

## Influence of Business Process Maturity Model as a Business Architecture Planning Proposal



Zaleha Fauziah<sup>1</sup>, Dedeh Supriyanti<sup>2</sup>, Sulistiawati<sup>3</sup>

Manipal International University<sup>1</sup>, University of Raharja<sup>2,3</sup>

e-mail: [zalehafauziah@yahoo.com](mailto:zalehafauziah@yahoo.com), [dedeh@raharja.info](mailto:dedeh@raharja.info), [sulistiawati.wati@raharja.info](mailto:sulistiawati.wati@raharja.info)

Author Notification  
27 August 2019  
Final Revised  
28 August 2019  
Published  
03 September 2019

### To cite this document :

Fauziah, Z., Supriyanti, D., & Sulistiawati. (2021). Influence of Business Process Maturity Model as a Business Architecture Planning Proposal. ADI Journal on Recent Innovation (AJRI), 2(2). <https://doi.org/10.34306/ajri.v2i2.288>

### DOI :

<https://doi.org/10.34306/ajri.v2i2.288>

### Abstract

*This exploration is a piece of past examination that prevailing with regards to creating plan of action engineering arranging, the motivation behind this investigation was to create past exploration utilizing the estimation strategy for plan of action development as a proposed plan of action design arranging idea. By taking a similar contextual analysis topic as the Tiara Payung Putra (TPP) organization. TPP is known as a merchant organization in participation with Pertamina (Bulk LPG Freight and Filling Station). TPP's primary business movement is conveying products as LPG to 76 bases spread across Balaraja locale. The current state of the plan of action design represents the business exercises that exist in the TPP. The fundamental issues that happen in TPP are not incorporating outer frameworks with inner business exercises in the organization, and absence of IT asset upheld. Thus, the Business Process Maturity Model is required as a benchmark, which can be proposed as a business design arranging idea. The business cycle development model interaction is upheld by information approval acquired through respondents, specifically business partners in TPP, the cycle for approving the information by disseminating the Assessment survey comprising 8*

---

*Parts the Business Process Assessment model, and 3 Parts for IT Application Readiness Assessment. backing of the Enterprise Architecture Planning (EAP) Framework strategy which centers around the plan of action design area. The design of the plan of action delineates how TPP completes business exercises and capacities to accomplish its destinations. The consequences of this investigation produce the proposed plan of action design arranging idea as Business Model Maturity Level Measurement, the IS/IT engineering idea, and the Business Architecture Planning guide, which are useful for the Tiara Payung Putra (TPP) organization for the plan of action structural arranging*

*Keywords: Business Process Maturity Model (BPMM), Planning, Business Architecture, Enterprise.*

## I. INTRODUCTION

Enterprise Architecture Framework (EAF) is a framework used to describe and describe the scope of a collection of architectures. In this framework the relationship between architecture is described. The relationship between architecture and the complete picture will accelerate the process of architectural development (Wahyu and Firmansyah 2018).

Enterprise architecture is a tool used to build the alignment of business strategies with information technology, which provides a systematic approach to managing system assets and information and directs strategic business needs with planning and portfolio management that is appropriate for capturing information needs when changes in the business environment occur (Anggrainingsih et al. 2016). The business architecture describes the current state of the company's business by determining the business model or business activity. This architecture will be the basis for designing the architectural phase of IS

/ IT. The objective to be achieved in this phase is to describe how the company carries out business activities and functions to achieve the company's objectives, so that it can become the foundation for making architectural plans by outlining the gap analysis. Tiara Payung Putra (TPP) is a company which operates as a LPG Distributor in cooperation with Pertamina's Bulk LPG Filling and Filling Station.

The company is located in the West Balaraja area, has 10 trucks and 76 agents spread across the Balaraja district. The problems that occur in TPP business activities are as follows :

- a) Currently TPP does not yet have an enterprise business model architecture that can

---

be used as a reference in business activities.

- b) The absence of IT resources, namely IT users who influence the development of the use of Information Technology in the long run that can provide added value for business people. c) The concept of the business model currently used for LPG distribution is done by computerization using Excel and Word which functions as a supporting tool for data management, and the process is not integrated with the external system as a whole.
- c) No integration of the external system with internal business activities in the TPP in this issue, the concept of business architecture planning can be done by measuring the maturity level of the business model in TPP, in a previous study (Gandhi 2017) "The way to assess the level of business process management in a company is by the Business Process Maturity Model. BPMM measurements will be carried out in various fields companies related to business process practices "The functions related to use in previous studies are (GARINI 2017)" BPMM is used as a facility to measure business process management in companies so that it can be used as an improvement in achieving success "for that before planning a business architecture, it is necessary to measure position business model in TPP.

Contributing to previous research (Marini and Sarwindah 2019) "Successful business architecture design proposals are produced that can integrate key business activities. This also shows that Business Architecture is one of the key components to determine how well IT has aligned with its business objectives". based on the results of previous studies, the research has been completed and produced a business model that is aligned with IT. so planning a business model architecture, of course, can be useful to assist top-level management in making short-term and long-term decisions, and can enhance competitive advantage that can meet customer needs. In previous studies, business architecture planning is done by referring to the EA method used, the use of the Enterprise Architecture Planning method focuses on the business architecture domain. By developing research carried out previously, which focuses on the use of Business Model Maturity Level Measurement used as a reference for making architectural planning concepts. The process of identifying business activities is based on existing business scenarios at TPP. The importance of the Business Architecture is used to map business needs and Information Technology throughout the entire scope of the organization. The purpose of this study can produce a proposed business model architecture planning concept that will benefit Tiara Payung Putra.

## Literature Review

### Business Process Maturity Model (BPMM)

In assessing the level of maturity of an organization, the maturity model acts as a frame of reference, with which current status is assessed using a model or valuation method (Tarhan et al. 2016). The main focus of BPMM is on a culture of performance, improvement, and management excellence, and it differs from other models in that it guides the improvement of business process management specifically (Heller and Varney 2013). Evaluation of organizational practices against the model - the so-called "assessment" is the level at which the organization currently stands. This shows the ability of the organization to execute in the area concerned, and the practices that are the focus of the organization in order to see the greatest improvement and highest return on investment (Version 2011).

**Table 1. KPA's BPMM**

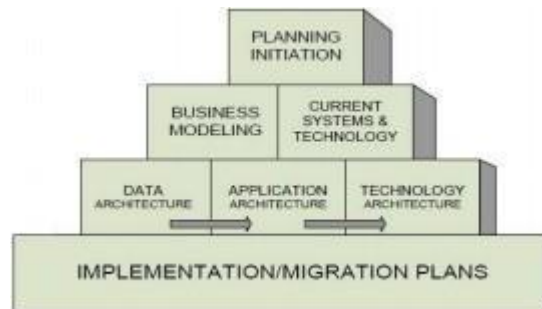
<b>Level</b>	<b>Focus</b>
Level 5 : Optimization	Proactive Process Improvements (Product & Process Focus)
Level 4 : Quantitatively Managed	Quantitative Management (Product & Process Focus)
Level 3 : Defined	Organization, Process Standardization (Product Focus)
Level 2 : Managed	Work unit, Process management (Product Focus)
Level 1 : Initial	Ad-hoc

Based on Table 1. KPA BPMM: BPMM can be seen from 9 aspects, including strategic views, resolution and documentation processes, assessment and management processes, organizational processes, human management, organizational culture processes, markets, supplier support, and information system support (Muchsam et al. 2011).

### Enterprise Architecture Planning (EAP)

Enterprise Architecture (EA) is a framework that was first developed in 1987. EA was built to solve problems related to complex systems and systems that are not in harmony with the business (Wahyu and Firmansyah 2018). Enterprise Architecture Planning (EAP) is part of the EA framework. This methodology was first coined by Spewak and Hill. Enterprise Architecture Planning EAP is the process of defining the architecture of a company or

organization that is useful for supporting business along with planning the implementation of that architecture. EAP is a top two level development method of the Zachman framework (Liana et al. 2019)



**Figure 1. EAP Architecture Layer**

Explanation From Figure 1 :

- A. Layer 1: Initialization Planning Planning initiation means determining the pathway for planning the company's architecture, including which methodology is used, who should be involved, and what tools are used. This leads to the production of a work plan for EAP and securing management commitment to go through the next phase (Astri and Gaol 2013).
- B. Layer 2: Initializing the Overview of Current Enterprise Conditions  
1. Business Process Modeling The aim of the business model is to provide a complete, comprehensive, consistent knowledge base that can be used to define architecture and implementation plans (Astri and Gaol 2013). After the business process is defined, the organizational structure of the organizational unit is identified. The function area and its business processes are paired with organizational units, with the aim of identifying the scope of decision making responsibilities and the involvement of each organizational unit in each area of business functions and / or processes (Surendro 2007).  
2. Current Systems & Technology Enterprise that has been running generally has a system and technology. The step in the current state of the analysis phase is to document and define all the systems and technologies that are being used. The documentation is referred to as the Information Resource Catalog (Surendro 2007).
- C. Layer 3: Initialize Enterprise Plan Review  
1. Data Architecture Data Architecture identifies and defines the main types of data that support business functions that are defined in the business model. Data architecture consists of data entities, each of which has attributes and relationships with other data entities (Astri and Gaol 2013). Examples of data architecture in the input process are function definitions, information source forms, sample information sources, interview notes, systems and files that have descriptions, data architecture or other database designs. The process of defining each

---

main data entity and supporting functions, creating Entity Relationship Diagrams for each function, mapping data entities to business functions, and defining Information Architecture. Output: List of entities according to business function and each ERD function (Astri and Gaol 2013). 2. Application Architecture The purpose of the application architecture is to determine the main types of applications needed to manage data and support business enterprise functions. The application architecture is not a design for the system, nor is it a detailed requirements analysis. This is the application definition of what will be done to manage data and provide information to people doing business functions. Input: list of candidate applications, specify applications and connect applications to functions. Process: determine the list of candidate applications, application descriptions, analysis of the impact on the current application. Output: new list of applications (Astri and Gaol 2013). 3. Technology Architecture The purpose of a technology architecture is to determine the main types of technology needed to provide an environment for applications that manage data. This is the definition of a type of technology - referred to as a platform - that will support businesses with a shared data platform providing a means to collect data from any business unit. Input: list of application candidates, technology platforms. Process: identifying technology platforms and principles, defining platforms and distributions, connecting technology platforms with business applications and functions, distributing technology architectures. Output: technological architecture (Astri and Gaol 2013).

- D. Layer 4: Initialization of the Implementation Plan Implementation of enterprise architecture is done to produce the concept of information systems architecture and technology architecture. The EAP approach suggests that the sequence of processes is carried out using an architecture roadmap (Surendro 2007).

### **Framework of Thinking**

The concept of the framework of thinking made modifies the concept in the EAP framework, by creating a framework that is continuous from the process architectural planning (Business Process Model Assessment) to the proposed recommendations of the business architecture concept, each of which influences the process for modeling business architecture concepts at Tiara Payung Putra (TPP).

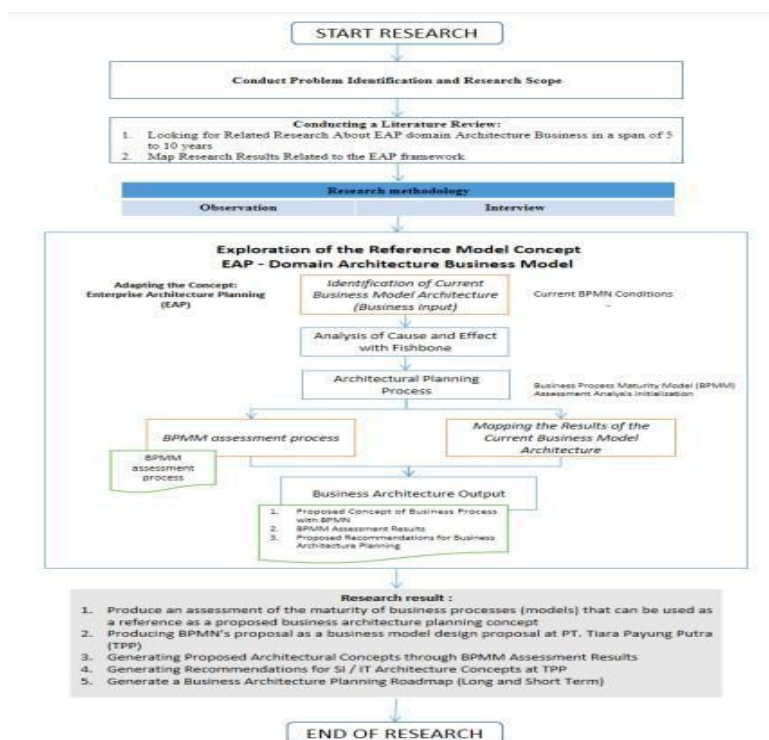


Figure 2. Framework Of Thinking.

Explanation From Figure 2 :

The EAP (Enterprise Architecture Planning) Thinking Framework used focuses on the Domain Architecture Model Business at Tiara Payung Putra Company. This architecture defines the outline of the stages of business architecture that is Identification of Current Business Model Architecture, Analysis of Cause and Effect with Fishbone, Architectural Planning Process, BPMM assessment process (Define BPMM assessment process), Mapping the Results of the Current Business Model Architecture and Business Architecture Output (Proposed Concept of Business Process with BPMN, BPMM Assessment Results, & Proposed Recommendations for Business Architecture Planning).

## II. METODE

This research methodology focuses on the EAP framework. In Figure 3. below explains the contribution of research related to the theory used in the architectural planning process, referring to the EAP framework with the support of some analytical methods. The analysis

method is useful as a benchmark for making business model architecture. The final result of this research is to propose recommendations for making business model architecture in TPP

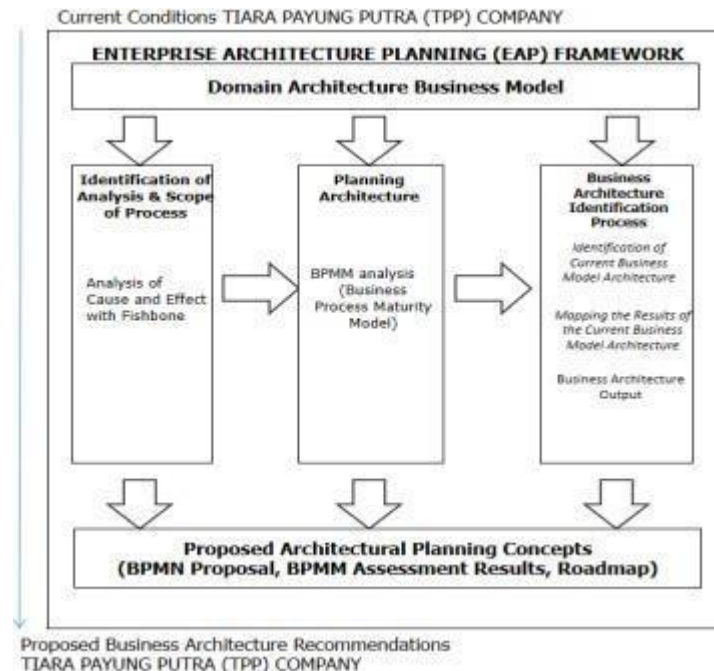


Figure 3. Research Diagram.

Explanation From Figure 3 : In the picture above explains the research contribution related to the theory used in the architectural planning process, referring to the EAP framework with the support of some analytical methods. The analysis method is useful as a benchmark for making business model architecture. The final result of this research is to propose the concept of a proposed business model architecture in TPP.

### III. RESULT AND DISCUSSION

In this section the discussion will be carried out in accordance with the research framework that is used as a reference, the following are the stages of research results :

#### Data Collection Techniques

The technique of collecting data on the research process used to achieve the objectives formulated in the study is as follows :

- a. Observation, This research was conducted to determine the current business model and

the data / information needed, for that observation was conducted at Tiara Payung Putra (TPP) Company.

- b. In this interview method, researchers conducted interviews with employees, Managers and Directors of the Tiara Payung Putra company, asking related questions.
- c. Literature Review, is carried out using sources such as National / International Journals with a range of at least 5 years and a maximum of 10 years.
- d. Expert Judgement Validation is carried out and tested by (expert judgment) or expert judgment according to the field, while the stakeholders taken to become expert judgments are the PIC Support Head, Warehouse Manager and Financial Administration Manager.

#### **IV. CONCLUSION**

Based on the analysis that has been done, the final conclusions of this study are: Wahyu, Sastramihardja/Utilization of the Business Process Maturity Model Jurnal Sistem Informasi (Journal of Information System), Volume 16, Issue 1, April 2020 37 1. Based on the validation of the data obtained from the research data of respondents, the results obtained that the process of business process maturity model (BPMM) was successfully carried out and can be used as recommendations for business model architecture. 2. problem mapping in this research is done by Generating Business Architecture Targets obtained based on problem analysis and the gap analysis process. 3. This research results in a business mapping for the Proposed Architectural Plan Concept (Long and Short Term). 4. Research implications result in the utilization of business process maturity model methods that can be used as business model architecture planning, by producing a business plan roadmap.

#### **V. ACKNOWLEDGMENT**

Thank you to Tiara Payung Putra as a company that has given permission and the opportunity to research. Thank you to my mother who always prayed for me wherever and whenever, and did not forget to also thank the thesis supervisor, namely to Dr. Ir. Husni S. Sastramihardja, M.T who has helped to direct, guide and provide suggestions for this research to be completed properly and finally to colleagues from the Faculty of Computer

---

Science Esa Unggul University who cannot be mentioned one by one, thank you for the support and prayers given to me.

## REFERENCES

- [1]. Anggrainingsih, R., Aziz, A., Salamah, U., and Sihwi, S. W. 2016. "Penyusunan Arsitektur Visi Dan Arsitektur Bisnis Sebagai Tahapan Perancangan Arsitektur Enterprise Universitas Sebelas Maret (Uns) Dengan Framework Togaf," ITSMART: Jurnal Teknologi dan Informasi (2:2), pp. 13-20.
- [2]. Astri, L. Y., and Gaol, F. L. 2013. "Information System Strategic Planning with Enterprise Architecture Planning," CommIT (Communication and Information Technology) Journal (7:1), pp. 23-27
- [3]. Fisher, D. M. 2004. "The Business Process Maturity Model: A Practical Approach for Identifying Opportunities for Optimization," Business Process Trends (9:4), pp. 11-15.
- [4]. Gandhi, H. N. 2017. "Analisis Tingkat Kematangan Proses Bisnis Perusahaan Garmen Kelas Menengah." Institut Teknologi Sepuluh Nopember.
- [5]. GARINI, A. A. 2017. "Analisis Tingkat Kematangan Proses Bisnis Perusahaan Kelas Menengah Berbasis Enterprise Resource Planning (Multiple Case Study Perusahaan Manufaktur Otomotif)." Institut Teknologi Sepuluh Nopember.
- [6]. Heller, A., and Varney, J. 2013. "Using Process Management Maturity Models," Huston, USA: APQC).
- [7]. Liana, V. I., Dewi, L. P., and Yulia, Y. 2019. "Enterprise Architecture Pada Cv. Grande Zangrandi Dengan Metode Enterprise Architecture Planning (Eap)," Jurnal Infra (7:1), pp. 164-169.
- [8]. Marini, M., and Sarwindah, S. 2019. "Model Arsitektur Enterprise Menggunakan Enterprise Architecture Planning (Eap)," JSil (Jurnal Sistem Informasi) (6:2), pp. 92-97.
- [9]. Muchsam, Y., Falahah, F., and Saputro, G. I. 2011. "Penerapan Gap Analysis Pada Pengembangan Sistem Pendukung Keputusan Penilaian Kinerja Karyawan (Studi Kasus Pt. Xyz)," Seminar Nasional Aplikasi Teknologi Informasi (SNATI).
- [10]. Surendro, K. 2007. "Pemanfaatan Enterprise Architecture Planning Untuk Perencanaan Strategis Sistem Informasi," Jurnal Informatika (8:1), pp. 1-9.
- [11]. Noburu, I., Himki, A., Dithi, A., Kano, K., & Anggraeni, M. (2020). Covid-19: Portrait of Preservation of the Batik Industry as a Regional Autonomy. Aptisi Transactions on

- Technopreneurship (ATT), 2(2), 143-152.
- [12]. Sunarya, P. A., Khoirunisa, A., & Nursaputri, P. (2020, November). Blockchain Family Deed Certificate for Privacy and Data Security. In 2020 Fifth International Conference on Informatics and Computing (ICIC) (pp. 1-4). IEEE.
- [13]. Handayani, I., Supriati, R., & Aisyah, E. S. N. (2020, October). Proof of Blockchain Work on The Security of Academic Certificates. In 2020 8th International Conference on Cyber and IT Service Management (CITSM) (pp. 1-5). IEEE.
- [14]. Febriyanto, E., Naufal, R. S., & Sulistiawati, S. (2020). Planning of the Web-based E-Raport Assessment System. Aptisi Transactions On Technopreneurship (ATT), 2(1), 48-58.