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BUSINESS ARCHITECTURE PLANNING IN TELKOM PENAJAM PLASA

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ABSTRACT

Plasa Telkom Penajam is an outlet or place of service belonging to PT. Telekomunikasi Indonesia, Tbk (Telkom) which is fully managed by TELKOM and or in collaboration with PARTNER, provided to serve customers, prospective customers, users of Telkom services and or TELKOM Group services who wish to be served online. directly (face to face) with various possible backgrounds or causes, both regarding the need for all information related to Telkom's products and services, as well as to fulfill basic needs themselves. From its business processes, Plasa Telkom Penajam has several problems that have the potential to disrupt its business activities, one of the problems is the occurrence of errors in the management of outgoing modem data and frequent errors in recording, due to the absence of an integrated information system to support activities within the company. In designing the EA at Plasa Telkom Penajam using The Open Group Architecture Framework (TOGAF) and the Architecture Development Method (ADM) which have been limited and consist of several stages, namely the preliminary phase, architectural vision and business architecture. This study aims to identify business processes and create IS/IT blueprints. The result of this research is the design of Enterprise Architecture in order to support its business processes and build an information system to meet the needs of business strategy activities that produce the main blueprints of TOGAF, namely business architecture and application architecture.

INTRODUCTION

The role of Information Systems and Information Technology (IS/IT) in carrying out business processes in the current information age is very necessary. IS/IT has several important roles in an organization, among others, to be a means to assist organizations in realizing integration between management and operations, improve service quality to consumers, and assist in the decision-making process (Mengcheng & Tuure, 2022).

The development of Information Technology in business processes, will require organizations to make changes with the implementation of a mature business plan, so that it can run according to plan. In order for a business plan to run well, a tool is needed that can be used to provide a basic organizational structure for the company as a whole and describe the relationship between the aspects in it. The tool in question is Enterprise Architecture (EA) (Alzoubi & Gill, 2022).

Enterprise is one of the most complex man-made systems consisting of human, political, social, software, hardware and technology components. An enterprise can be a government agency or a chain of interconnected but geographically distant organizations.

PT Telekomunikasi Indonesia, Tbk is a provider of InfoComm services, fixed wireline and fixed wireless, cellular telephone, data and internet services, as well as the largest network and interconnection in Indonesia, both directly and through subsidiaries (Sugianto, n.d.).

Data collection for goods and services at Plasa Telkom Penajam, was carried out at the Warehouse Admin Staff section with the current system not utilizing technology and computer systems optimally. In the data collection of goods, it is still done manually by recording every item that has been issued by the Warehouse to the technician to be attached to the customer who installs Indihome. It is not known for sure whether the item has been paired with the customer or not. There needs to be a system that makes it easier for the Warehouse Admin Staff to find out more easily whether the item has been installed by a technician to the customer or not (Huang, 2022).

Enterprise Architecture (EA) is the planning, design and management of IS/IT Infrastructure and is able to integrate IS/IT in an architecture (Rouhani, Mahrin, Nikpay, & Nikfard, 2013). Enterprise Architecture is an organizational blueprint that defines the business, information and technology used to achieve the organization's mission. Enterprise architecture is a collection of plausible principles, methods and models used to design and realize an enterprise organizational structure, organizational structure, information system and infrastructure system. EA serves as a provider of blueprints or basic frameworks (blueprints) for the system during the process of the system development project. Various paradigms and methods can be used in EA design, including Zachman, TOGAF, FEA and Gartner.

TOGAF (The Open Group Architecture Framework) is a framework and method development for Enterprise Architecture that is used by enterprise architects to design, plan, implement, and manage enterprise architecture in detail and detail (Sari & Anggraeni, 2022). The togaf framework is a method that can perform enterprise architecture, enterprise architecture is a useful tool for developing the range of any existing architecture (Prawira, Azizah, & Astuti, 2018). TOGAF is a guide to stages and principles that provide flexibility and choose the modeling technique used and is a combined guide from various architectural development frameworks (FEAF, TEAF, DoDAF, etc.) (Karunia, 2015).

Several previous studies were used as references in writing, such as the Final Project compiled by Elfira Rossa in 2020 with the title "Designing Enterprise Architecture Using the TOGAF ADM Framework". This research produces an IS/IT blueprint from the main architecture in TOGAF ADM, namely business architecture, data architecture, application architecture and technology architecture. The IS/IT blueprint can be used as a guide in developing IS/IT at PT. Astragraphia Tbk Pekanbaru Branch. This research uses The Open Group Framework (TOGAF) and the Architecture Development Method (ADM) architecture development method (Hermawan & Sumitra, 2019). This research is limited to the preliminary phase, architectural vision, business architecture, information systems architecture, and technology architecture. This study does not discuss the phases of governance of opportunities and solutions, migration planning, implementation and management of architectural change (Rossa Elfira, 2020).

Furthermore, the Thesis compiled by Ines Putri Karunia in 2015 with the title "Enterprise Design architecture Using TOGAF Architecture Development Method". This research resulted in enterprise architecture planning using the TOGAF 9 framework to align activity strategies in the form of blueprints from the main architecture in TOGAF, namely business architecture, application architecture, data architecture and application architecture. This research is limited to the preliminary phase, vision architecture, business architecture, information systems architecture, technology architecture, opportunities and solutions, and migration planning.

The purpose of this research is to plan the business architecture at Plasa Telkom Penajam.

METHOD RESEARCH

The research method used in this study is a qualitative descriptive method. The type of data used in this study is qualitative data, which is categorized into two types, namely primary data and secondary data. Sources of data obtained through library research techniques (library study) which refers to sources available both online and offline such as: scientific journals, books and news sourced from trusted sources. These sources are collected based on discussion and linked from one information to another. Data collection techniques used in this study were observation, interviews and research. This data is analyzed and then conclusions are drawn.

Method of collecting data

The data collection method is used by the author in order to assist in collecting the necessary data and information from Plasa Telkom Penajam to obtain the correct description of the material for discussion. The data collection method used is the Observation Method and the Interview Method. Observation is a data collection technique that is carried out through an observation, accompanied by notes on the state or behavior of the target object (Fatoni, 2011). The purpose of the observation is to conduct a direct review or direct observation related to the activities and business processes at Plasa Telkom Penajam. The author made observations in October 2020 which took place on Jl. KM Province. 2 RT. 026, North Paser Sharpening. Interviews are a form of direct communication between researchers and respondents, the interview aims to obtain information about the business activities carried out by Plasa Telkom Penajam through direct interviews with Warehouse Admin Plasa Telkom Penajam, Mahdalena and Tyas Mugiyanto. In this case, interviews were conducted with parties who are considered to know the ins and outs which aim to obtain data and information related to the ongoing business process of procurement of goods and information technology support at Plasa Telkom Penajam.

Enterprise Architecture Planning Method

The method used by the author in planning enterprise architecture is TOGAF ADM, TOGAF Architecture Development Method (ADM) is a flexible method that can anticipate various kinds of modeling techniques used in the design, because this method can be adapted to changes and needs during the design. Surendro, 2009). The TOGAF ADM used consists of a preliminary phase, architecture vision, and business architecture. and Tools used in enterprise architecture planning are Principle Catalog, Value Chain.

Framework of thinking

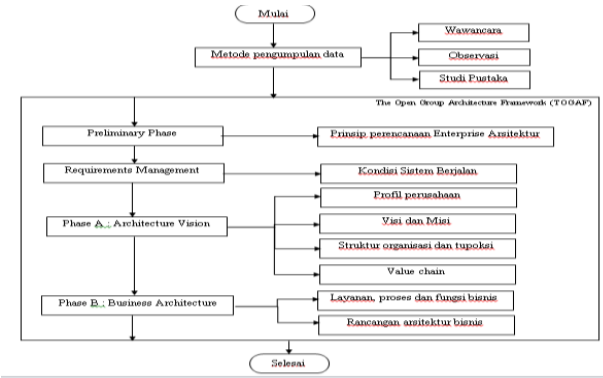

Figure 1. Thinking Framework

RESULT AND DISCUSSION

Preliminary Phase

Preliminary phase (preparation stage) is the initial stage of preparation for enterprise architecture design (Suryadi & Andry, 2017), this stage is carried out so that the EA modeling process can be well directed. This phase begins with identifying and establishing EA principles consisting of applications and technology architectures that are in accordance with the needs of Plasa TELKOM Penajam. The preliminary phase consists of EA design principles.

The principles of Enterprise Architecture (EA) design are part of the Information Systems and Information Technology (IS/IT) policy at Plasa Telkom Penajam which will affect the EA design process. These principles can be useful as a reference in making Information Technology architecture decisions, determining the structure and composition of architectural components, determining criteria for selecting technologies and products to be used, as well as in architectural design and implementation (Herrington, McKenney, Reeves, & Oliver, 2007). The principles that will be used as a design reference will be explained in Table 1 below:

Tabel 1. Principle Catalog

No.	Principle	Purpose
1.	Architectural decisions must be in accordance with strategic objectives and business processes at Plasa Telkom Penajam	Support business process capabilities
2.	Architecture management should be easy	Strengthen the relationship between infrastructure and business processes to facilitate alignment of business processes to change.
3.		
4.	The developed architecture must be secure	Improve the ability to share data and other resources in service to users
5.		Helping collaboration between divisions
6.	Data protection	
7.		Can minimize the impact of disasters
8.	The architecture is designed to make it easy to add and expand	Able to withstand attacks by viruses, spyware, hacks and worms

Phase A : Architecture Vision

Value Chain is a series of activities carried out by a company focused on a particular industry performing to provide a valuable product or service to the market. Value Chain describes a way to view a company as a chain of activities that transform inputs into outputs that are of value to customers, Value chain is expanded to describe a series of organizational activities that create, deliver, and capture value in each process, starting with the processing of raw materials to the finished product in the hands of the customer. Value chain management can be defined as the process of managing all sequences of integrated activities

and information to transfer value along the entire supply chain (Simatupang, Piboonrungroj, & Williams, 2017).

Value Chain Analysis, is a tool to understand the value chain that forms a product. This value chain comes from the activities carried out, from raw materials to the hands of consumers, including after-sales service. Value chain analysis aims to group all activities in Plasa Telkom Penajam (Cagliano, De Marco, Grimaldi, & Rafele, 2012). The grouping of activities in the value chain is divided into two, namely the main and supporting activities.

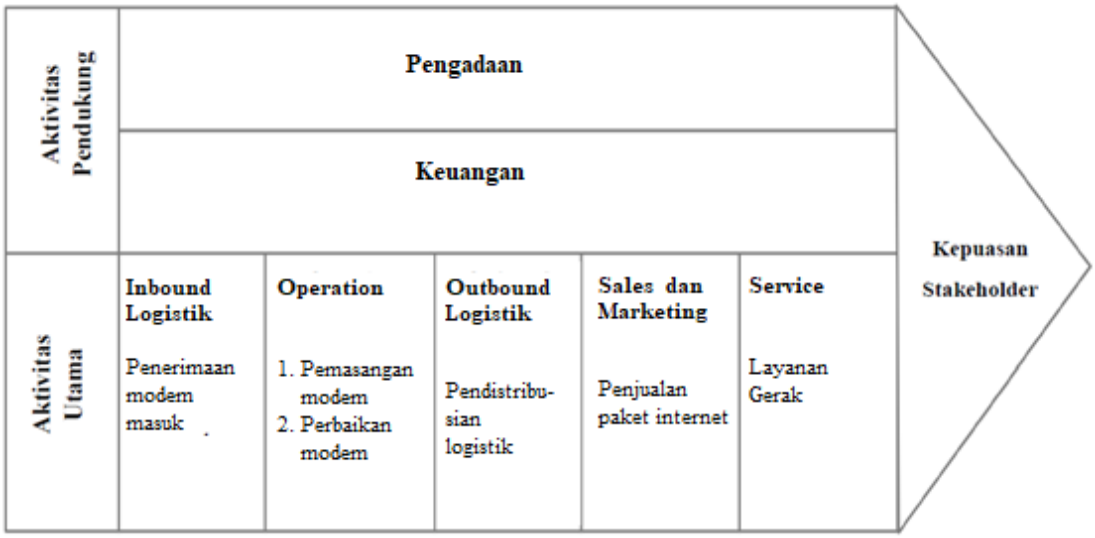

Figure 2. Value Chain Analysis of Plasa Telkom Penajam

Phase B : Business Architecture

The business architecture design is designed in the form of BPMN diagrams for each activity at Plasa Telkom Penajam, namely procurement of goods, receipts, maintenance, sales, expenses and finances with the aim of making it easier for users to understand the business architecture design (Barros & Guezada, 2014).

Procurement

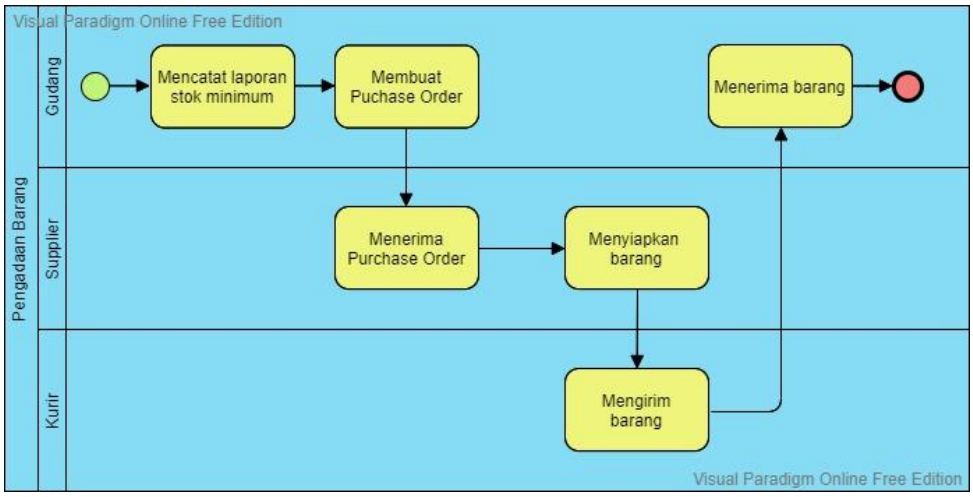

Figure 3. Architectural Design of the Procurement of Goods

The procurement department makes a purchase order after recording the minimum stock report. Then after the supplier receives the purchase order, it will prepare the goods. After the goods have been prepared, the goods will be directly sent by the courier to be received by the warehouse who made the purchase order.

Reception

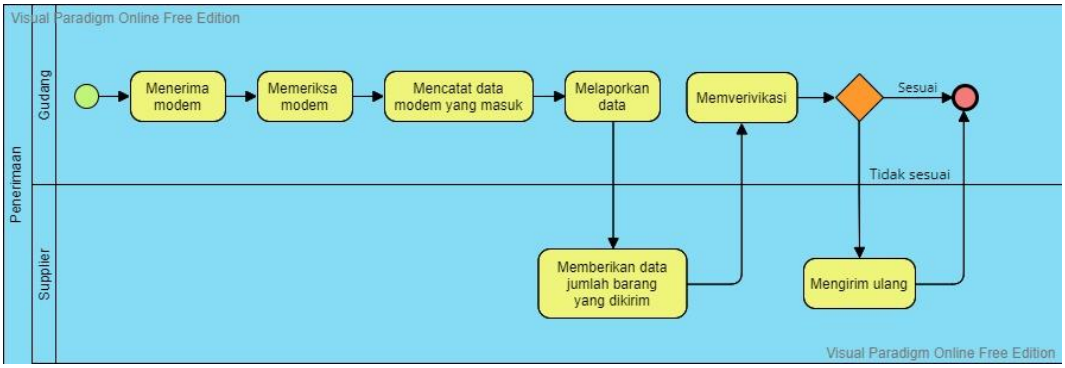

Figure 4. Acceptance Business Architecture Design

In this section, the warehouse receives the goods that have been sent by the courier, then checks, records and reports the incoming goods data. After receiving the report, the supplier will provide data on the number of items sent for verification by the warehouse on a pre-existing application, if it does not match the number of items that have arrived, the supplier will resend the shortage.

Maintenance

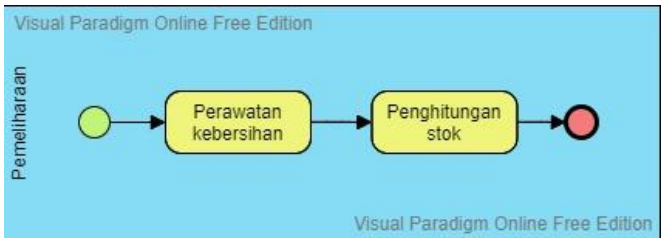

Figure 5. Maintenance Business Architecture Design

The maintenance department only performs cleaning maintenance and calculates the stock of goods.

Sale

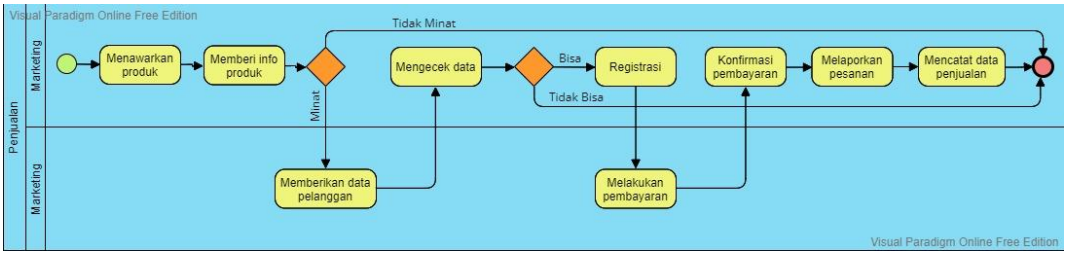

Figure 6. Sales Business Architecture Design

In the sales department, marketing makes an offer to provide product info to customers, if the customer is interested it will be asked for data for later registration after the data is checked. To register, the marketing party will first login to the application, then the customer will make a payment. After the payment is confirmed, the marketing party will report the order and record sales data.

Expenditure

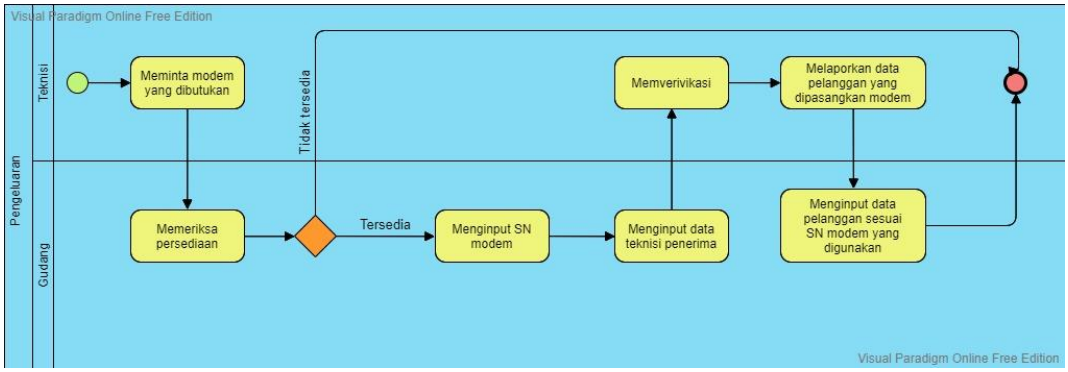

Figure 7. Expenditure Business Architecture Design

The design of the expenditure business architecture will use the application. Technicians and warehouse staff involved in the application must first log in. The technician will ask for the modem needed to be checked for inventory by the warehouse staff, if available, the SN modem will be inputted into the application along with the data of the technician who received it for verification by the person concerned. After verifying, the technician will report the customer data to which the modem will be paired and input the data according to the SN of the modem being used.

Finance

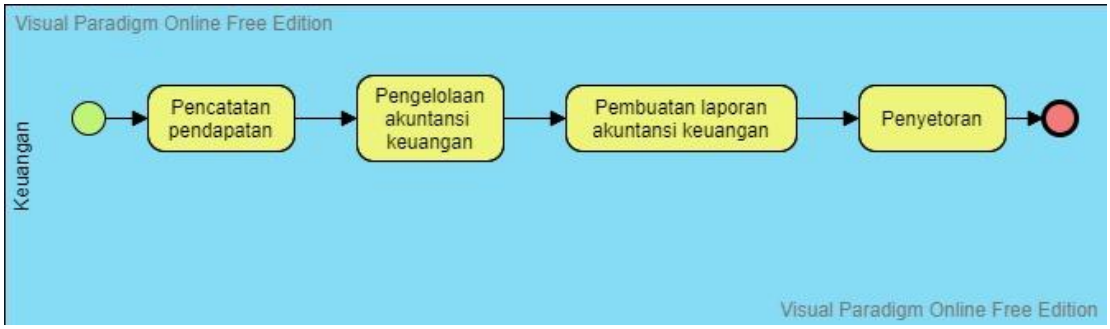

Figure 8. Financial Business Architecture Design

In the finance section, income recording and financial accounting management are carried out to then make financial accounting reports and make deposits to the central party.

CONCLUSION

Value chain analysis aims to group all activities at Plasa Telkom Penajam. The grouping of activities in the value chain is divided into two, namely main activities and supporting activities. The business architecture design is designed in the form of a BPMN diagram for each activity at Plasa Telkom Penajam namely procurement of goods, receipts, maintenance, sales, expenses and finances with the aim of making it easier for users to understand business architectural designs. From the identification of business processes at Plasa Telkom Penajam resulted in a solution and business process design that is simpler and has been adapted to future business needs and the need for facilities to support IS/IT planning in the future.

REFERENCES

Alzoubi, Yehia Ibrahim, & Gill, Asif Qumer. (2022). Can Agile Enterprise Architecture be Implemented Successfully in Distributed Agile Development? Empirical Findings. *Global Journal of Flexible Systems Management*, *23*(2), 221–235.

Barros, Oscar, & Guezada, Alejandro. (2014). Integrated Modeling of Business Architecture and Process Design with BPMN: Application to Hospitals. *Enterprise Architecture*, (1), 7.

Cagliano, Anna Corinna, De Marco, Alberto, Grimaldi, Sabrina, & Rafele, Carlo. (2012). An integrated approach to supply chain risk analysis. *Journal of Risk Research*, *15*(7), 817–840.

Fatoni, Abdurrahman. (2011). Metodologi Penelitian dan Teknik Penyususnan Skripsi. In *Skripsi (Jakarta: Rineka Cipta)*. Jakarta: Rineka Cipta.

Hermawan, R. A., & Sumitra, I. D. (2019). Designing Enterprise Architecture Using TOGAF Architecture Development Method. *IOP Conference Series: Materials Science and Engineering*, *662*(4), 42021. IOP Publishing.

Herrington, Jan, McKenney, Susan, Reeves, Thomas, & Oliver, Ron. (2007). Design-based research and doctoral students: Guidelines for preparing a dissertation proposal. *EdMedia+ Innovate Learning*, 4089–4097. Association for the Advancement of Computing in Education (AACE).

Huang, Yulong. (2022). Design of Logistics Economic Management Measures System in the Era of Internet of Things. *Scientific Programming*, *2022*.

Karunia, Ines Putri. (2015). *Perancangan Enterprise Architecture Menggunakan TOGAF Architecture Development Method (Studi Kasus: Dinas Tata Kota, Bangunan dan Permukiman Kota Tangerang Selatan)*. Retrieved from https://repository.uinjkt.ac.id/dspace/handle/123456789/30248

Mengcheng, Li, & Tuure, Tuunanen. (2022). Information technology–supported value co-creation and co-destruction via social interaction and resource integration in service systems. *The Journal of Strategic Information Systems*, *31*(2), 101719.

Rossa Elfira. (2020). *Perancangan Enterprise Architecture Menggunakan Framework Togaf ADM*. Universitas Islam Negeri Sultan Syarif Kasim Riau Pekanbaru.

Rouhani, Babak Darvish, Mahrin, Mohd Nazri, Nikpay, Fatemeh, & Nikfard, Pourya. (2013). A comparison enterprise architecture implementation methodologies. *2013 International Conference on Informatics and Creative Multimedia*, 1–6. IEEE.

Sari, Noca Yolanda, & Anggraeni, Leni. (2022). Governance Design Of School Information Systems With The Open Group Architecture Framework (Togaf) At 1st State High School Pagelaran. *JTKSI (Jurnal Teknologi Komputer Dan Sistem Informasi)*, *5*(1).

Simatupang, Togar M., Piboonrungroj, Pairach, & Williams, Sharon J. (2017). The emergence of value chain thinking. *International Journal of Value Chain Management*, *8*(1), 40–57. https://doi.org/10.1504/IJVCM.2017.082685

Sugianto, Heru. (n.d.). *Analisis Strategi Pemasaran Terhadap Penjualan*.

Suryadi, & Andry, Johanes Fernandes. (2017). Perancangan Enterprise Architecture Mengunakan Togaf Architecture Development Method (Studi Kasus: Yakuza

Gym Jakarta Barat). *Jurnal Teknologi*, *2*(2502–8782), 6.