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DEVELOPMENT OF INFORMATION SYSTEM STRATEGIES AND INFORMATION TECHNOLOGY AT PRIVATE UNIVERSITIES IN PRINGSEWU BY USING METHODOLOGY ENTERPRISE ARCHITECTURE PLANNING (EAP)

*Corresponding author
Email :[1]
ahmad.khumaidi531@gmail.com
Email:[2]
ekaridhawati@gmail.com

Ahmad Khumaidi[1], Eka Ridhawati[2]
[1]STMIK Pringsewu, Pringsewu, Lampung
[2]STMIK Pringsewu, Pringsewu, Lampung
[1,2]Street Wisma Rini No. 09 Pringsewu-Lampung

Abstract

The development of information systems and information technology requires planning to complement the direction of the college strategy. Planning is constructed by defining data, application and technology architectures in the use of information to support business processes and then architectural design to identify needs and create architectural schemes and make plans for their implementation. Enterprise Architecture Planning (EAP) is a method of data quality planning approach oriented to business needs and how the implementation of the architecture is done in such a way in an effort to support business turnover and achievement of Vision and Mission and the goal of strategic development of SI and IT at college private high. The result of this research is to get the blueprint resulting from Enterprise Architecture Planning (EAP) methodology which will be used as a guide for making blueprint in the form of data architecture, application architecture and technology architecture in strategy development Information system and information technology as a whole on High private sector especially in Pringsewu

Keywords: *enterprise architecture planning, data architecture, application architecture, technology architecture.*

1.0 INTRODUCTION

In this information age, the dissemination and access of information quickly, precisely and accurately is absolutely necessary. In this era also, information is one of the organizational resources that must be managed well, as where the resources of other organizations. To bridge the dissemination and access to expected information, information technology (IT) supported by internet-enabled means of communication, now known as Information communication technology has played an important role in everyday life. Such as how to run a job, organizational management, freedom of communication, access to information, ease and speed in information exchange and information dissemination is always riel-time / up-to-date [2].In addition, the introduction also contains a literature review that contains a systematic description of the information results of previous research conducted by previous researchers relevant to the research to be conducted. This section contains the advantages and disadvantages that may exist in previous research that can be used as an argument that the research will be done is perfecting or developing previous research.

Campus is part of an organization that also manages information systems and information technology. In the implementation of Learning and Teaching Process (PBM) in line with the Tri Darma of Higher Education the use of information systems is very important because it is part of management services in students. Until now the existing information technology has not been

widely available and optimal in the use of its function, it is suspected because not perfect the business strategy and strategy SI / IT as a benchmark in the application of information systems and information technology. To answer these allegations, it is necessary to research the development of information system strategic supported by information technology at high college, in order to have a mechanism of application of SI / IT clear in order to achieve optimal goals.

Development of strategic development of IT / IT needs to be done in order to occur development planning, development and implementation of integrated application and technology system and aligned with organizational business process, resulting in competitive ability and application of good SI / IT. The current condition of private universities in pringsewu does not yet have an integrated roadmap for planning, development and integrated SI / IT facilities, so that the development of strategic SI / IT should be undertaken to translate the vision and mission of the university into the needs of Information Systems and Information Technology, implementation of SI / IT in a sustainable manner.

Given the importance of integrated information systems at a university, the university as an implementing enterprise needs to make a blueprint for the development of information systems as a clear reference, guidance and plan for the development of information systems as a whole at the college. In this study, the authors use the Enterprise Architecture Planning (EAP) methodology which is the process of defining the architecture in the use of information to support the business and plans to implement the architecture. EAP stated that the use of the term architecture consists of data architecture, application architecture and technology architecture. The architecture here is like a blueprint, drawing or model [7]. The blueprint generated from the EAP process will be used as a guide for blueprinting in overall IT / SI strategy planning at universities.

Educational organizers today and in the future will be more competitive, therefore colleges must be able to keep up with the development in order to compete in the world of education providers. Campus should be able to think of a new way to win long-term competition. Some of the reasons organizations use strategic management concepts, such as global environmental change, technological change, to win and or maintain competition, and to improve quality [6]. Business dependence entirely in conventional ways is perceived as less appropriate today:

1. Information technology currently available in private universities in Pringsewu still many are not yet available and not optimal in utilization, which will support the vision, mission and goals of the college.
2. The absence of strategic development of information systems and information technology in the implementation of education, research and community service or Tridharma which became the main activity in universities.

There are several studies that have been done that became the reference of this research First, Research conducted by Ahmad Khumaidi, Agus Suryana and Eka Ridhawati (2016) entitled "Development of Information System Strategies and Information Technology At STMIK Pringsewu Using Enterprise Architecture Planning (EAP) "In this study, the author uses Enterprise Architecture Planning (EAP) methodology which is the process of defining the architecture in the use of information to support the business and plans to implement the architecture. EAP stated that the use of the term architecture consists of data architecture, application architecture and technology architecture. The architecture here is like a blueprint and depiction or model. The blueprints generated from the EAP process will be used as a guide for blueprint making in strategic planning Information systems and information technology as a whole on STMIK Pringsewu. [1]

Secondly, in Joko Triloka's enterprise architecture design research entitled "Enterprise Architecture Modeling To Support Integrated Information System In Academic Field Using Enterprise Architecture Planning", Joko Triloka argues that the method can be used as a guide or tool for planning, designing, developing and implement the information system architecture for the organization and divide it into 3 (three) important stages in relation to the modeling of enterprise architecture at university with case study at UIN Sunan Kalijaga Yogyakarta, the described architecture is about data, application and technology needed to support the Activities and

business organization in the academic section of UIN Sunan Kalijaga Yogyakarta. The use of architectural terminology in the research is comprised of data architecture, application architecture and technology architecture which is intended to be a blueprint, depiction, or model. [5]

Third, research conducted by Meliana Christianti and Radiant Victor Imbar, entitled "Modeling Enterprise Architecture Zachman Framework on Information Systems Faculty of Information Technology University Christian Maranatha Bandung". In this study, Meliana Christianti and Radiant Victor Imbar took the theme with the aim of obtaining enterprise Architecture documentation describing the current condition of the Faculty of Information Technology of the Christian University of Maranatha Bandung and the effectiveness and effectiveness of resources at the Faculty of Information Technology of the Christian University of Maranatha Bandung. [3]

Fourth, research conducted by Bobi Kurniawan entitled "Enterprise Architecture Planning Information System In Private Universities With Zachman Framework". In this research, Bobi Kurniawan uses Zachman Framework to identify six architectural levels starting with the conceptual level up to the detail of the design and construction of a system and the Value Added Chain to divide the main functions of the organization into two major groups: primary activities, and support activities as a research instrument. [8]

1.2Problem Formulation

The formulation of the problem in this research is how to arrange the information system and information technology strategy plan at Private University in Pringsewu using Enterprise Architecture Planning (EAP) methodology in the implementation of Tridharma?

1.3Objectives and Benefits of Research

1.3.1 Objectives of Research

Formulate / develop strategic plan information systems and information technology in the implementation of education, research and community service that will be used Private Universities in Pringsewu

1.3.2 Benefits of Research

Adding knowledge about Information System Analysis and Information Technology of higher education and Recommendation method that can be used in strategic planning of information system and information technology at Private University in Pringsewu that can help in overcoming global competition.

2.0 THEORETICAL

2.1. Literature Review

The SI / IT strategic planning model used as a reference in determining the model in this research is the SI / IT strategic planning model using the Enterprise Architecture Planning (EAP) Model.

1.

2.

2.1.

2.1.1. Information Systems and Information Technology

Information systems can be defined as follows: *Information is data that has been processed to become significantly more meaningful for is receiver and useful in decision making* [Davis & Olson, 1986]. Martin, et al in research [Widiowati & Achjari, 2004] stated that information technology is not just limited to computer technology (hardware and software) used to process and store information, but also includes communication technology to transmit information. [Jumaili, 2005] suggests that users of information technology in an information system should consider the wearer.

Seeing the condition of strategic planning of information technology in Indonesia is still very less developed. Many agencies / agencies in Indonesia are developing information technology without doing strategic planning of information technology. These organizations develop

information technology only with internal staff, as well as externally directly. As a result when there is a new need, it will be made a solution of these new needs. In the short term, the problem may have been resolved, but in the long run, there will be a lack of technological integrity between parts of the organization. So the management will be very difficult to be able to take advantage of the output of the system.

2.1.2.Strategic Definition

Strategy is a tool / tools to achieve an organizational goal, here are some strategic definitions According to [Gerry, 1985], strategy is the direction and long-term coverage of the organization to gain excellence through changing natural and environmental configurations to achieve market needs and meet the expectations of stakeholders.

While the definition of strategy put forward by Chandler says that "Strategy is the long-term goal of an organization, as well as the utilization and allocation of all the best resources to achieve a particular goal" ([Rangkuit 2006]

2.1.3.Strategic Business SI and IT

If we expect optimal IT implementation, an IT / IT strategy that is aligned with the organization's strategy is required. It is necessary that the investments incurred for IT meet the needs and provide measurable benefits from achieving organizational goals and suggestions.

Business Strategy SI / IT is a strategy to identify the need for a business that will utilize the SI / IT in reaching its goal so as to connect between business strategy with SI / IT it. The relationship between SI and IT business strategy is shown in Figure 2.1 to determine the SI / IT strategy that can support the achievement of the organization's vision and mission, it is necessary to understand the organization's business strategy. This understanding includes an explanation of the following: why a business is run, where the business objectives and direction, when the goal is achieved, how to achieve goals and whether there are changes that must be done. Thus, the main issue of nature building an SI / IT strategy is the alignment of the SI / IT strategy with the organization's business strategy.

2.1.4.Strategic Development

According to [Newman, 1937] planning is deciding in advance what is to be done whereas according to [A.Allen, 19] planning is the determination of course of action toachieve a desired result. Basically the question of planning gives answers to the questions of what, Who, who, where, why and how.

Strategic Development of Information Systems and Information Technology, among others:

1. The existence of the main mission: strategic / competitive advantage and kaitanya with business strategy
2. The existence of key objectives: the pursuit of opportunities and integrity of Information Systems and Business Strategy
3. Existence directives from the execs / senior management and users.
4. And the main approach of user innovation and the combination of bottom up development and top down analysis.

2.1.5.The SI and IT Strategic Planning Framework

An enterprise needs a plan in the process of developing information systems to create an integrated information system that supports the overall business function in providing good service to stakeholders. The depiction of the process to create enterprise architecture planning can be seen in Figure 2

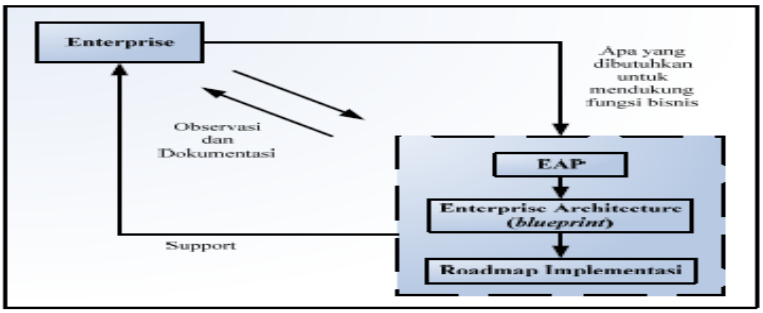

Image 2 Process Flow creates Enterprise Architecture Planning (Dyna Marisa: 2012)

2.2. Strategic Development Methodology of SI and IT

An important factor in the development process of IS / IT strategy is the use of methodology. Methodology is a collection of methods, techniques and tools used to do things. The purpose of using the methodology in strategic planning of IT / IT is to minimize the risk of failure, to ensure all interested parties and minimize the dependence of individuals, and more emphasis on the process and objectives are determined. In his research the method used for planning of SI / TI using Enterprise Architecture Planning (EAP) methodology.

Enterprise Architecture Planning or often abbreviated as EAP, is a method used to build an information architecture. Enterprise Architecture Planning (EAP) is a method of data quality planning approach oriented to business needs and how the implementation of the architecture is done in such a way in an effort to support the business wheel rotation and the achievement of Vision and Mission and the goal of strategic planning SI / IT to be in applied to private universities in Pringsewu.

In enterprise architecture modeling if implemented in universities for the improvement of educational services where a very appropriate model to build is an enterprise architecture model based on the Enterprise Architecture Planning (EAP) methodology. More suitable enterprise architectural models built on the EAP methodology at private universities in Pringsewu include:

1. Model of data architecture
2. Application architecture model, and
3. Model of technology architecture

And the scope of the discussion should include the Academic, Administration and Finance Section, Human Resources (Human Resources) and General Sections only, since these sections are appropriate for approaches that include aspects of data (information) and business processes, and do not include other aspects of enterprise architecture such as technology architecture, applications and business activities in the marketing and other business sectors.

3.0 METHODOLOGY

3.

3.1. Enterprise Architecture Planning Method (EAP)

Enterprise Architecture Planning (EAP) is a method of data quality planning approach oriented to business needs and how the implementation of the architecture is done in such a way in an effort to support business turnover and achievement of Vision and Mission and the goal of strategic development of SI and IT at college private high. Enterprise Architecture Planning has a major component that shows the stages to determine and plan the implementation of information systems architecture. These seven main components are grouped into 4 (four) layers (Spewak, 1992),

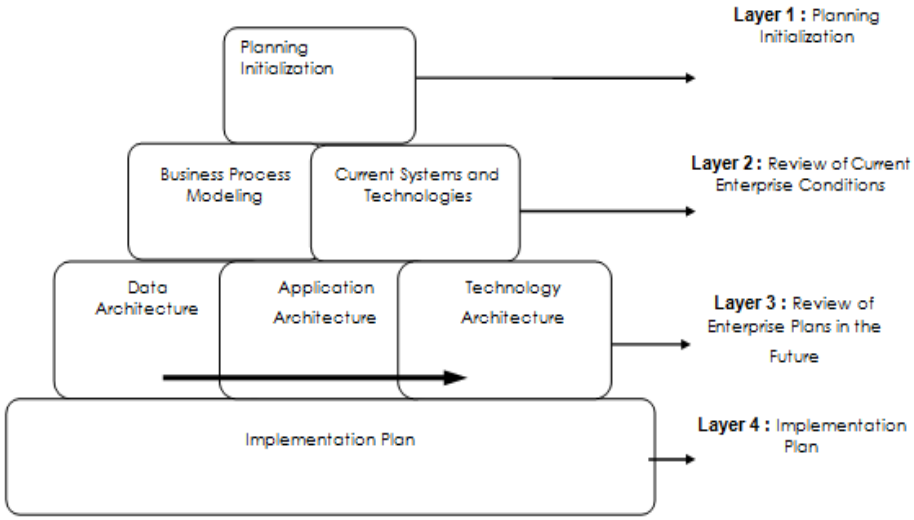

Image 3. Components and Layers of Enterprise Architecture Planning (Spewak, S.H, 1992)
The layers in the EAP consist of the following four layers:

1. Planning Initialization
   This stage aims to identify the rules of reference in universities related to enterprise architecture planning for strategic planning of SI / IT in order to determine the scope of enterprise, vision, mission, adoption of planning methodology and to form a planning team so that the EAP project is targeted, time and have qualified team members.

2. Review of Current Enterprise Conditions
   In this layer there are two stages:
   1) Business Process Modeling
      This stage aims to build a knowledge base of business and information that the enterprise is currently using. This stage is a process to define a business to provide a consistent, comprehensive and complete business model that can be used to define architectures and implementation plans.

   2) Current Systems and Technologies
      This stage aims to identify and document the application systems and technology platforms that enterprise employs in support of current business functions because enterprise that has been running in general already has systems and technology for information system applications. Documentation results are referred to as the Information Resource Catalog (IRC) or also called Systems Inventory. IRC does not describe each system in detail, but only in its summary.

3. Review of Enterprise Plans in the Future
   In this layer there are two stages:
   1) Data Architecture
      This stage aims to identify and define the major data types or data entities necessary for the enterprise to support business functions that have been defined at the business modeling stage and then relate those data entities to enterprise business functions. Data architecture is one of enterprise architecture for information system architecture, that is column of data (what) in Zachman framework.
   2) Application Architecture
      This stage aims to identify and define the types of key applications needed to manage data and support enterprise business functions, and then relate applications to enterprise business functions. The application architecture is not a system design but is

the definition of what applications are needed to manage data and provide information for users to perform business functions.

3) Technology Architecture.
This stage aims to identify and define the technological principles needed to provide an enabling environment for applications on pre-built application architectures in managing data and supporting business functions. Technology architecture is the definition of technology that will support business functions by providing a data sharing environment.

4. Implementation Plan
This stage aims to compile and prepare a recommendation for the implementation plan based on the architecture that has been made. The steps in the implementation plan stage are:
   a. Specifies the order of priority of application development. This step is implemented from many applications that have been defined using application principles that create (create) data first implemented before an application that updates or uses data.
   b. Make estimates of implementation implementation. This step aims to estimate the needs at the time of implementation implemented.

Make planning conclusions. Conclusion planning is the final report of enterprise architecture planning in the form of blueprint.

3.2. Stages of Research

In this study, the research steps refer to the methodology of Enterprise Architecture Planning (EAP). The research steps can be seen in the research framework in Figure 3.

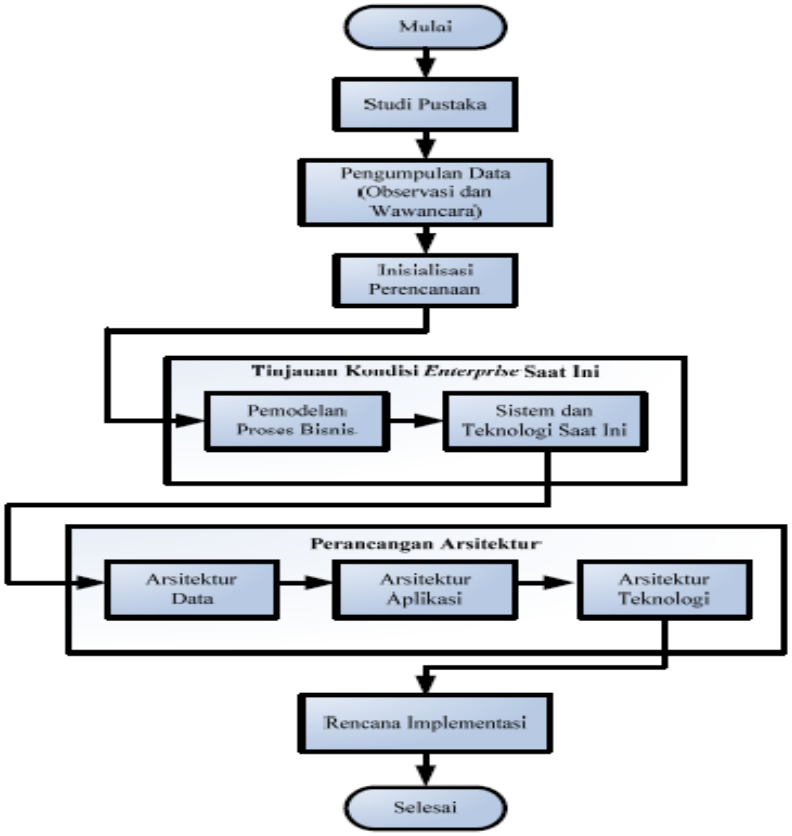

Image 4 Research Framework

4.0 RESULANTS AND DISCUSSION

4.1 Technology Architecture

The technology architecture in the EAP concept defines the technological needs that need to be provided in the business environment to run a data architecture that can manage data based on the application architecture, in other words the technology architecture is the infrastructure requirement that must be provided to support the running of data and applications used by the organization. To define the technological needs in supporting the running of previously identified data and applications, we first identify the principles and technology platforms to be used.

4.2 Relationship of Technology Platform with Business Function

Determination of selected technology, directly utilized to run business and application in enterprise environment. The relationship of the proposed technology platform to the business function is made to establish the justification of the existence and utilization of the technology platform on the business model and application architecture. This relationship is presented in matrix form shown in Figure 4 below :

HUBUNGAN FUNGSI BISNIS DAN PLATFORM TEKNOLOGI

Platform Teknologi	Perangkat Keras												Perangkat Lunak																								Komunikasi								
	Personla komputer	Server	back up server	Mouse	Keyboard	Scanner	OCR	Printer	Monitor	Harddisk	Compact disk	Back-up Disk	Microsoft Windows 98, NT, XP	Linux	Access	MySQL	ORACLE	Delphi	Vbnet	PHP	JavaScript	Visual C++	Power Designer	Rational Rose	Microsoft Word	Microsoft Excel	SPSS	Microsoft FrontPage	Microsoft PowerPoint	Adobe Photoshop	Corel Draw	Macromedia Flash	Dreamweaver	Adobe Acrobat	Microsoft Internet Explorer	Microsoft Outlook	Virtual LAN	LAN	Internet	PABX	VoIP	Router	Switch	NIC	Access Point
Fungsi Bisnis	Komputer			Alat Masukan				Alat Keluaran		Media Penyimpanan			Sistem Operasi		Sistem Manajemen Basis Data			Bahasa Pemrograman					Development tool		Pengolahan kata	Spread sheet & Analsis		Grafika persentasi						Lain-lain			Jaringan			Telepon		Peralatan jaringan			
	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.4.1	1.4.2	1.4.3	2.1.1	2.1.2	2.2.1	2.2.2	2.2.3	2.3.1	2.3.2	2.3.3	2.3.4	2.3.5	2.4.1	2.4.2	2.5.1	2.6.1	2.6.2	2.7.1	2.7.2	2.7.3	2.7.4	2.7.5	2.7.6	2.8.1	2.8.2	2.8.3	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	3.3.1	3.3.2	3.3.3	3.3.4
1.1.1 Pembentukan Panitia PMB	X			X	X	X	X	X	X	X			X												X	X		X						X			X	X	X	X	X	X	X	X	X
1.1.2 Penetapan Kebijakan Anggaran PMB	X			X	X			X	X	X			X															X						X			X	X	X	X	X	X	X	X	X
1.1.3 Penentuan Standarisasi Penerimaan	X			X	X			X	X	X			X										X	X			X	X						X			X	X	X	X	X	X	X	X	X
1.1.4 Penentuan Kapasitas Mahasiswa	X			X	X	X		X	X	X			X	X	X								X	X				X						X			X	X	X	X	X	X	X	X	X
1.1.5 Penjadwalan Kegiatan PMB	X			X				X	X	X			X	X	X								X	X				X	X	X	X		X	X			X	X	X		X	X	X	X	X
1.2.1.1 Seleksi Sarjana Diploma	X	X	X	X	X			X	X	X			X	X	X	X	X				X		X	X				X	X	X			X	X			X	X	X		X	X	X	X	X
1.2.2.1 Penyusunan Materi Ujian Seleksi	X	X	X	X	X			X	X	X			X	X	X	X	X				X		X	X				X		X			X	X			X	X	X		X	X	X	X	X
1.2.2.2 Penerimaan Pendaftaran	X	X	X	X	X	X	X	X	X	X			X	X	X					X	X		X	X				X		X			X	X			X	X	X		X	X	X	X	X
1.2.2.3 Pelaksanaan Seleksi	X	X	X	X	X			X	X	X			X	X	X					X	X		X	X				X		X			X	X			X	X	X		X	X	X	X	X
1.2.2.4 Pengolahan Hasil Ujian Seleksi	X	X	X	X	X			X	X	X			X	X	X	X		X		X	X		X	X				X		X			X	X			X	X	X			X	X	X	X
1.2.2.5 Registrasi Mahasiswa Baru	X	X	X	X	X			X	X	X			X	X	X	X		X		X	X		X	X				X		X			X	X			X	X	X			X	X	X	X
2.1.1 Penetapan Kurikulum	X			X	X			X	X	X			X	X		X				X	X		X	X	X	X		X		X			X	X			X	X	X			X	X	X	X
2.1.2 Penetapan Kalender Akademik	X	X	X	X	X			X	X	X			X							X	X		X	X	X	X		X		X			X	X	X	X	X	X	X	X	X	X	X	X	X
2.2.1.1 Penawaran Mata Kuliah	X	X	X	X	X			X	X	X			X	X	X	X		X		X	X		X	X		X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.2.1.2 Pembimbing Akademik	X	X	X	X	X			X	X	X			X	X		X		X		X	X		X	X		X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.2.1.3 Pemrosesan Rencana Studi	X	X	X	X	X	X	X	X	X	X			X	X		X		X		X	X		X	X		X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.2.1.4 Pembuatan KRS dan KTM	X	X	X	X	X			X	X	X			X	X		X		X		X	X		X	X		X	X	X	X	X			X	X			X	X				X	X	X	X
2.2.2 Perubahan Rencana Studi	X	X	X	X	X			X	X	X			X	X		X				X	X		X	X	X	X	X	X	X	X			X	X			X	X	X	X	X	X	X	X	X
2.3.1 Penetapan Dosen	X	X	X	X	X			X	X	X			X	X		X				X	X		X	X	X	X	X	X	X	X			X	X	X	X	X	X	X			X	X	X	X
2.3.2 Penyusunan Jadwal Kuliah	X	X	X	X	X			X	X	X			X	X		X				X	X		X	X	X	X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.3.3 Pelaporan Pelaksanaan Perkuliahan	X	X	X	X	X			X	X	X			X	X		X				X	X		X	X	X	X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.1.1 Pelaksanaan Ujian	X	X	X	X	X			X	X	X			X	X		X		X		X	X		X	X	X	X	X	X	X	X			X	X			X	X	X			X	X	X	X
2.4.2 Penilaian	X	X	X	X	X	X	X	X	X	X			X	X	X	X		X		X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
2.5 Cuti Akademik	X	X	X	X	X			X	X	X			X	X		X		X		X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
2.6 Ujian Komprehensif	X	X	X	X	X			X	X	X			X	X		X		X		X	X		X	X	X	X	X	X	X	X			X	X	X	X	X	X				X	X	X	X
2.7 Pelaporan Akademik	X	X	X	X	X			X	X	X			X	X	X	X				X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.1 Penetapan Syarat Kelulusan	X	X	X	X	X			X	X	X			X			X				X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.2 Penetapan Drop Out	X	X	X	X	X			X	X	X			X			X				X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.3 Penetapan Pengunduran Diri	X	X	X	X	X			X	X	X			X			X				X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.4 Pembuatan Ijazah	X	X	X	X	X			X	X	X			X			X				X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.5 Pembuatan Transkrip Nilai	X	X	X	X	X			X	X	X			X							X	X		X	X	X	X	X	X	X	X			X	X			X	X				X	X	X	X
3.6 Pelaksanaan Wisuda	X	X	X	X	X			X	X	X			X							X	X		X	X				X	X	X			X	X			X	X	X	X	X	X	X	X	X
4.1.1 Penetapan Kebijakan Manajemen Rekruitme	X			X	X			X	X	X			X															X						X			X	X	X	X	X	X	X	X	X
4.1.2 Penetapan Kebijakan Administrasi SDM	X			X	X			X	X	X			X															X						X	X	X	X	X				X	X	X	X
4.2.1 Perencanaan Kebutuhan Personal	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X	X	X	X	X	X	X			X	X		X	X	X				X	X	X	X
4.2.2 Pengelolaan Perekrutan Kerja	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X
4.2.3 Pengelolaan Data Personal	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X
4.3.1 Perhitungan Gaji	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X
4.3.2 Perhitungan Cuti	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X
4.3.3 Perhitungan Honor	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X	X	X		X	X	X	X
4.4 Pengembangan Karir	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X
[illegible]	X	X	X	X	X			X	X	X			X		X	X		X		X	X		X	X				X	X	X			X	X		X	X	X				X	X	X	X

Image 4 relationship Technology Platform with Business Function

4.3 Technology Platform Relationships with Applications

Justification of existence and utilization of technology platform to business model and application architecture presented also in relation of technology platform and application of following proposal:

MATRIK ARSITEKTUR APLIKASI DAN PLATFORM TEKNOLOGI

Platform Teknologi / Aplikasi	Perangkat Keras												Perangkat Lunak																									Komunikasi								
	Personla komputer	Server	back-up server	Mouse	Keyboard	Scanner	OCR	Printer	Monitor	Harddisk	Compact disk	Back-up Disk	Microsoft Windows 98, NT, XP	Linux	Access	MySQL	ORACLE	Delphi	Vbnet	PHP	JavaScript	Visual C++	Power Designer	Rational Rose	Microsoft Word	Microsoft Excel	SPSS	Microsoft FrontPage	Microsoft PowerPoint	Adobe Photoshop	Corel Draw	Macromedia Flash	Dreamweaver	Adobe Acrobat	Microsoft Internet Explorer	Microsoft Outlook	Virtual LAN	LAN	Internet	PABX	VoIP	Router	Switch	NIC	Access Point
	Komputer			**Alat Masukan**				**Alat Keluaran**		**Media Pengimapanan**			**Sistem Operasi**		**Sistem Manajemen Basis Data**			**Bahasa Pemrograma**						**Development tool**		**Pengolah**	**Spread sheet**		**Grafika Persentasi**								**Lain-lain**			**Jaringan**			**Telepon**		**Peralatan jaringan**			
Aplikasi Pendaftaran Calon Mahasiswa Baru	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	1.2.3	1.2.4	1.3.1	1.3.2	1.4.1	1.4.2	1.4.3	2.1.1	2.1.2	2.2.1	2.2.2	2.2.3	2.3.1	2.3.2	2.3.3	2.3.4	2.3.5	2.4.1	2.4.2	2.5.1	2.6.1	2.6.2	2.7.1	2.7.2	2.7.3	2.7.4	2.7.5	2.7.6	2.8.1	2.8.2	2.8.3	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	3.3.1	3.3.2	3.3.3	3.3.4
Aplikasi Pengelolaan Hasil Test	X	X	X	X	X	X	X	X	X	X			X	X		X		X			X		X	X						X	X		X		X	X				X	X	X	X	X
Aplikasi Registrasi Mahasiswa Baru	X	X	X	X	X	X	X	X	X	X			X	X		X		X			X		X	X						X	X		X		X	X				X	X	X	X	X
Aplikasi Administrasi Kemahasiswaan	X	X	X	X	X	X		X	X	X			X	X		X		X			X		X	X						X	X		X		X	X				X	X	X	X	X
Aplikasi Pendaftaran Ulang	X	X	X	X				X	X	X			X	X		X		X			X		X	X						X	X		X	X		X	X	X			X	X	X	X	X
Aplikasi Administrasi Rencana Studi	X	X	X	X	X			X	X	X			X	X		X		X	X		X		X	X						X	X		X	X		X	X	X			X	X	X	X	X
Sistem Manajemen Kurikulum	X	X	X	X	X			X	X	X			X	X		X		X			X		X	X						X	X		X			X	X				X	X	X	X	X
Sistem Pembayaran Mahasiswa	X	X	X	X	X	X	X	X	X	X			X	X		X		X	X		X		X	X			X	X		X	X		X			X	X				X	X	X	X	X
Sistem Penjadwalan Kuliah	X	X	X	X	X			X	X	X			X	X		X		X			X		X	X			X	X		X	X		X			X	X				X	X	X	X	X
Aplikasi Pembuatan KRS dan KTM	X	X	X	X	X			X	X	X			X	X		X		X			X		X	X			X	X		X	X		X			X	X				X	X	X	X	X
Sistem Administrasi Perkuliahan	X	X	X	X	X			X	X	X			X	X		X		X			X		X	X			X	X		X	X		X	X		X	X				X	X	X	X	X
Sistem Penjadwalan dan Administasi Ujian	X	X	X	X	X	X	X	X	X	X			X	X		X		X	X				X	X			X	X		X	X		X			X	X				X	X	X	X	X
Sistem Penilaian	X	X	X	X	X	X		X	X	X			X	X		X		X	X				X	X						X	X		X		X	X	X				X	X	X	X	X
Aplikasi Administrasi Seminar dan Ujian	X	X	X	X	X	X		X	X	X			X	X		X		X					X	X						X	X		X	X		X	X	X				X	X	X	X	X
Sistem Pelaporan Akademik	X	X	X	X	X			X	X	X			X	X		X	X	X					X	X						X	X		X	X		X	X	X				X	X	X	X	X
Sistem Pendaftaran Wisuda	X	X	X	X	X			X	X	X			X	X			X	X					X	X							X		X			X	X					X	X	X	X	X
Sistem Pengelolaan Alumni	X	X	X	X	X			X	X	X			X	X			X	X					X	X							X		X			X	X					X	X	X	X	X
Sistem Pembuatan Transkrip Nilai dan Ijazah	X	X	X	X	X			X	X	X	X	X	X	X		X		X					X	X							X		X			X	X					X	X	X	X	X
Sistem Rekrutmen	X	X	X	X	X			X	X	X	X		X	X		X		X					X	X							X		X			X	X					X	X	X	X	X
Sistem Pembelanjaan Pegawai	X	X	X	X	X			X	X	X			X	X		X		X					X	X							X		X			X	X					X	X	X	X	X
Sistem Administrasi Pegawai	X	X	X	X	X			X	X	X			X	X		X	X	X					X	X						X	X		X			X	X					X	X	X	X	X
Sistem Manajemen Pendidikan dan Pelatihan	X	X	X	X	X			X	X	X	X	X	X	X		X	X	X					X	X						X	X		X			X	X					X	X	X	X	X
Sistem Manajemen Cuti	X	X	X	X	X	X	X	X	X			X	X		X		X	X				X	X	X		X	X		X	X		X		X		X	X					X	X	X	X	X
Sistem Administrasi Perhitungan Honor & Gaji	X	X	X	X	X		X	X	X			X	X		X		X	X				X	X						X	X		X		X		X	X				X	X	X	X	X

KETERANGAN
SIMBOL X : Merupakan Hubungan Platform Teknologi yang dibutuhkan

Image 5 relationship of application architecture with technology platform

4.4 Recommended Implementation Plan

As a recommendation, the next steps that must be done are:

a. Arrange the priority sequence of system implementation based on application architecture that has been compiled before using optimization matrix. Where the sequence of applications are first created based on the order of optimized application architecture.
b. Re-adjusting the technological requirements that must be provided to support applications and data by seeing the real conditions in place.
c. Create detailed scheduling for each application to be created based on the number of modules that will be developed over the span of the month.

4.5 Implement Success Factors

The essentials that must be considered to ensure the successful implementation of enterprise architecture in accordance with organizational goals can be provided through the determination of successful implementation factors. This success factor can be a variable affecting the management in achieving the objectives against current and future activities.

Success factors of implementation include:

1. Management involvement, support and commitment.
2. Determination of special functional unit as the person in charge of implementation.
3. The quality of available human resources competent with information technology.
4. The existence of special training on EAP both technical and conceptual.
5. Ability to evaluate the need for new technology.
6. Good managerial and leadership skills.

5.0 CONCLUSION

5.1. Conclusion

In closing the preparation of this research, the following conclusions are obtained:

1. The results of this research can be used as input for the development of Information System Strategy and Information Technology for Higher Education especially Private Universities in Pringsewu Regency using EAP Methodology. Besides, the blueprint produced in this research can help simplify the effort of developing Information System Strategy and Information

Technology in the implementation of education, research and community service so that universities will have a better managerial system and competitive in overcoming global competition

2. To determine the order of the application, the principle of the application that creates the data will be developed before the application using the data, should be fully applicable. The sequence of applications can also be influenced by the needs of the organization, current system, benefits, risks, costs or success factors.

3. Recommend a method that can be used in the strategic planning of information systems and information technology at private universities in Pringsewu that can help in overcoming global competition.

5.2. Suggestion

This research can be an input for universities that can be used as a model of enterprise architecture that has been produced can be used as a first step to achieve the strategic objectives of the organization, but it can be used as guidelines for the development policy direction to be measurable and clear.

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