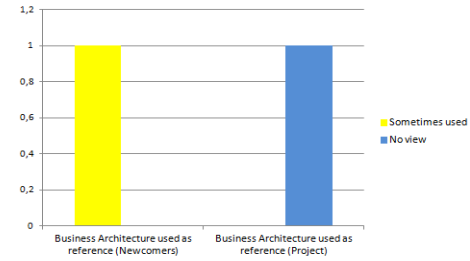

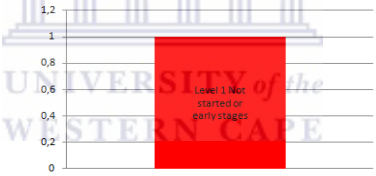

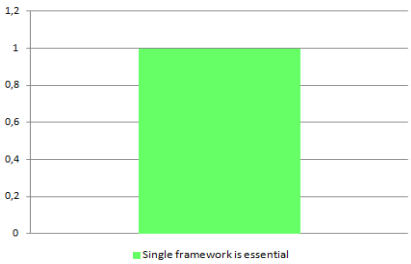

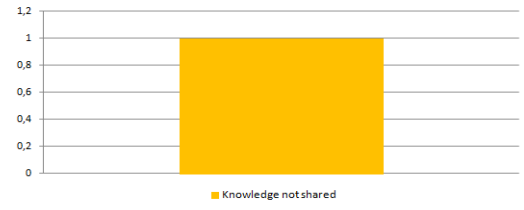

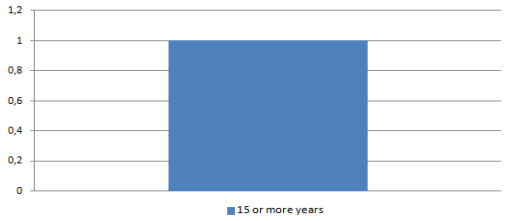

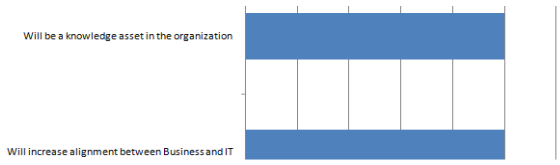

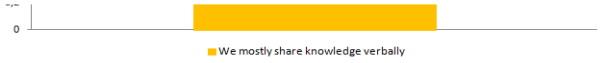

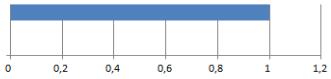

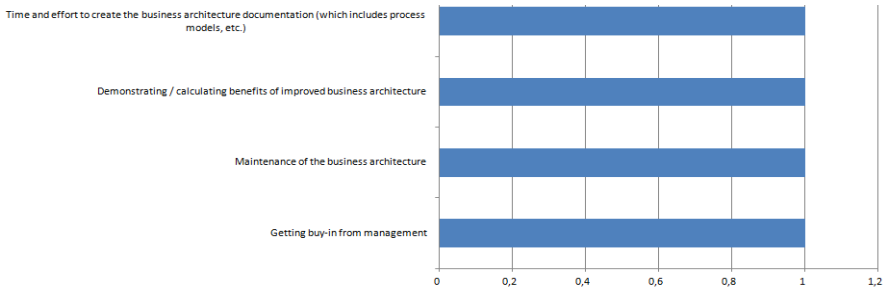

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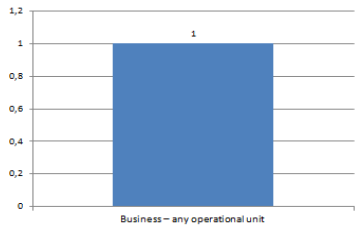
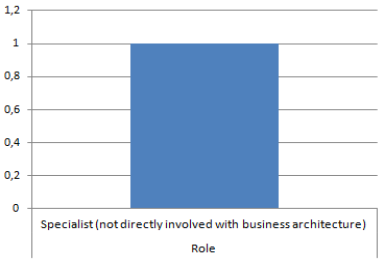
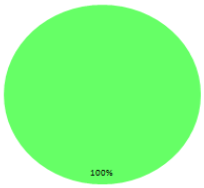
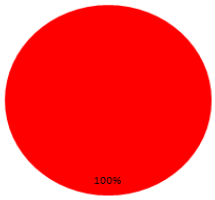




Organisation G





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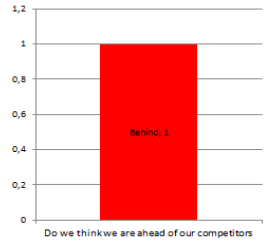

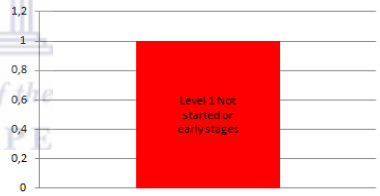

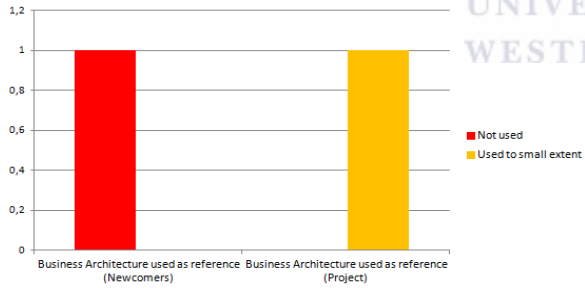

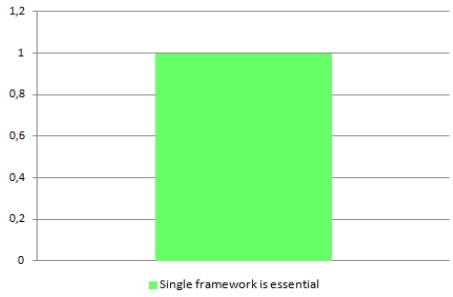

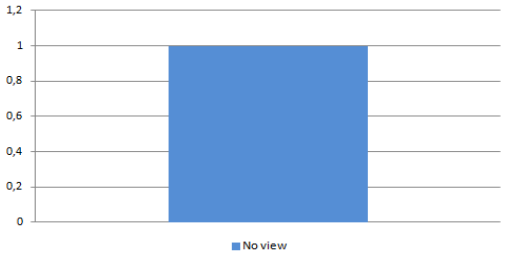

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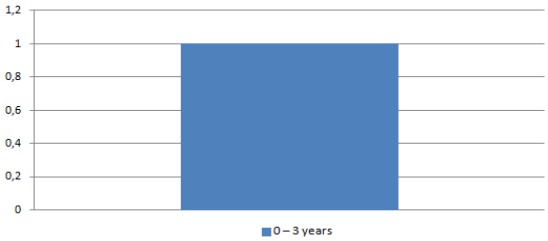

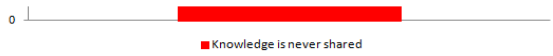

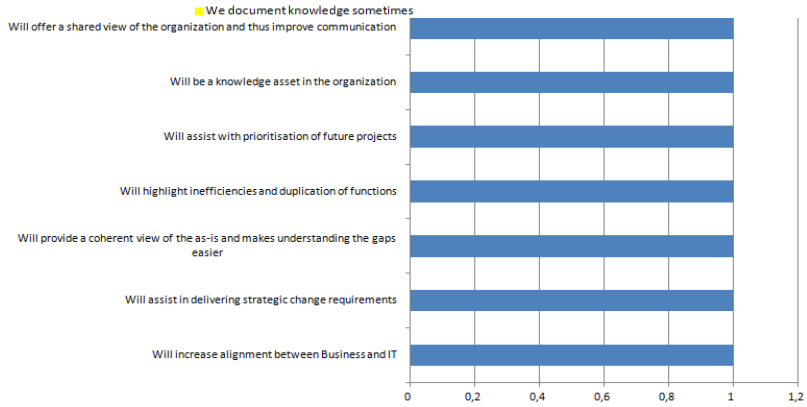

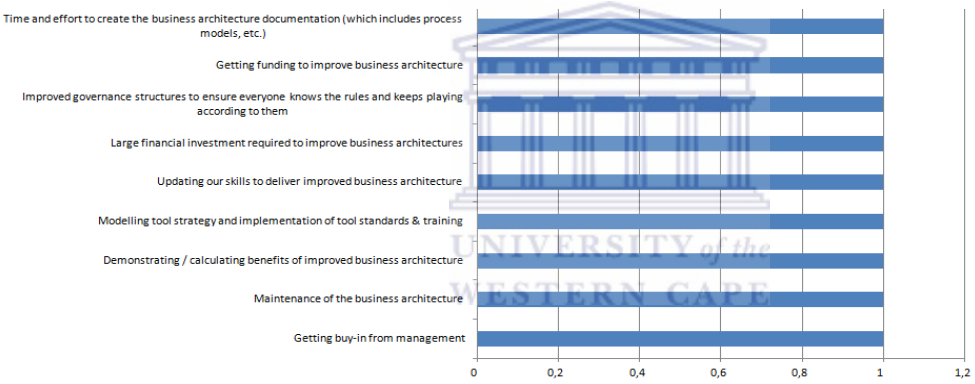

Company: **Organisation H**