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DIGITAL ARCHITECTURE PLANNING TRANSFORMATION BASED ON THE OPEN GROUP ARCHITECTURE FRAMEWORK ADM

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Abstract

Companies need the role of Information Management Systems and Technology to provide convenience for Companies to transform data in an organized manner and implement the goals and objectives of their business strategy, namely increasing revenue, increasing reliability, reducing costs, and focusing on customers. PT XYZ, whose business processes are computerized but have yet to be optimal and integrated, has yet to be able to provide optimal support to improve the Company's performance. The standard method used in this analysis is to utilize Togaf ADM Frame. This research was conducted to produce an enterprise architecture plan through the steps in the Togaf ADM blueprint starting from Introduction, Management Requirements, Vision Design, Business Design, Information Management System Design, and Technology Design to Opportunities and Solutions. This study produces a System/IT blueprint that provides an enterprise architecture plan to address existing problems with a solution plan delivered on a modular framework, integrated systems, policy alignment, and service focus.

Keywords: Enterprise Architecture, Togaf ADM, Cloud Computing, Company Performance, Service-Focused Architecture, Company Change.

Introduction

Data technology planning at an institution specifically describes what aspects away data technology and data administration become one unit. Thus, using the correct data technology planning choices dramatically helps achieve companies' goals, including Company XYZ. PT XYZ is a state-owned institution that also requires the role of data technology in carrying out its business processes (Andini, 2021).

It is the primary organization of a program-intensive system of tools. A system is a set of programs. The design of new technology is intensive because Execution is a prominent part of its design. This part requires users to carry out business activities. New technology design conditions are now available. However, in the main, it provides the same mission: to facilitate the planning of new technology designs within the Company.

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Examples of new technology design frameworks that are widely used are the Zachman activity planning frame (Sihab et al., 2022), (Widjaja & Assegaff, 2021), and the open group planning frame (Togaf) (Josey, Andrew; Homford, n.d.).

Various definitions of cloud computing have been conveyed by many experts and reviewers (Marinescu, n.d.), (Nugraha & Saefudin, 2022b), (Encep, 2020), translating cloud computing as a way of providing service readiness and composition on computer device configurations, connections, servers, documentation facilities, and programs. A form of the facility can be installed and removed. With this design, more people can continue using the listed abilities because they do not need to make significant investments. Moreover, solely to obtain facilities that may be required only sometimes. There are three facilities in cloud computing, namely (Jati & Destiana, n.d.): (1). Infrastructure as a Service (IaaS) - This is a form of service that "Contracts" the leading new technology capabilities consisting of documentation facilities, system resources, memory, system software, connection capacity, and others, which can be used for tenants to perform its Execution. (2). Platform as a Service (PaaS) - This facility supplies ready-to-use components that can be used to extend an Execution. Of course, it can always be directly on top of the Platform. (3). Software as a Service (SaaS) -It embodies continuous improvement with ASP (Application Service Provider) principles. Its advantages, SaaS provides a means for users to take advantage of the capabilities of the program software using subscriptions.

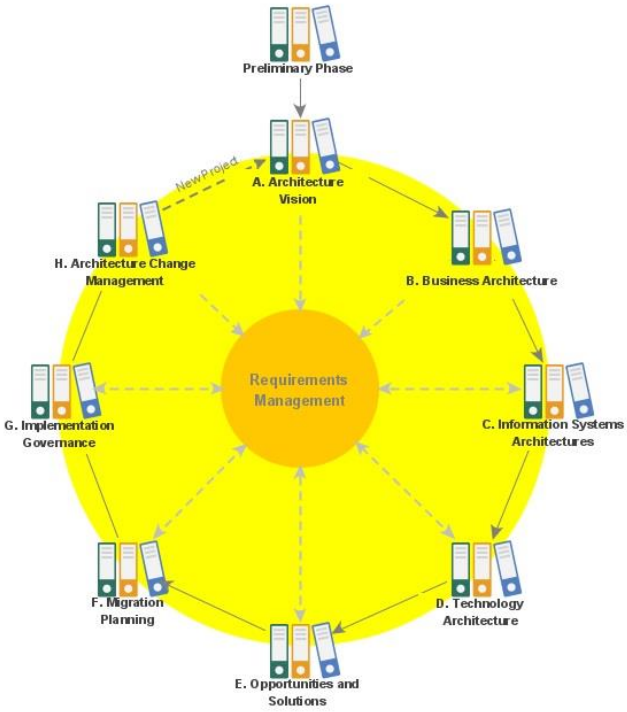
Based on the three facilities presented above, this study uses the IaaS facility because it solves the existing problem (Muttaqin, Wahanami, et al., 2017). The open group design blueprint (Togaf) is the blueprint and has become the de facto standard for the development and Execution of the Company's designs.

The open group design blueprint (TOGAF) is a Corporate Design framework based on ADM. The framework is a strategy that describes how each IT and data management component collaborates into a single unit (Geasela, Yemima Monica; Andry, 2019). The open group design blueprint (Togaf) is a framework for the Company's design that prepares the methods and tools for designing, organizing, implementing, and executing the Company's design information (Geasela, Yemima Monica; Andry, 2019).

The open group design blueprint (TOGAF) was developed in 1995 by the United States Security Department, but eventually, the open group design blueprint (TOGAF) was widely used by all departments. The advantages of the TOGAF open group design blueprint (TOGAF) are: (1). Prepare detailed procedures and tools for Execution. (2). The open group design blueprint (TOGAF) is the Company's open-source design framework.

The open group design blueprint (TOGAF) provides a straightforward way to design, prepare, develop, and execute via Design Improvement Method (ADM). The design improvement method (ADM) keeps a unique shape for the Company's design development, as seen in the illustrations and explanations below: (Leonardo S, 2018).

Figure 1
Framework Togaf ADM



Thus, this research aims to analyze the need for a comprehensive and integrated Corporate Design Planning to develop a new Information Technology and Systems master plan at PT XYZ and to produce a Corporate Architecture Planning to automate and integrate the Company's business processes through the TOGAF ADM framework. For development. New systems and technologies to support the distribution of environmental and social responsibility programs at PT XYZ in particular and BUMN in general. (Sardjono & Vijayanto, 2021)

Research Method

A. Literature Review

Table 1
Previous Study

No.	Reacher Name	Title	Approach Utilized	Outcomes and Discussion
1.	A. Solichin and Z. A (2012)	Cloud Computing-	The analysis method utilized	A study on the state of

2.	G. Nugroho., & S. Saefudin., (2022a)	Planning Enterprise Architecture Information System Distribution of Population Data Recipients of Social Assistance During the Covid-19 Pandemic Using The Open Group Architecture Framework (TOGAF)	This study discusses three iterations of all stages in the Open Group Architecture Framework (TOGAF) Architectural Development Method (ADM), namely the first iteration on Architectural Capability Iteration, the second iteration on Architecture Development iteration, and the third iteration on Transitional. The iteration plan uses several tools to support this design, such as Business.	The developments of this analysis are designing information system planning for distributing data on the population of recipients of social subsidy funds during the COVID-19 pandemic established on Cloud Computing which is a request for integration and development between current information systems and the proposed.
3	Negreiros (2020)	Smart Campus® as a living lab on sustainability indicators monitoring	The Study Method Utilized is an Adoption Model as a Reference for the Roadmap for Cloud Computing adoption (ROCCA). They are Integrating the Factors that. Focus on Cloud	This Study's Objective is to Execute a Framework Utilizing Campus in a University Environment by Utilizing the roadmap for Cloud Computing Adoption (ROCCA) Adoption example.

			Computing Adoption in Organizations or companies and undergoing Five Stages (phases): Analysis, Planning, Adoption, Migration, and Management. The investigator determined that the methodology utilized was the TOGAF structure. Then in taking out in this investigation's data.	
4.	F. Muttaqin., H. E. Wahanani. & F. A. E. Saputro., (2017)	Enterprise Architecture Design Supporting the Execution of Cloud Computing PT Angkasa Pura 1 (Persero) Juanda Airport Using Togaf Adm.	processing and data analysis, the writers employed ADM steps but only from step a to step e. This is caused this investigation concentrates on the result of corporate planning in addition to that also sustained by the elements of TOGAF, which are to handle needs or	Architectural planning in this case study is expected to be an ingredient in cloud computing Execution.

			conditions	
5.	Geasela, Yemima Monica Andry (2019)	Design Enterprise Architecture in CPO Industry Using Togaf Adm Framework	Design Enterprise Architecture in CPO Industry Using Togaf Adm Framework, the Open Group Architecture Framework TOGAF ADM (The Open Group Architecture Framework) to	The latest Developments of this Analysis are in the Shape of a Submitted use standard Tailored to the Interests of the Enterprise Procedures and Industry Requirements of Current CPO Businesses. This final project analyzes
6.	R. D. Leonardo S., (2020)	Business Planning Development for Contact Center Services Using the Togaf Framework (Case Study of PT.XYZ)	good uses for CPO Initiatives used in this final project is qualitative, with a case study approach. To develop the Enterprise Contact Center Service Architecture in this last project, the Togaf ADM frame was used as the enterprise architecture frame.	The preparation of Writing this theory aims to design the development of contact center services to overcome the obstacles faced by PT. XYZ and add value to contact center services. The analysis results in a contact center design with added value for contact center services that can be applied at PT.XYZ
7.	W. Sardjono., & R. V. Mahatvira., (2021)	Designing of IT Master Plan Based on Togaf ADM Framework in the Regional Water Utility Company	The research methodology used to plan the Enterprise Architecture through the Togaf ADM framework.	This final project analyses the preparation of industrial configuration with several stages in the TOGAF ADM visual

			Countries'	design, business design, system design, and new technology design to opportunities and solutions. This study describes the IS/IT master plan, which contains preparing industrial configurations to deal with problems. Arise with the theory of answers presented in a design integrated into the system, Uniform policy and service focus. This analysis examines data systems and transmission technology in the Ministry of Agriculture. And to take out Strategical preparation(s) of in-line data systems with the design of the Ministry of Agriculture utilizing the Togaf frame. The outcomes of this study are live data system product designs that are once only given tabular fact evolved into spatial data, as nicely as an input system
8.	A. A. Abdurachman., (2019)	Application of the Togaf Frame in strategic planning of case study information systems at the Ministry of Agriculture	This research is an information system strategic planning in The Ministry of Agriculture supports the Vision, Mission, and strategy of the Ministry of Agriculture. The model approach used is the TOGAF Framework	

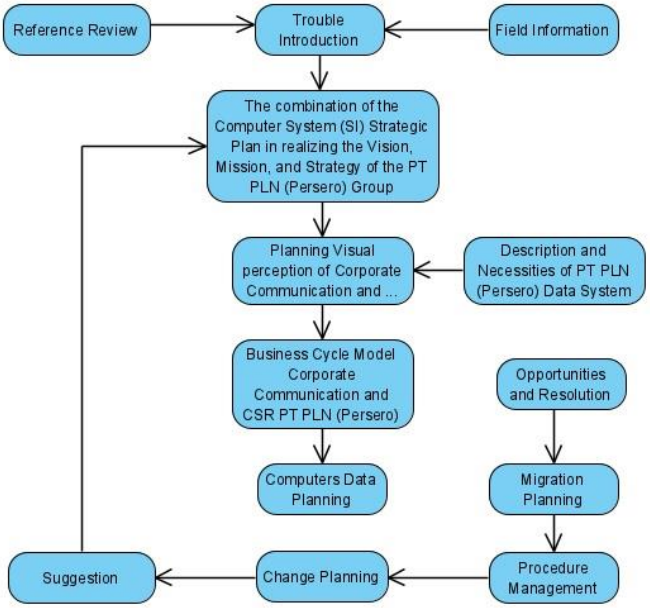
				strategical organization offer combined with the vision, mission, and strategy of the Ministry of Agriculture.
9.	M. Irfan, S. J. Putra, C. (2018)	Readiness Factors for	The method used is the	This study aims to Investigate the

B. Research Stages

The design in this case study is motivated by technology and communication issues to support e-government and the Company's development in realizing its vision, mission, strategy, and human resources in new systems and technologies. This is the background of the importance of aligning system design and communication with the strategic plan of the State Electricity Company. The merger is done by looking at the structure of PLN's vision, data center business processes, TJSL (social and environmental responsibility), and PLN's communication performance system, system design, and information technology. Enterprise, network topology technology in the Enterprise, solutions, and blueprints for the transition. Digital technology and systems governance, and transformation design. The merger plan was stated to realize how to combine the creation of the TJSL performance system (social and environmental responsibility) and communication with the strategic plan of PT XYZ.

Then with this case study, the reviewer intends to convey the strategic design considerations of the system at PT XYZ using the Togaf blueprint. (Abdurachman, 2018) An overview of the design in this assessment can be seen in the figure below:

Figure 1
Research Stages



C. Kind of Research

The form of research used in this study is a unique qualitative study, where data is obtained based on direct review steps to various sources. The study was conducted on data acquisition, and a research summary was taken (Sugiyono, 2021).

D. The Approach to Gathering Data

The information used in this study is indirect information contained in PT XYZ. The information provided is in the form of target data and performance realization in realizing the Company's vision, mission, and strategy. PT XYZ's information technology infrastructure, XYZ's strategic information, PT XYZ's value chain, as well as information on strategic plans for new systems and technology, and PT XYZ's digital transformation, all of which were discovered through the method of conducting interviews with several divisions at PT.XYZ:

1. Name : Aditya Syarief Darmasetiawan
   Position : Executive Vice President Corporate Transformation and CEO Office Change Management
2. Name : M. Fahrur Rozy
   Position : PLH. Executive Vice President of Digital Management
3. Name : Suroso Isnandar
   Position : Chief of Digital and Information Technology
4. Nama : Kristiawan Agung Satria

Position : Assistant Manager of Assessment and Plans UIT JBB UPT Duri Kosambi

5. Nama : Bintang Dwi Putro
   Position : Assistant Manager of Assessment and Plans UIT JBB UPT Duri Kosambi

Results and Discussion

This study examines the phases of designing data management and monitoring methods for providing Corporate Social Responsibility and Environment (TJSL) assistance in cloud computing-based electricity companies using the TOGAF ADM framework.

A. Introductory Stage

This stage is a preparative phase to meet the work instruction at XYZ Company for the recent enterprise architecture. In this stage, an essential catalog will be intended with guidelines for XYZ Company to set rules as stated by need. The primary record that will be identified is the work plan, program plan, data architecture, and technology architecture. The next is a principal catalog at XYZ Company:

Table 2
Essential Catalogue

No.	Planning	Basis	Analysis
1	Enterprise Planning	Application of Details Method for Company	Declaration: This Technology Digital Transformation Explanation: The abovementioned regulations are designed with a broad view and have abiding worth. This tenet would benefit the whole group to complete its work using advanced communication. Inference: Utilizing data techniques along the association will reveal the transformation in the Company's existing procedures.
		Customer Focus	Declaration: The blueprint is based on procedures that happen in the Company that mirror the main activities of the Company. Explanation: Client focus forms a seamless process of details. Inference: Corporate social responsibility information enables companies to convey the benefits and harms of electricity and implement assistance by taking advantage of

			the Balance.
		Data Management is a Fundamental Business in the Company.	Declaration: Every part of the Company is embroiled in the data system design's existing development. Explanation: Data users are BoD Employees at the State Electricity Company. Providing data management aligns with the Company's vision, mission, and strategy, and the entire firm will be involved in designing the built data system. Inference: Data system configuration needs the commitment of each part of the firm in its utilization
2	Information Fundamental	Information is Value	Declaration: Data is a value that bears value to The Corporate. Explanation: Information is a proper corporate revenue Importance: This fundamental is one of three basics.
		Information is Transferred	Declaration: The wearer has entrance to the information essential to performing the job; this data is transmitted to the other side of parts and communities. Cause: Reliable access and perfect information are crucial for improving grades and creating appropriate decisions in the Company. Significance: This code is a single of three principles nearly connected to information: information is support; information is transferred; readily available information
		Easy to Get Information	Declaration: Information can be accessed by the wearer to run its operations. Cause: General entrance to information shows efficiency and energy in finding manufacture, and we deliver timely replies to data and usefulness delivery needs. Importance: These codes are a single of Three regulations that live firmly related to

			information: it is an investment; information is transferred only through available transmission.
3.	Execution Basis	Facilitate of Utilizing	Statement: Easy to use the app. The underlying technology is transparent to the user so that people can focus on the functionality of writing. Cause: The more users understand their computerization style, the shorter the wearer's effectiveness becomes. Ease of use is a success. Importance: The use must be flexible and effortlessly retrieved regarding features and data following the.
			Institution's requirements
		End User Display Accurateness	Statement: Program users live not exclusively in the Institution. Cause: Views aligned with design data requirements Will Support users in maintaining helpful knowledge. Importance: The program created must include a display tailored to user requirements.
4.	Computerize Fundamentals	Availability	Declaration: Computer and automation may Consistently be unrestricted to end users. Related: When lengthy as the community's company procedures are performed, it requires technical Maintained. Help is constantly obtainable. The Importance: The built automation must continuously be monitored and consistently
		Interoperability	Declaration: The data method plan must be developed by the design/program requirements. Related: Support measures ensure the provision of, from that place, increased ability to control methods and increase consumer gratification.

	Importance: Existing IT media should be determined and recorded

In tablelands, 6 to 8 in this analysis, early request or comprehension of the business planning frame was not employed. Because in advance, PT XYZ used a structure for designing Business planning for its Corporate. This study, too, utilizes some instruments for supporting the establishment of business planning at PT XYZ, namely BPMN (Business Process Modelling Notation) and UML (Unified Modelling Language).

B. Planning Concept (Stage A)

The planning concept is the first step in designing corporate planning at Togaf ADM. The planning concept describes how the Company's agreement is implemented at PT XYZ, which is determined based on its vision. There will be artifacts resulting from the actions performed in this step. Artifacts are a matrix of stakeholder maps, value chains, solution concept diagrams, objective catalogs, and condition catalogs.

Table 7
Authority and Requirement Chart

		Attention of Class	
		Lowly	**Elevated**
Ability	Elevated	Very Satisfied	Mainstay Participant
	Lowly	Minimum Business	Crucial Information

1. High Ability - Low Attention: Very Satisfied
2. Partners hold power to make policy, but they abstain and have the interest and commitment to play an active role.
3. Elevated Power - Elevated Attention: Critical Participants
4. Partners are allowed to make policies and participate in corporate procedures.
5. Weak Capability-Weak Readability: Minimum Means
6. Partners who are directly embroiled in the projection.
7. Weak Ability-Tall Readability: Remain Knowledgeable

The reading affects specific partners but ceases to influence the reading significantly.

Based on the explanation in the table above, a printout of the Partnership chart will be presented according to the study results of PT XYZ Company Structure, Job Descriptions, and dialogue.

Figure 2
Corporate Secretariat Organizational Chart

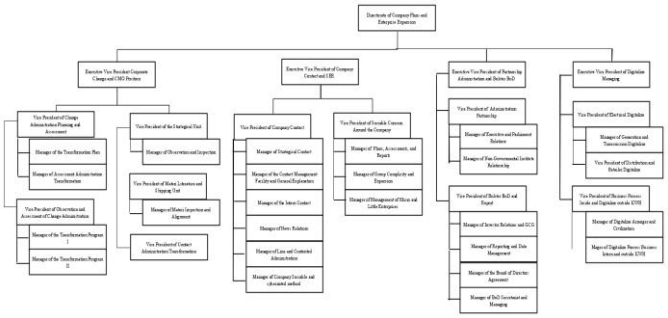
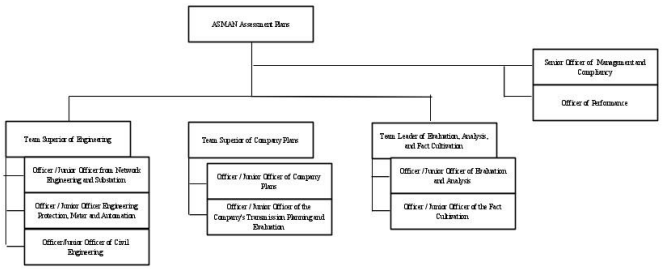


Fig 3
Organizational Chart of Planning and Assessment Segment



Based on the explanation in table 7 and figures 4 to 5 above, a partnership chart is then presented, which can be seen in tables 10 to 13 below:

Table 8
The Partnership Chart

Partners	Essential Attention	Category
Executive Vice President Corporate Transformation and CEO Office	Leading, Guiding, and Controlling the Transformation Management Section, which Includes Encouraging the Company's Transformation by Providing Change, Determining Key Performance Indicator (KPI) Parameters, and Organizing Effective Transformation Communication in all Organizations	Critical Participants

Vice President of the Transformation Management Program	Accountable for overseeing and evaluating the progress of the Transformation Project, Ease of implementing the Holding structure to the Team, and Maintaining Relationships with Related Partnerships.	Critical Participants
Vice President of Transformation Management Communications	Accountable for Organizing and Assessing All Transformation Activities, Risk Assessment, and Transformation Alleviation. Arrange KPI Criteria and Monetary Influence Evaluation	Critical Participants
Manager	Responsible for organizing, realizing, and testing the complete transformation plan, analyzing the effects	Critical Participants

Discussion

A Cloud Compute Usage Strategy

The strategies for utilizing cloud computing may become caught in Figure 6 (Rumetna, 2018), that is :

1. Examination Step

   At this beginning step, the User does a SWOT check to find out the User's need to determine whether the design is good, namely good, regulations, commitment, structural system exchanges, and threat Managing.

2. Planning Step

   It is a step for determining cloud service programs, implementation, and infrastructure that suit corporate needs to determine the costs that need to be incurred by the organization. In planning adoption, it is essential to determine if cloud services will be officially used. Before it is officially utilized, will there be a layout plan to determine what hazards happen.

3. Adoption Step

   This step is initially to relocate conventional systems to existing shadow acts of assistance architecture and use. In the method/use combination stage, these are past to confirm that the prospect would live capable of operating interning use that has not

relocated to the shadow and to shadow architecture. The outsourcing strategies are distinct, and benchmark develop at the plans phase take the measurements of a vendor capacity to give service lest would not collision the company servicing and company. The rearmost thing in this stage is the expansion and sign agreement that meet the winner's need to apply the shadow servicing.

Conclusions

Based on the presented strategy for utilizing cloud computing, it is evident that a thorough examination, planning, and adoption process is necessary to ensure successful implementation. The examination step involves assessing the organization's needs and identifying potential risks and challenges. The planning step is focused on determining suitable cloud service programs and infrastructure, considering costs and potential risks, and establishing a layout plan. Finally, the adoption step involves migrating conventional systems to the cloud, confirming the ability to operate internally, and benchmarking vendor capacity to ensure optimal service delivery.

Overall, the cloud computing usage strategy outlined in Figure 6 provides a comprehensive approach for organizations to effectively and efficiently adopt cloud technology. Through a structured examination, planning, and adoption process, organizations can ensure that they are well-prepared to harness the benefits of the cloud while mitigating any potential risks. Ultimately, a well-executed cloud computing usage strategy can help organizations improve efficiency, reduce costs, and enhance their overall competitiveness in the marketplace.

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