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Architecture Information System With TOGAF-ADM (Case Study : Toko Sinar Remaja Maumere)

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ABSTRACT

In the buying and selling industry, the development of information system technology allows sellers and buyers to interact with each other to achieve their respective goals and desires. The Sinar Teen Maumere light motorcycle spare parts store must also go through this process to develop a modified motorcycle spare parts business that can compete with other spare parts stores and manage the sales process systematically and computerized. Therefore, the purpose of this study is to develop a TOGAF ADM-based information system architecture for Sales and Inventory of the Sinar Teen Maumere Motorcycle Spare Parts Store. TOGAF has stages of preparation, Architectural Vision, Business Architecture, Information System Architecture, Technology Architecture, Opportunities and Solutions, and Architectural Change Management that can improve the performance and service of the Sinar Teen Store as well as control and monitor product sales. To produce a proposed application system design that can support business processes and create reports that occur at the Sinar Teen Motorcycle Spare Parts Store, the findings of this study provide a design that determines the business architecture, data architecture, application architecture, and technology architecture. At the general opportunities and solutions stage, a summary of all the sciences that produce the GAP analysis is explained as a reference for future information system development at the Sinar Teen Motor Spare Parts Store, Maumere.

INTRODUCTION

Humans' ability to complete all work has changed as a result of technological advancements, as evidenced by the development of information systems.(Kusumawardani et al., 2020) In addition to influencing human activities, technological advancements also influence how stores compete with one another. The buying and selling system is one of today's rapidly expanding business innovations. (B. M. Izzati et al., 2021). The development of a store, including the Maumere youth light motorcycle spare shop, may be impacted by this. Because of the ever-increasing demand for motorcycle spare parts, the transaction process (Sudarsono et al., 2020), recording, finance, and goods reports are not yet effective or efficient. They still use bookkeeping or manually, making it easier for errors to occur during the transaction process. Also, taking into account the financial condition and stock of goods takes a long time, and detecting gains or losses. (Sari et al., 2019) Cannot be done quickly.

For the solution to be managed, it needs an enterprise architecture plan to help solve organizational architectural problems, document the design and implementation of architecture(Mei Mei & Andry, 2019), and facilitate communication between Sinar Remaja shop

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officers in the sales information system for motorcycle spare parts. The TOGAF ADM framework (A. N. Izzati et al., 2016) is used as an enterprise architecture design method to plan, design, and manage the development and implementation of enterprise architecture. It is used to provide optimal solutions in the utilization of information systems and information technology (Nouvel & Juliati, 2020) that are aligned with the store's business strategy. The TOGAF ADM framework has a complete stage and a structured structure, producing a framework or blueprint (Yulia et al., 2018) that can be used to develop. (Gormantara & Emanuel, 2020) an information system for the Sinar Remaja Store's process of selling supplies and goods in the face of store competition.

Enterprise Architecture in the CPO Industry Using the TOGAF ADM Framework (Monica Geasela & Fernandes Andry, 2019) has been described as extremely helpful for the creation of applications and the design of an enterprise architecture model to enhance business performance and competitiveness (Soraya & Sari, 2019). The IT Blueprint (Ardiansyah et al., 2019) TOGAF ADM to support digital transformation in MSMEs (Hudha et al., 2019) Was developed as a result of the growing business competition among businesses to attract consumer interest. How motorcycle spare parts management can control the availability of goods to make it easier to make shopping plans and detailed income reports can be explained in the Development of Information System Applications for Website-Based Motor Workshops. (Murpratiwi et al., 2016). This can make it easier to provide services to consumers and control ongoing business processes. (Eskaluspita & Sumitra, 2020).

Explains, based on some previous studies, how the TOGAF-ADM framework can be applied to business and sales systems. However, small companies like Maumere Sinar Remaja, which offers a wide range of modifications and spare parts for motorcycles, receive very little attention. The results of this study are a blueprint containing enterprise architecture using The Open Group (TOGAF) framework and using the Architecture Framework Architecture Development Method (TOGAF ADM) method, in the form of a company's information technology design consisting of business process designs, needs, information providers, and organizational infrastructure. It has several stages, namely vision architecture, business architecture, data architecture, application architecture and technology architecture. The aim of this research is to build an Enterprise Architecture design that can support the management of store activities, including preparation, implementation and evaluation. It can also facilitate all processes related to business processes well. The impact of this research itself is a solution to business process problems, data loss, and unintegrated data during school activities. The main problem is the manual process that is still applied and the information system that may not fully support it so that it has an impact on business processes.

RESEARCH METHODS

The Open Group Architecture Framework (TOGAF) Open Group Architecture Framework (TOGAF) is a framework that is widely used in developing enterprise architecture. TOGAF provides methods and tools for building, managing, implementing and maintaining enterprise architecture and information system.

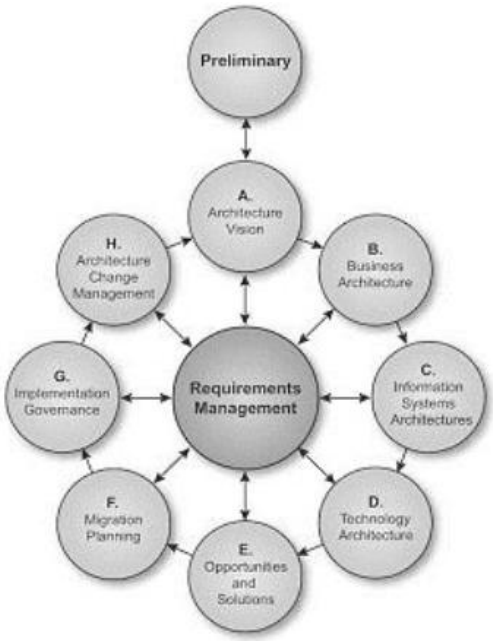

Figure 1. TOGAF-ADM

In This research approach consists of six stages for gathering data on needs analysis for TOGAF-ADM store architecture planning, including opportunities and solutions, conclusions, vision architecture, business architecture, data architecture, application architecture, and technology architecture . (Hermawan & Sumitra, 2019).

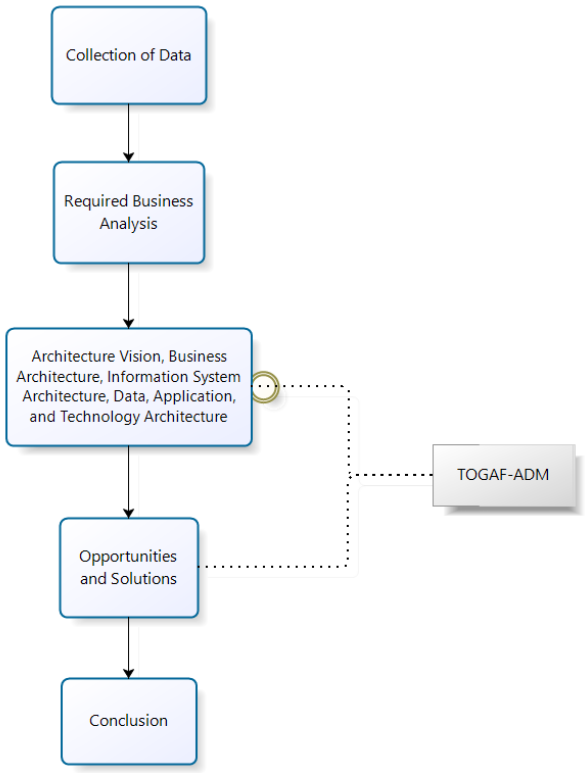

Figure 2. Research Method

In the beginning, data were collected through a literature review to find references to previous research. Next, the owner of the Sinar Remaja Shop and employees observed and

interviewed about the modified motorcycle spare parts sales system to find out how it works and what problems are common. Moreover, need examination is utilized to break down the business processes running at the Sinar Remaja Store.

To assist in the construction of the architectural framework, continue designing the architecture using TOGAF-ADM. The primary architectures vision architecture, business architecture, data architecture, application architecture, and technology architecture (WIRANTI et al., 2020) (Bernanda et al., 2020) that are useful for the Information System requirements of selling modified motorcycle spare parts are the TOGAF-ADM steps taken.

In addition, opportunities and solutions (Eskaluspita & Sumitra, 2020) Are examined to produce a fascinating analysis of business architecture that can be used to create the desired business conditions. It describes a summary of all the science that makes the GAP analysis as a reference for developing future information systems at the Sinar Remaja Motor Spare Parts Shop, Maumere. The conclusion of the research based on the results obtained is the final stage.

RESULTS AND DISCUSSION

1. Architecture Vision

The Sinar Pemuda Store's mission is to realize and create delight for customers while supporting the residents of Maumere to become the greatest modified motorbike spare parts center, particularly in the city of Maumere. Several actions have been made, including developing human resources and making effective and efficient use of staff members and equipment for communication technology or information systems, to accomplish its mission.

Knowing the company's business goals is the first step. (Husein* & Fajar, 2020) In defining the function of the necessary information system, which is followed by compiling documentation for ongoing business process operations and integrating any relevant data or technological requirements (Lalu, 2021).

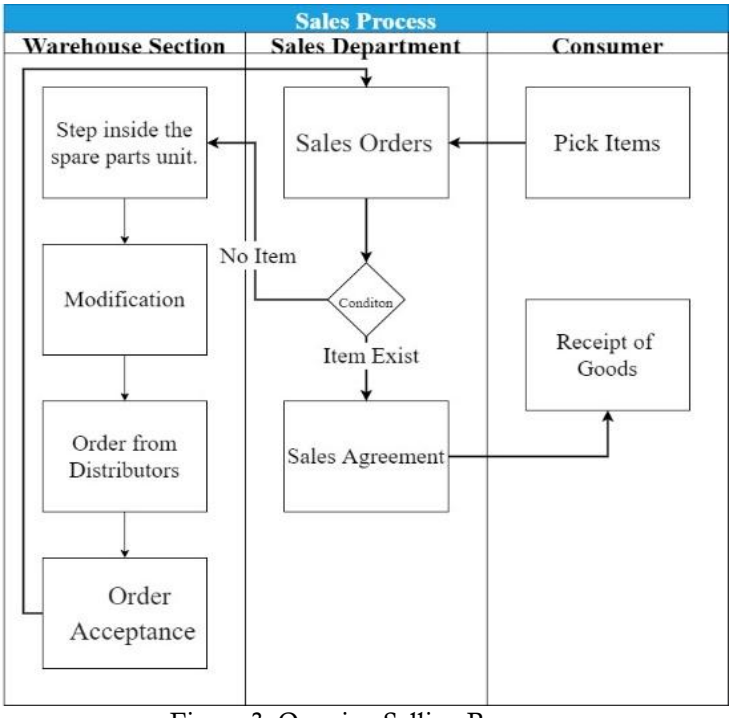

Figure 3. Ongoing Selling Process

As seen in Figure 3 above, the sales process at this youth store is still straightforward. The sales department receives sales orders and assesses the number of inventories on hand; if the requested goods are in stock and available, the process continues to the finance department. The amount that consumers must pay for transactions that have been made will be confirmed in this

financial area as a follow-up to activities that have taken place in the sales department. When clients order items that are out of stock, the warehousing department prepares the items.

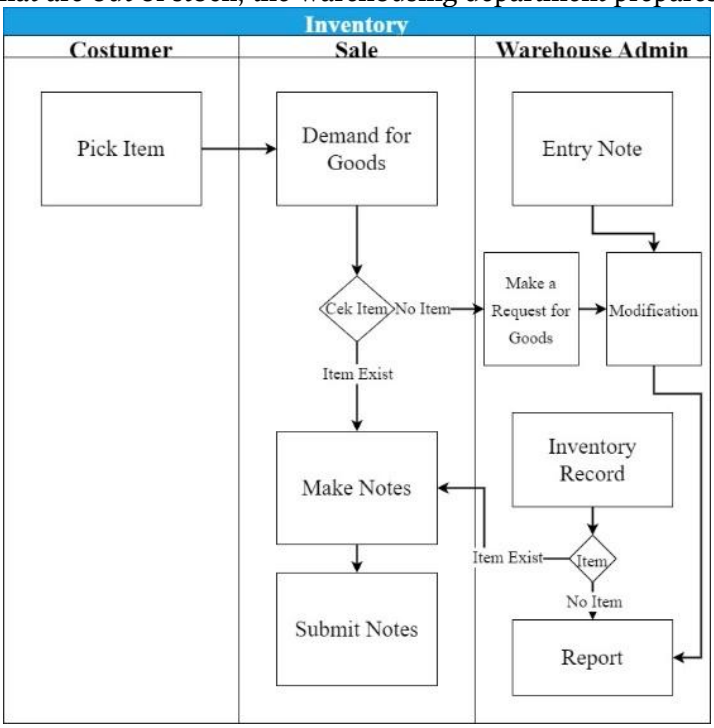

Figure 4. Running Inventory Process

The inventory flow at the Sinar Juve motorbike spare parts business is depicted in Figure 4 above. This inventory activity starts with the arrival of items which are then forwarded to the modification department to determine whether they are in stock. Customer requests for brand-new items or those that don't currently exist at the youth light shop will be added to the list of requests for additional goods by the admin section. Additionally, the admin will record the receipt of goods in the inventory record for goods, and the outgoing of goods will be recorded in the record for outgoing goods.

2. Business Architecture

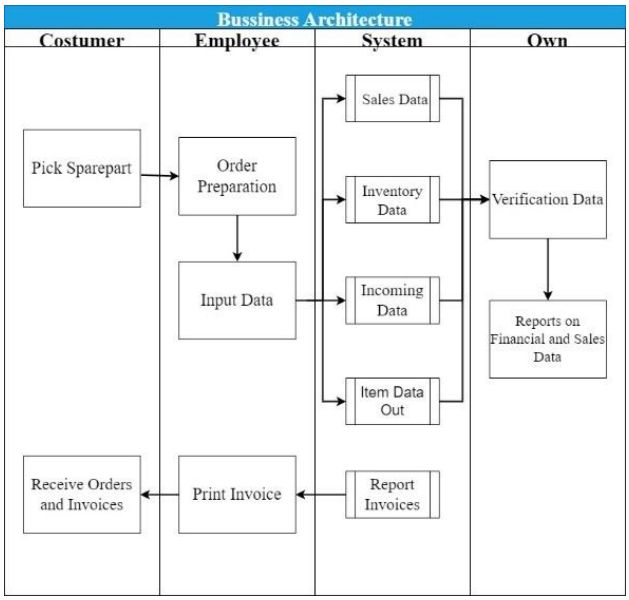

Figure. 5. New Business Process Architecture

The suggested new business architecture may be seen to include a variety of operations in Figure 5 above. where employee members input product information into a computerized sales system. Reports of entering goods data and leaving goods data both show the stock of modified items. This is done to facilitate communication between the sales and inventory divisions so that information can be exchanged effectively and efficiently.

3. Information System Architecture

The information system architecture's planning phase is separated into two parts, namely:

3.1. Data Structure

Identification of data entities and mapping of database relationships that will be used are processes carried out during this stage.

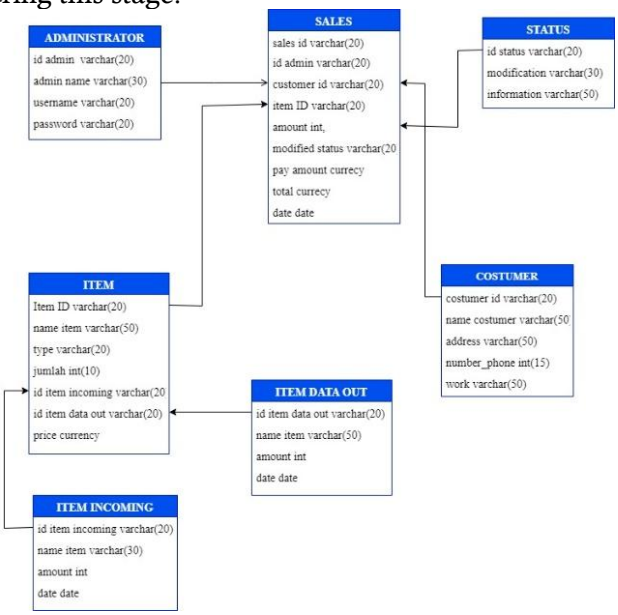

Figure 6. Data Architecture

Relationships between different entities, in which the selling entity is related to the items, admin, customer, and status entities. Then the relationship between the goods entity and the incoming and exiting goods entities exists. Information about spare part modification is provided by a status entity connected to sales.

3.2. Application Architecture

Table 1. Application Architecture

No	New Application	Features
1	Application of a computerized sales system.	Serves to collect and store all sales and expense information
2	Inventory Application	Serves to update goods inventory data as well as store incoming and outgoing goods data.
3	Application for motor spare part data reports	Serves to present daily, monthly, and annual sales statistics so that owners of motorcycle parts stores may see their financial results

Computerized sales applications, inventory applications, and data reporting applications for shop owners on a daily, monthly, and yearly basis, in addition to profit and loss finance, are the primary applications of information systems for the sales of motorcycle spare parts at stores. These are the three application systems that are suggested in Table 1. Sinar Remaja as indicated by the aftereffects of perceptions and meetings.

4. Technology Architecture

The technology planning that will be utilized is called technology architecture. An overview of the technology that can be utilized in the Maumee youth light motorcycle spare parts shop can be found below:

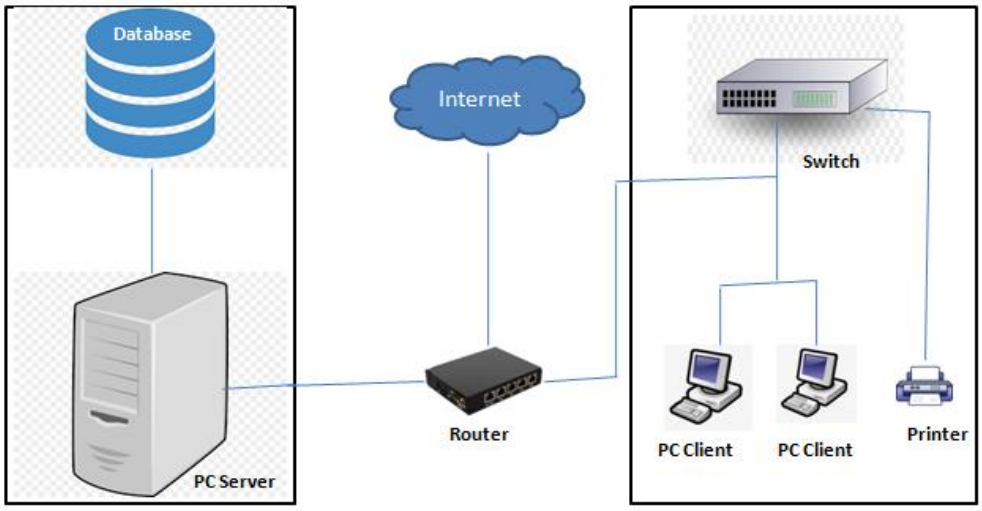

Figure 7. New Technology Architecture

Figure 7 shows that technology architecture is a database that contains all of the data that will be used by all clients. Every two clients are connected to a single PC server via a single router, making it easier for employees to perform computerized sales activities.

This stage is used to conduct a GAP analysis of the Sinar Remaja Shop Modified Motorcycle Spare Parts Sales System's business architecture, application architecture, data architecture, and technology architecture. This is done to make sure that the new information system architecture can meet the goals before the implementation process starts. A sales activity gap analysis table is provided below.

Table 2. GAP Analysis

Existing System	Futere System	GAP Analyst Architecture Busniess
Order Sparepart	Order Sparepart	Retain
Prepare Order	Prepare Order	Retain
Bill Making	Bill Making	Replace
Input Sales	Input Sales	Replace
Report Stock and Financial	Database System (Sales data, Inventory Data, Item Incoming Data, Item Data Out, Report, Print Invoice)	ADD.
	Verify Sale Data	ADD

Information:
Retain = Retain prosess busniess
Replace = Replace prosess busniess
ADD = Add prosess busniess

In business architecture, gap analysis is useful for comparing current events with the proposed target architecture to explain the activities present in the existing Sinar Remaja Store in Maumere. From the results obtained, there are two activities that remain unchanged in the motorcycle spare parts store and order preparation. On the other hand, changes were made to the invoice creation process and input of sales and inventory data thanks to a system that helps and simplifies the work of Sinar Remaja Store employees and owners. In addition, the results of the proposed architecture are used for two additional business operations: updating inventory in the warehouse and verifying sales data. While confirmation of sales data is carried out to prevent input errors, this activity is carried out so that the system can store inventory data and financial reports in the database.

CONCLUSION

It can be interpreted as follows, based on the findings of the existing data and the results of the research: The role of an information system that is developed following the Sinar Remaja store's business goals is obtained at the vision architecture stage. A flowchart depicting the interrelated activities that take place between the sales and inventory departments is produced at the stage of business architecture. The information system architecture stage results in the addition of one entity—status—to the inventory system, followed by the conversion of two entities (sales and customers) to a sales information system and the addition of three entities (admin, goods data, incoming goods, outgoing goods, and reports) to the inventory system. Sales system applications, inventories, daily, monthly, and annual reports of goods data and finances are the three main application results that are obtained at the application architecture stage. At the technological architecture stage, devices to make the stores' inventory information system easier to use were added. Create business analysis tables during the opportunities and solutions stage to assist the system design process in the future.

The Sinar Remaja Maumere Motorcycle Spare Parts Store hopes that this system's design will facilitate the sales process toward computerized information. It is hoped that in the future, devices used in stores like CCTV, barcodes, and others will be integrated to help the store stand out from the competition.

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