



The Factors of Enterprise Business Architecture Readiness in Organisations

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Abstract. Before the deployment of enterprise business architecture (EBA), readiness assessment is often not conducted. Lack of readiness assessment results to fear and lack of know-how in the deployment and practice of the concept, and factors of influence are unknown. Consequently, the deployment and practices of the concept remain slow, despite the growing interest from both academics and enterprises. This chapter, through the case study approach, using five organisations, examines the factors that influence the readiness of EBA in organisations. The interpretivist approach was employed in the study and the hermeneutics approach is followed in the analysis.

Keywords: Business architecture · Readiness assessment

1 Introduction

Enterprise business architecture (EBA) is a domain of enterprise architecture (EA), which covers the non-technical activities of an organization [1]. Other domains of the EA are information, application and technology [2]. The focus of this study is to present factors of EBA readiness assessment in an organisation. AL-Ghamdi and Saleem explains how the concept of EBA deals more with business processes and modelling than with the technical and technological aspects [3]. The EBA is derived from the business strategy and it is mainly concerned with human resources, business processes and rules [4]. Business architecture can be described as a strategic tool that enables organisations, to drive business operations and determinants for information technology (IT), for competitiveness purposes. These facets, strategic, operationalisation and process model have attributed to the reasons why organisations (or enterprises) show interest and emphasis on the concept.

Furthermore, the deliverables of EBA are said to inform the design and development of other architectural domains, which include information, application and technology. AL-Ghamdi and Liu argued that even though EBA's focus is on business process, it eventually gets incorporated with the technical infrastructure, data architecture, hardware and software of the organisation [5]. Thus, EBA provides a roadmap for aligning

business needs with IT infrastructures. This aspect of EBA enacts the fact that business environments should not be studied in isolation but through a context [6]. The practice of EBA provides the context that allows for a better understanding, performance, and control of business operations [6]. Organisations that have implemented EBA are expected to reap benefits such as strategic alignment, customer-centric focus and faster speed to market [7].

However, many organisations have not been able to implement the concept of EBA. As a result, they lose out on the benefits, which would have fostered their competitiveness. The lack of implementation of the concept can be attributed to two main factors: (1) there are not many cases, which limit references and learning from practice. Consequently, it makes some organisations reluctant in embarking on the process [8]; and (2) many of the organisations that have implemented or attempted to implement the concept have failed in realising or articulating the benefits [9]. These factors are because of a lack of readiness assessment [10].

Given the strategic significance of EBA, there has always been a need for assessment, to determine an organisation's readiness for the implementation of the concept. Unfortunately, there seems to be no readiness assessment models tailored for EBA that can be used to guide this process. Many of the assessment models found in the literature focus on enterprise architecture (EA) as a whole and not on EBA as a domain [10]. A study by [11] developed an enterprise architecture implementation and priority assessment model comprising 27 assessment criteria. A model, based on an analysis of 9 factors and 34 indicators to assess organisations readiness when implementing EA is proposed [12]. Due to the lack of EBA assessment models, organisations find themselves deploying EBA even when the environment is not fit. The assessment models are critical as they enable organisations to determine the extent, they are ready before practising EA concepts and gaining a better understanding of the existing gaps [12].

This chapter is structured into six main sections, sequentially. The first section introduces the chapter. The section that follows presents a review of literature, which tries to unpack the gap that exists in the terrain that this study focuses upon. Next, the methodology that was applied in the study is discussed. Analysis and findings from the validation are presented in the fifth section, thereafter, a conclusion is drawn in the last section.

2 Literature Review

The development of EBA is a primary activity that needs not to be under-represented in the enterprise architecture program. As a management approach enterprise architecture aims to drive the alignment between business units and the supporting information technology in organisations [6, 13]. Without the business architecture, it becomes impossible to achieve the alignment between business and IT. Hence, EBA is the fundamental structure of the enterprise architecture responsible for defining the business strategy, governance and key business process [14]. The business architecture is a key component of the enterprise architecture development as it enables organisations to better articulate business objectives, goals and processes, which are - critical input for other architectural domains [15]. According to Caceres and Gómez, implementing EBA allows for a comprehensive vision of the organisation, and provides a tool that allows them to align

strategic business objectives with applications and technological infrastructure [16]. Despite the benefits of EBA, there are persistent challenges.

Like other architectural domains, EBA is not immune to challenges. EBA encounters both technical and non-technical challenges, and how they manifest from the environment in which the domain is implemented and practised. When it comes to EBA practice strategic alignment remains a key challenge [17]. The strategic alignment aspect is mainly concerned with the fitting of business processes, objectives and organisational structures [15]. The challenges relating to the strategic fit are a result of dynamic markets that are often demanding innovation. Due to the constant changes in business environments, the business architecture is always under pressure to be responsive and ensure the changes are managed and controlled towards the organisation's strategic intent.

On the other hand, EBA is viewed to be abstract and lacking tangible delivery [18]. There is a report that some organisations believe that EBA is an abstract concept requiring significant investment but whose benefits cannot be proven [19]. As a result, the value of business architecture remains poorly understood in many organisations [20]. A clear understanding of the value and impact of EBA is critical for all different components of organisations as it drives their existence. The challenges of EBA impend organisations from exploiting the benefits of business architecture. Thus, the need for organisations to adopt a novel approach such as readiness assessments for EBA before its implementation.

EBA forms the foundation for other domains of architecture, namely information, application and technology, thus putting it in the most critical position in enterprise architecture development [21]. Due to its foundational role in enterprise architecture development, organisations need to conduct business architecture readiness assessments before its implementation. A readiness assessment is a benchmarking process that assists organisations in identifying potential blockages to the effectiveness of new system implementation [22]. Conducting a readiness assessment provide organisations with an opportunity to measure the amount of their readiness and if not ready, to better understand the issues and address them before implementation [12]. Implementing enterprise architecture is a complex and costly process and thus the need for readiness assessment for organisations to ascertain their resources before its implementation.

Consequently, when readiness assessment is carried out at the implementation level, it restricts product changes and generates higher costs [23]. Historically, unanticipated challenges contribute to implementation failure [24]. Therefore, by doing a readiness assessment organisations are taking stock of all relevant factors that have the potential to impact the successful adoption of an innovation in any way [25]. Broadly, business architecture is about the organisations operating model, strategy and human capabilities and by conducting a readiness assessment, the organisation reduces uncertainty and improves planning in the prioritization of the required resources [23].

3 Methodology

The qualitative method was employed in the study because of its focus on quality rather than quantity [26]. Thus, the method was most appropriate because, the aim is to understand the factors of readiness of EBA, which is beyond a 'yes' or 'no'; 'true' or 'false' type of event. The method is well documented, rationalised and is increasingly being

used in information systems (IS) research. It therefore, does not necessarily need introduction and explanation in the IS context – see [27, 28]. The qualitative method is applied in this study primarily because the objective deters knowing insights in the rationalities of the participants.

Given the aim of this study, the case study approach was suitable. A total of five South African-based organisations partake in the study, to gain insight into the factors that influence EBA reading. A preliminary question was used in selecting organisations for the study. The organisations were selected according to a set of empirical criteria thought to be most useful to the objective of the study [29]. These are: (1) thirteen organisations were invited, eight agreed to partake; and (2) of the eight, five have successfully implemented the business architecture. The five organisations were assigned pseudo names because the organisations strongly opposed to disclosure of identity. The organisations are South Bank South Africa (SBSA); (2) Ocean Bank South Africa (OBSA); (3) Green Insurance South Africa (GISA); (4) Government Administration (GASA); and (5) Essentials Retailing (ARSA).

The data was analysed through hermeneutics following the interpretivist approach. This allowed a two-phase approach. Phase 1: the written feedbacks were repeatedly read in conjunction with the interviews' transcripts to comprehend how the EBA is applied. Eisenhardt suggests that this is crucial in the analysis of qualitative data; and (2) the sets of data from each of the organisations were also repeatedly read with the EBA, to gain an understanding of conclusions that were reached in the application (testing) of the model [30].

The analysis focuses on 3 main standpoints, which are: (1) to broaden the logic of the EBA, to the understanding of employees in the organisations; (2) its translation is a means through which relationship between actors are established, and understandings are connected; and (3) it helps actions to be coordinated, and meanings are transmitted.

4 Analysis of the Data

The key factors or areas are usefulness, value, design and automation, and ease of use. The factors require translation in ascribing them into actors for implementation purposes. Translation exposes how the interests of actors change in the implementation of technology or processes [31].

4.1 Factors of Readiness

Thus, it is the primary role of a business architect to have a holistic understanding of the business direction, context and strategies when developing EBA. There are multiple levels of translation in the process of testing the model in the organisations. In the first level, the components of the model were translated to the participants. This was to help them decide on their participation and provide useful responses. At the second level, the participants translated the components in the context of their organisations, to ensure relevance and fit. Some organisations view business architecture as an interlinked with organisational goal and objectives towards value creation and competitiveness [17]. Consequently, one of the participants concluded as follows: “The model

clearly presents the factors of readiness and also outlines the weight associated with these factors” (GASA_02).

Business model design and product design differ in several theoretically meaningful ways. Hence translation of the components was critical. According to one of the participants, “the main value is that it helps to improve the capabilities to achieve the goals and objectives of business architecture. Also, it helps with design, to capture and address all elements related to customers service such as digitisation of its services (OBSA_02)”. Unswervingly, the managers (lead participants) established themselves as obligatory passage points by directly enforcing testing of the model. Such action ensures common understanding among participating employees, which helps with corroboration of responses from the employees. In addition, some of the managers used the study as an opportunity to test employees’ theoretical know-how about the concept of business architecture which they have inscribed in them as the organisations’ embarked on the route to developing the business. From the responses and actions, some of the managers translated employees’ buy-in into indispensable interest.

4.2 Rationale of Readiness

The readiness assessment helps an organisation to understand capacity of its resources towards improvement of the mandatory requirements for successful implementation of EBA. Hussein considers readiness assessment as the first step for adoption as it can be useful in identifying gaps and risks [32]. In successfully implementing business architecture, a method that detects and traces means and ends at the domain’s level was needed. One of the participants briefly explains: “The value stream allows an organisation to document its processes and procedures, create and improve business objectives” (OBSA_05). The business architecture involves the conceptualization of organisational boundaries and defines flows of processes [33]. Through translation, the assessment model is understood as “useful because it helps the organisation to deliver end-to-end business value to its customer” (ARSA_03).

Organisations must be able to assimilate change, for purposes of value add and realisation. “The model is useful in that it helps in the overall assessment of enterprise-wide business architecture model, more so in the identification key areas when gathering requirements” (SBSA_03). The factors used for testing make the model suitable for the assessment of an environment toward readiness of EBA. The factors are fundamental for both present and future including potential changes. Peppard and Ward argue that environment evolve to a point where change emerges, which therefore mechanisms for assessment [34]. The position of the participants was that the assessment “... Helps a great deal as a guiding plan when building the matrix to assess EBA maturity level” (GISA_01).

4.3 Process of Readiness

During the test, translation occurred at stages that further allow us to analyse the proliferation of related networks (groups within organisations), to gain explicit fathom on why and how the EBA RAM was evaluated and accepted as readiness assessment mechanism in organisations: “the EBA model designed to help organisations build a better

visual representation of their business environment” (SBSA_02); “The model is useful because it helps an organisation to capture and futuristically assess how business activities fit together, to serve the end-to-end stakeholders’ needs” (ARSA_02).

The readiness assessment helps an organisation to identify various factors that can impede the successful operationalisation of the business architecture. The factors are both technical and non-technical and can be unique for each organisation. “The model is well constructed, and it is easy to interpret and used” (GASA_04). As a result, “it further helped on establishing the gaps on the current departmental enterprise architecture effort” (OBSA_02). By conducting EBA readiness assessment, organisations do not only identify the risks and potential challenges but also opportunities that might arise when EBA is implemented [35].

Fundamentally, translation reduces cognitive biases and strengthens the proposition to gain an understanding of how the model can improve the stability, usefulness and value of business architecture. “In my view, the model is useful because it provides better business definition for every area of business architecture deployment which can lead to effective and efficient business processes and technology solutions within the environment” (SBSA_01). Assessment requires reconciling means with ends through translation in which change is ascribed in the actors within the environment. Consequently, actors prepare for known and unpredictable changes that relate to both ends and the means. “The model allows organisation to build business capability which can add value to the development and implementation of the business architecture” (OBSA_03).

5 Discussion of Results

The EBA has been better theorised in literature rather than practice [36]. This study provides empirically validated model for organisational practice. Testing of the model provides practicable evidence for implementing EBA in organisations. The test focused on four fundamental factors, which are usefulness, value add, design and automation, and ease of use as shown in Table 1. Typically, these factors are indicators for IT and business improvement, risk mitigation [33], and alignment (or co-existence) with existing IT solutions [37]. The factors enact structures, operations, governance, and alignment of the EBA with the current environment. The EBA implies realistic construction of structures and operationalisation of alignment and translation of strategies toward implementation of the EBA in an organisation. The factors are discussed below, and they should be read with the Table 1, to gain a deeper understanding of their criticality.

The notions of usefulness, value, design and automation and ease of use were prevalent in the conversation and written responses from the participants. These were because of translation of the business architecture goal and objectives. “The model also allows the measurement and monitoring of the key performance indicators within the environment” (SBSA_02).

5.1 Usefulness of the Assessment Model

An object or system is deemed useful when it enhances the performance of activities towards achieving the defined goals. Individuals accept and use systems to the extent

Table 1. Test result of the EBA-RAM [38].

#	Org	Factor	Weight				
			1	2	3	4	5
1	SBSA	Usefulness					X
		Value adds					X
		Design and automation					X
		Ease of use				X	
2	OBSA	Usefulness					X
		Value adds				X	
		Design and automation				X	
		Ease of use				X	
3	GISA	Usefulness				X	
		Value adds				X	
		Design and automation					X
		Ease of use					X
4	GASA	Usefulness			X		
		Value adds			X		
		Design and automation		X			
		Ease of use				X	
5	ARSA	Usefulness					X
		Value adds				X	
		Design and automation				X	
		Ease of use					X

they are better at addressing their needs. The EBA was considered useful by enforcing practicality in assessing organisations readiness for business architecture implementation. Also, because it helps to fortify implicit decisions in business processes, towards achieving the goals and objectives. Thus, determining areas of an organisation for the EBA focuses, to improve performance. The absence of this type of model has made it difficult for many organisations to understand the extent of complexity and the readiness nature of their environments. In addition, the usefulness of the model also comes from its generalization because it is not designed for a specific organisation as it is flexible and can be applied by different organisations wishing to implement the concept of business architecture.

The model is useful in providing guidance to both business and technology managers in assessing the environment to detect factors of influence in the deployment of EBA. The realisation of strategic fit within the business architecture is an important challenge for many organisations, which has not been actualised [17]. The test conducted in the 5 organisations proceed the model from a theoretical antecedent into practice.

Significantly, the model illustrates how to carry out the assessment process. The model, through the weight associated with each cell provides a valid reflection about the current business environment, enabling the identification of the existing gaps and the analysis of the efforts towards each factor. Also, it enables detects potential risks in business architecture' multi-faceted view of the organisation's key components. The test validates the gap between an organisation's blueprint and the real-world readiness and capabilities required to deliver EBA.

5.2 Value Adds to EBA Development

Lack of understanding of factors that influence the deployment contributes to the inability to assess the value of business architecture in organisations [10]. Significantly, this is one of the contributions of the EBA to organisations in their pursuit of developing and implementing business architecture. The EBA brings a fresh perspective to organisations that enable management and employees to scrutinise their environments for readiness before committing to architecture activities. Thus, the business architecture is considered the genesis domain of the enterprise architecture because it is pivotal to value add. Also, the EBA can be viewed as a communication tool through which alignment of the various components necessary for successful operation of EA is achieved. This addresses concern that demonstrating the business value of architecture has proven elusive as many of the benefits are intangible [39].

The result from the test clearly shows that the EBA is resilient and adaptive to business architecture in organisations. There are some explanations on how business architecture resolves historical challenges in organisations and translates objectives into strategies, thereby aligning technology and operations [40]. This can hardly be achieved without an assessment, a significant value which the EBA presents. From value aspect, the EBA clearly addresses the gap in processes, designs, and communication within business units, which can be used to promote quality of business' functionalities and supports. The value is fortified through its provision of managerial approach to reveal reality about current state and guides processes toward performance improvement. Consequently, the approach removes the incessant of going in virtual circles, without valuable contribution.

5.3 Design and Automation of Processes

The implementation of EBA is influenced by various factors that are of technical and non-technical nature, which manifest from characteristics and categorisations. There are challenges of characteristics, constraints, and categorization of resources, which often hinder the implementation or practice of business architecture in organisations. Without initial assessment, it is difficult to detect some of these factors because of their uniqueness. The uniqueness of the factors requires a deep view, to gain better understanding and their impacts toward successful development and implementation of the business architecture. This is critical as it shapes the business process network and automation. Also, it enables management to develop a holistic view of an organisation's resources necessary for the design and development of business goal and objectives.

In theory, business architecture defines fundamental components such as transformation and strategy [40]. Through its design, workflow, and logical artefacts, enables

alignment, an integrated bridge between business units and IT [36]. Therefore, its assessment should not be taken for granted in actualisation for the objectives. Also, the increasing complexity in business processes and operations require fixing and manageability, to promote cohesion and business-IT alignment [41]. The factors that influence these aspects can be detected at the readiness stage, to ensure stability and increase the chance of fulfilling the objectives for value purposes.

5.4 Ease of Use of the Assessment Model

In addition to other valuable components, the EBA is considered ease of use focus when assessing an environment. Davis argues that when a system is perceived as ease of use, there is high possibility that the users will continue to make use of the system [42]. This is important for the EBA, in assessing readiness of an environment and enhancing the model as technology and business evolve. The EBA's ease of use is attributed to it making complex environment look simply to understand design. The comprehensive description of each cell in the model enhances employees' understanding of factors.

Organisations in all industries operate in dynamic environments. The constantly changing environments affect the business and IT structures making some environment complex. Rakgoale and Mentz explained that IT-landscapes continues to be a challenge due to the constantly changing requirements and globalisation [43]. These add to environment complexity, pointing to why numerous research that have been conducted in the areas of business architecture do not aim to assess implementation gaps [9]. Therefore, implementation of the EBA has been slow primarily because many organisations do not have a clear understanding of how to transform from it being a concept to practice. Also, it is difficult to demonstrate and quantify the value of EBA changes without being able to detect the risks and the bridging mechanism. The EBA is an easy-to-use approach that supports business model- driven migration from a baseline to the deployment of EBA.

6 Conclusion

It is well documented that the deployment and practice of business architecture have been slow. The rationale for the slowness seems to remain a mystery, despite the many studies conducted concerning the subject. This is the main significance of this chapter, for empirically revealing the factors that can influence the readiness of business architecture in an enterprise. The findings are so important that they have bearing and influence from both academics and enterprises (business-organisations) perspectives. On one hand, the chapter demonstrates the criticality of readiness and assessment in the deployment and practice of business architecture. On the other hand, it creates awareness for the stakeholders of the concept in both academic and business domains.

From the academic front, the chapter theoretically positions the factors for further examination in the deployment and practices of business architecture. Also, the chapter adds to existing academic resources, towards the development of capacity and business architecture artifacts. Another significant aspect of the chapter is that it provides additional material for information systems (IS) and information management scholars or researchers that focus on the topic of business architecture.

In practice, the chapter reveals factors of readiness and assessment, which can be used as guidelines for practitioners, which include business managers, information technology specialists, and enterprise and business architects, in their quest, to deploy and practice business architecture. The empirical nature of the findings gives the stakeholders the confidence to use the factors in formulating policies, standards and principles, for business architecture. Thus, the factors contribute to bridging the gap that makes business architecture lags in organisations.

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