



Enterprise Architecture Blending Cycle

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ABSTRACT

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The purpose of implementing Enterprise Architecture (EA) is to create alignment between the enterprise architecture and the strategic plans of institutions and business functions, allocation of institutional resources, and selection of information technology tailored to the institutional business needs. To develop the application of EA, an EA methodology is needed with a Blended Methodology approach from several EA (Enterprise Architecture Planning (EAP) methodologies, The Open Group Architecture Framework - Architecture Development Method (TOGAF-ADM), Oracle Architecture Development Process (OADP), Enterprise Unified Process. (EUP). By knowing the relationship between several EA methodologies, a new methodology can be generated that can help develop the EA implementation of an institution to achieve its strategic objectives.

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1. Introduction

Enterprise Architecture (EA) is a way to describe business operational models, automation, including information technology infrastructure that can support enterprise performance. Enterprise is an institution, institution or company that has a clear institutional structure and has business processes that have standardized business processes, which in carrying out its business processes have used adequate application systems as a support in carrying out business processes when viewed from the context of the enterprise architecture, even though it is separated. by region. Architecture is a general description of the construction of a system to be built by an institution in order to support the achievement of the institution's vision and mission by maximizing existing resources to create an efficient system.

Many EA methodologies are used in the reference for making enterprise architecture planning which consists of a set of information system process standards that can be used in the development of an institution's business processes. EA is very important for every institution in an effort to improve and develop new information systems, EA can help, organize and clarify between the company's long-term goals, business solutions and measurable and targeted performance improvements. The results of EA are expected to be a means to support decision making and to manage the company's information system portfolio [1].

EA is an ongoing program so that the current EA development methodology is very likely to be developed. The development of a new methodology using the Blended Methodology approach with several EA methodologies such as Enterprise Architecture Planning (EAP), The Open Group Architecture Framework - Architecture Development Method (TOGAF-ADM), Oracle Architecture Development Process (OADP) and Enterprise Unified Process (EUP) is expected an institution is able to develop an integrated enterprise information system concept.

2. Literature Review

This research is a research that makes Enterprise Architecture Blending Cycle. In this study, there are several data collection methods used, namely:

A. Enterprise Architecture Concept

The concept of architecture that describes an enterprise first appeared in 1980 and since then the enterprise architecture has been continuously developed and refined by various research and development institutions. The main components of an enterprise architecture are: business architecture, information architecture (data), technology architecture and application architecture [3]



B. Enterprise Architecture Planning (EAP)

The methodology for creating enterprise architectural planning was first introduced by Steven H. Spewak in the 1990s. EAP focuses on the word planning of an enterprise architecture, the results of using this methodology if mapped into the Zachman framework will only cover six cells, in other words only cover two perspectives and three columns from the Zachman matrix.

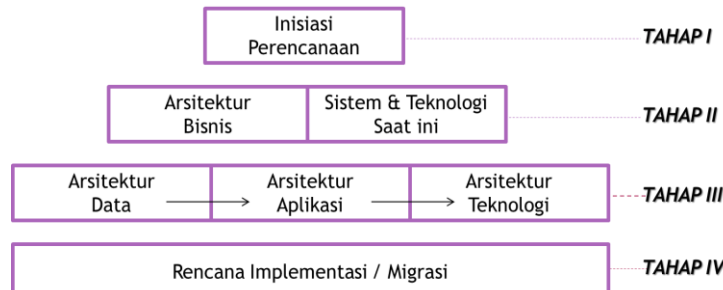


Fig 1. EAP stages [4]

C. The Open Group Architecture Framework - Architecture Development Method (TOGAF-ADM)

This methodology was developed by The Open Group, and is an iterative methodology tailored to the objectives of the enterprise architecture development and can be applied for planning, design and even implementation purposes.

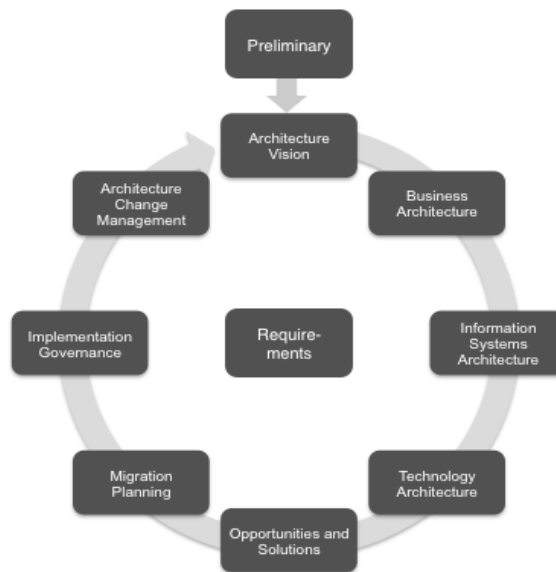


Fig 2. TOGAF ADM Stages(The Open Group, 2011: 48)

D. Oracle Architecture Development Process (OADP)

This methodology was developed by one of the database vendors, namely Oracle. Because this vendor has developed many Enterprise Resource Planning (ERP) products, this vendor has issued an alternative methodology for developing enterprise architecture, namely the Oracle Architecture Development Process (OADP). Just like TOGAF-ADM this methodology is iterative to produce a complete architecture.

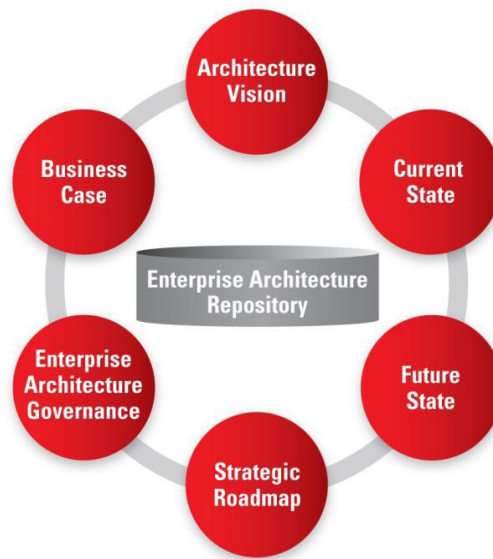


Fig 3. OADP methodology [8]

E. Enterprise Unified Process (EUP)

This methodology is an extension of SDLC called Rational Unified Process (RUP) which has been widely used in the development of object-oriented software. EUP was developed for the benefit of developing an enterprise architecture that is broad in scope and useful in developing an enterprise information system development strategy. Basically, EUP adds the enterprise discipline stage, which is the initial arrangement of the enterprise architecture before developing each system using RUP.

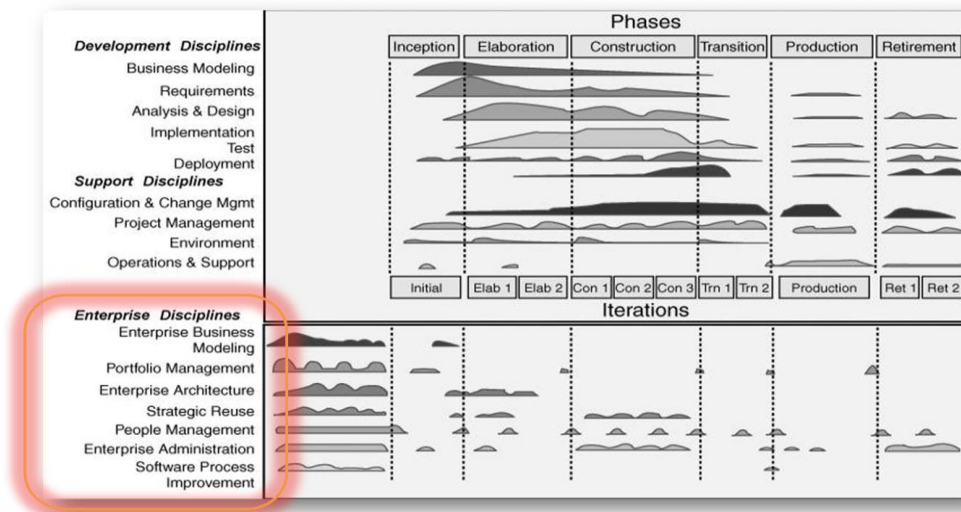


Fig 4. EUP Cycle [9]

3. Research Methodology

A. Research Object

The object of research was conducted at the Enterprise Architecture with an evaluation service in the Blending Cycle.

B. Research Methods

The method used in the SmartEnterprise Architecture Study begins with a literature study to determine indicators regarding Blending Cycle Readiness. Collecting data and information related to Enterprise Architecture in the success of a Blending Cycle can be done by conducting literature studies from studies that have been carried out by policy and legislative studies, as well as other supporting information relevant to

Blending Cycle. In this study, the analysis used is to identify the role of leadership in policy making, program planning and activities to make the Blending Cycle concept a success.

4. Results and Discussion

In developing a new methodology based on the blended methodology, the selection of each part of the EA methodology is carried out, such as the Enterprise Architecture Planning (EAP), The Open Group Architecture Framework - Architecture Development Method (TOGAF-ADM), the Oracle Architecture Development Process (OADP) and the Enterprise Unified Process (EUP).) which are deemed appropriate or relevant to the needs of the institution's current business processes. In making this methodology two parts were taken from each methodology used. The parts taken are as follows:

A. Oracle Architecture Development Process (OADP)

This stage uses Business Architecture and Architecture Vision after being processed and analyzed into the initial stages of this methodology, namely Business Strategy Architecture and Architecture Vision.

B. TOGAF-ADM

This stage uses the Information Systems Architecture and Technology Architecture after being processed and analyzed into the Information Technology System Architecture and Roadmap

C. Enterprise Architecture Planning (EAP)

This stage uses Implementation / Migration Planning after it is processed and analyzed into an Enterprise Architecture Blending Cycle and Governance Audit

D. Enterprise Unified Process (EUP)

This stage uses Strategic Re-use and Software Process Improvement after being processed and analyzed into an Architecture Business Improvement System and a Re-Audit Enterprise Architecture Blending Cycle.

E. Enterprise Architecture Blending Cycle (EABC)

It is a new methodology that is the result of a combination (blended methodology) of several existing EA methodologies.

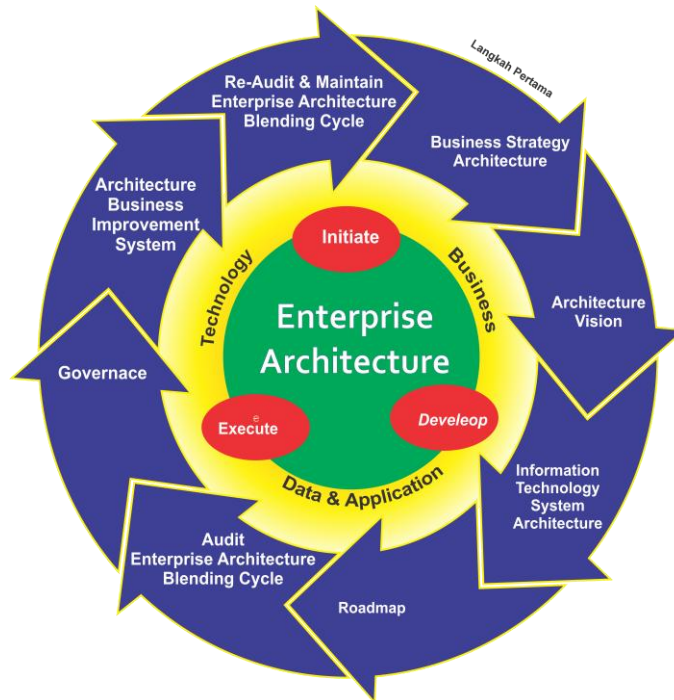


Fig 5. Enterprise Architecture

This methodology consists of 8 phases as follows.

A. Business Strategy Architecture

Stages to analyze the overall business processes and strategies carried out by the institution and describe them in a visual form so that they are easily understood by stakeholders

B. Architecture Vision

This stage concerns the vision of the enterprise architecture design being carried out, the scope, boundaries, project expectations, determining stakeholders, and validating the business context in order to support business strategies and activities in accordance with the vision and mission of the institution.



C. Information Technology System Architecture

This stage is to develop information systems architecture, namely data architecture, applications and instructor development of computer network technology which is the main foundation in the implementation of enterprise information systems.

D. Roadmap

Stages to determine the implementation plan that must be carried out by paying attention to success factors, such as time planning, priority scale, etc.

E. Governance

This stage determines the right governance based on the EABC audit so that it can be applied effectively to ensure the successful development of an enterprise architecture until the expected application of the new architecture is achieved.

F. Architecture Business Improvement System

This stage involves compiling procedures to better manage changes to a new architecture by providing continuous monitoring of things such as the development of new technologies and changes in the business environment.

G. Re-Audit & Maintain Enterprise Architecture Blending Cycle

This stage performs an overall audit / re-examination of all cycles that have been carried out in order to strengthen, ensure and maintain the new architectural evolution cycle in accordance with the strategic objectives of the institution.

5. Conclusions

Based on the results of the previous discussion, several important points can be concluded as follows:

The Enterprise Architecture Blending Cycle (EABC) methodology is expected to be the most appropriate methodology to be implemented in both industry, government and education institutions. Blended Methodology is a methodology that can be used in planning enterprise architecture for both industrial, government and educational institutions. The design of a new method does not always have to create a new one, but can be refined from the existing methodology. Further research must be carried out so that this thinking can be developed even better.

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