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Implementation of Enterprise Architecture Zachman Framework at Jewelry Company

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ABSTRACT

Jewelry Company is a company that produces jewelry by providing the best quality to its consumers. In its development, the jewelry company has a factory that produces various types of jewelry including gold, silver, ruby, gems, topaz and sapphire. However, IS/IT planning within the company is still not maximizing the use of IS/IT that should be implemented within a company. Therefore, this company needs a more strategic planning to support business goals that are in line with business strategy and IS/IT strategy. Enterprise Architecture Planning was chosen as a guide and the Zachman Framework as a design method which consists of six lines, namely scope, enterprise model, system model, technology constrained model, retailed representations, and functioning enterprise, as well as six columns consisting of what, how, where, who, when, and why. The results of this research are a proposed architectural design that is recommended to companies, which is expected to fully support ongoing business activities so that they are more optimal and effective.

1. INTRODUCTION

Jewelry Company, as a prominent retail jewelry company in Southeast Asia, operates in various regions in Indonesia such as Jakarta, Tangerang, and Medan, focusing on providing a diverse range of high-quality jewelry to its customers. Thermal and pressure treatments are commonly used in the jewelry industry to modify the color and appearance of gemstones, thus increasing their commercial value (Lühmann et al., 2018). This practice is in line with the company's objective of offering a wide variety of jewelry to meet customer preferences and ensure satisfaction.

In the operational context of the jewelry store, the incorporation of recommender systems and business intelligence frameworks can bring significant benefits to the company. By integrating filtering options based on gemstone type, metal material, and price range, the company can improve the customer experience and help them discover products that match their preferences (Venkatraman, 2017). Additionally, the inclusion of comparison features for similar products can further assist customers in making well-informed purchasing decisions, ultimately leading to enhanced customer satisfaction and loyalty.

Moreover, the historical significance of using precious metals and gemstones in jewelry production underscores the enduring tradition of employing specialized techniques to craft exquisite pieces (Güney et al., 2022). By combining these traditional practices with modern technologies and market trends, Jewelry Company can continue to offer a diverse range of jewelry that appeals to a broad customer base, ensuring its position as a leader in the jewelry retail industry in Southeast Asia.

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To support the growth and competitive advantage of Jewelry Company in the jewelry industry, strategic implementation of Information Systems and Information Technology (IS/IT) is very necessary. In this case, careful planning and involving all related parties, such as management, system developers and users, is the key to success. According to AL-Rawhani & Zahary (2022), they discuss the importance of Strategic Information System Planning (SISP) in formulating effective information technology plans based on changes in the company environment and developments in information technology. Thus, Jewelry Companies can adopt this approach to direct the development of information systems that support sustainable business growth.

Apart from that, implementing Enterprise Resource Planning (ERP) can also be a strategic step for a Jewelry Company. According to Nugroho (2021), he discussed research that implemented ERP in an information system for purchasing, selling and drug supplies at a pharmacy. By implementing ERP, companies can increase operational efficiency, optimize business processes, and increase responsiveness to market changes. This will help Jewelry Company in providing better services to customers and increase its competitiveness in the jewelry market.

Apart from that, it is also important to pay attention to good information technology governance. According to Priatama et al. (2019) discussed the importance of information technology governance in supporting business activities and competing with competitors. By implementing frameworks such as COBIT 2019 or ISO/IEC 9126, Jewelry Company can ensure that the information system built complies with quality standards and can provide significant added value to the company. Thus, through strategic IS/IT implementation and good governance, Jewelry Company can increase operational efficiency, increase customer satisfaction, and strengthen its position as a leader in the jewelry industry in Southeast Asia.

To support the achievement of the company's goals, Jewelry Company can utilize Enterprise Architecture Planning (EAP), which allows for the integration of Information System/Information Technology (IS/IT) needs with business needs comprehensively. EAP is a modern approach in planning and implementing information technology architecture and business systems to effectively achieve business goals (Löhe & Legner, 2013). By implementing EAP, the company can ensure that the development of information systems aligns with existing business needs, thereby enhancing operational efficiency and the company's competitiveness.

Moreover, EAP is closely related to the Zachman Framework, which is one of the frameworks used in EAP implementation. The Zachman Framework provides a logical structure for classifying and organizing descriptive representations of a significant enterprise for enterprise management and system development (Singeh et al., 2020). By leveraging the Zachman Framework, Jewelry Company can obtain clear guidance in developing an enterprise architecture that supports business goals and the company's IS/IT needs holistically.

The implementation of Enterprise Architecture Planning (EAP) can also assist Jewelry Company in facing future challenges and ensuring that the built information systems can scale and evolve with the company's needs. In this context, thorough and structured planning as recommended by EAP can help the company address dynamic business environmental changes and ensure that existing information systems continue to support company growth (Robertson-Dunn, 2012). Thus, through the application of EAP and frameworks like the Zachman Framework, Jewelry Company can ensure that the developed information systems provide significant added value to the company and support the achievement of long-term business goals.

Zachman Framework is an Enterprise Architecture (EA) method widely known worldwide for system design. The framework offers a systematic and easily understandable approach in information system planning to support system development in the future. Gerber et al. (2020) explain that the Zachman Framework is a descriptive and holistic representation of an enterprise that provides deep

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insights and understanding. By using the Zachman Framework, companies can control and direct the development of information systems according to existing business needs.

Moreover, the Zachman Framework is closely related to system architecture development. mentions that the Zachman Framework illustrates the structure of system architecture and its development processes. Therefore, companies implementing the Zachman Framework can obtain clear guidance in developing enterprise architecture that supports business goals and overall information system needs. This framework provides a structured framework for classifying and describing organizing representations of an enterprise.

The implementation of the Zachman Framework can also help companies in facing future challenges and ensuring that the developed information systems can evolve with the company's needs. With thorough and structured planning as suggested by the Zachman Framework, companies can overcome dynamic changes in the business environment and ensure that existing information systems continue to support company growth. Thus, through the application of the Zachman Framework, companies can ensure that the developed information systems provide significant added value and support the achievement of long-term business goals.

Therefore That based on interpretation the researcher writer that planned IS/IT implementation with use EA method contained in the Zachman framework. Therefore That's expected study This will leads to design business systems and processes new good and app that can works in accordance with goals and results business companies involved.

Implementing Information Systems/Information Technology (IS/IT) with an Enterprise Architecture (EA) approach and the Zachman Framework can provide significant benefits for Jewelry Companies in optimizing their business processes. By using this approach, companies can design information systems that are well structured and integrated, according to existing business needs. EA and the Zachman Framework provide clear guidance in identifying business needs, developing appropriate information system architecture, and ensuring that the systems built can effectively support the company's business goals.

Apart from that, the application of IS/IT with the EA approach and the Zachman Framework can also help Jewelry Companies increase operational efficiency. By having a structured and integrated information system architecture, companies can reduce data duplication, improve coordination between departments, and speed up workflow. This will result in more efficient business processes, reduce operational costs, and increase employee productivity, thereby overall increasing the company's competitiveness in the jewelry market.

In addition, by implementing IS/IT with an EA approach and the Zachman Framework, Jewelry Company can provide a better customer experience. With a well-integrated information system, companies can monitor customer preferences and behavior more accurately, so they can provide more personalized services that suit customer needs. With accurate and real-time data, companies can respond to customer requests more quickly and precisely, increase customer satisfaction, build loyalty, and create a positive customer experience.

However, in implementing IS/IT, companies also need notice aspect data security and privacy. Remember that company This keep information customers and transactions business, then need exists system adequate data security and privacy. Companies should too ensure that system built fulfil standard applicable data security and privacy, such as regulations government or internal company policies. With notice aspect data security and privacy, enterprise can build trust customers and looking after reputation company.

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2. METHODS

2.1 Types of research

Method used in study This is method descriptive. Study This based on data, analysis and interpretation of the data obtained from source person. The purpose of method descriptive This is For give an accurate and detailed description of moderate phenomenon studied.

2.2 Collection Method

Data on activities study this, writer do data collection with a number of method, namely :

1) Literature Study, In order compile report study this, writer use sources related information with topic research taken from various journal scientific, proceedings, internet sites and sources other publications that are relevant and can be made reference For study This
2) Interview in preparation report, author do interview with employee from company jewelry that understands the way inside business company the. The purpose of interview This is For obtain necessary information related with research conducted.
3) Observation or Observations, Author do observation directly at the Jewelry Company located in Jakarta. The purpose of observation This is For analyze need in designing architecture system information on the company the.

2.3 Stages Study

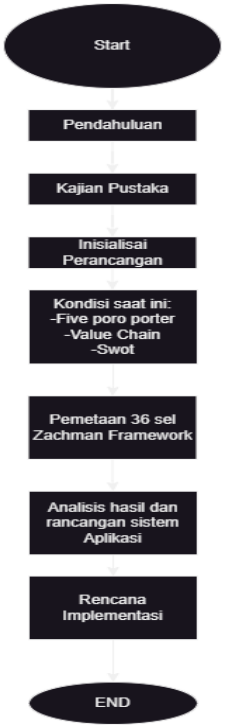

Figure 1. Stages Research (Kristanto, 2016)

2.4 Zachman Framework

Framework Zachman's work illustrates structure organization general and explain it become system complex company. Framework the Then covers plan description big with details easy technical, lists and diagrams understood. With designing system according to framework Work here, developer can designing clean, easy design understandable, balanced, and complete.

Implementation of the Framework in planning system information can help company for understand structure organization in a way comprehensive and connected with details technical requirements in development system information. With So, company can design system information that is not only fulfil need business moment This but also can develop in accordance with future needs

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company (Lapalme et al., 2016). With use approach this, company can ensure that system constructed information can give mark added significant and supportive achievement objective business period long.

Additionally, the Zachman Framework also makes it possible company for optimize business processes, improve efficiency, and deliver experience more customers Good. By designing system information based on framework Work this, company can ensure that developed system can monitor performance in a way accurate and real-time, so possible taking more decisions appropriate and strategic (Priandika & Riswanda, 2023). Thus, the application of the Zachman Framework can help company like Jewelry Company for still competitive in the dynamic and competitive jewelry market.

Inner column framework Zachman's work was decisive different focus or describe abstraction product from different perspective. Every point focus pointing to a question, and methods question That The answer really depends on perspective. In other words, perspective need the shapes and details necessary for each question become clear and doable understood.

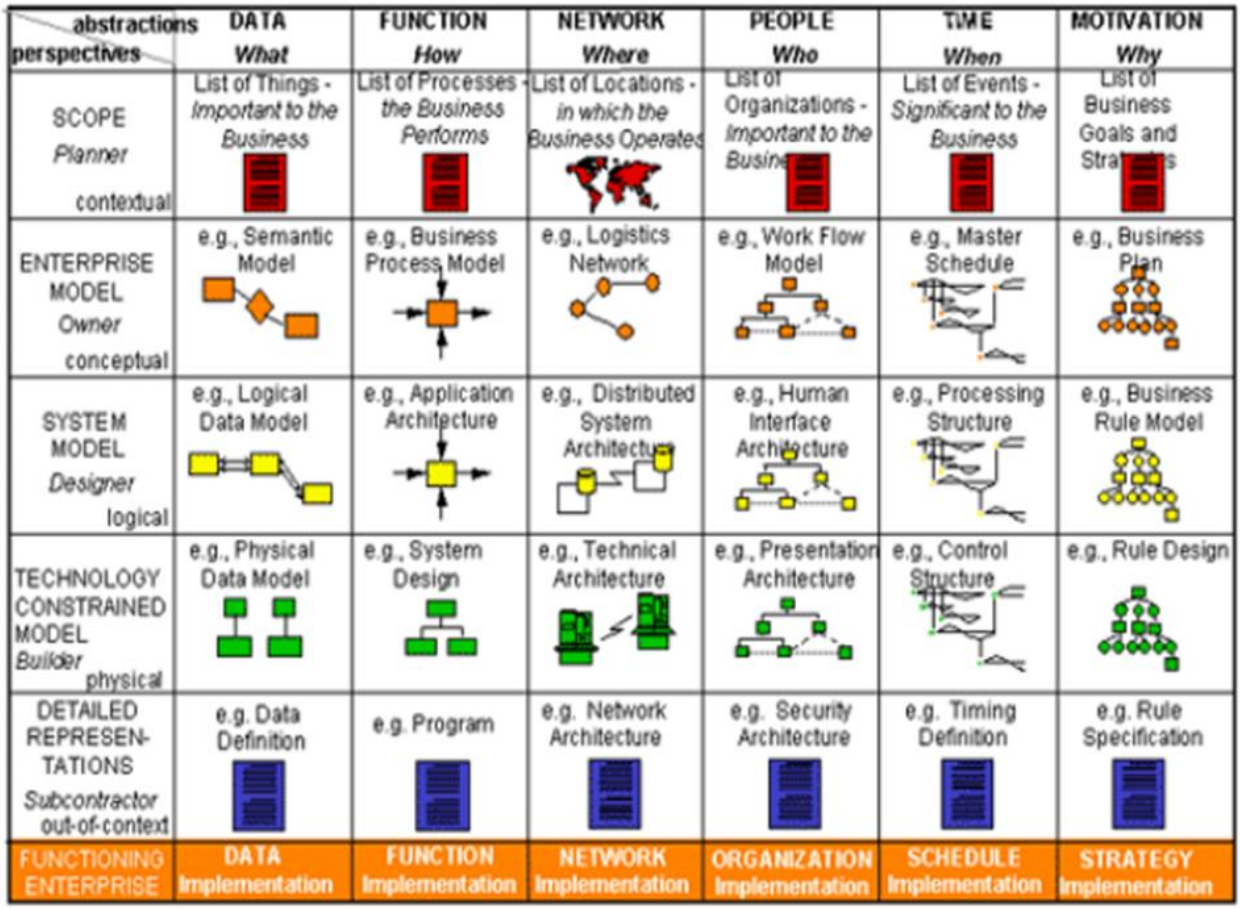

Figure 2. Zachman Framework

Order on sides column there are 6 types of descriptions that include (Tannady et al., 2021):

1) What (data) column focuses on relationships between entity with elaborate relation between one data with other.
2) How column (process or function), focuses on statements function or input and output with describe the entire process that occurs in organization, activity process fulfillment stakeholder needs, and input and output processes that occur in the organization.

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3) Where column (network), focuses on nodes and links that explain location operational from organization, structure building and location until map installation network owned by the organization the.
4) Who column (source Power human) focuses on roles and responsibilities answer that describes allocation source Power man according to structure and responsibility answer in organization.
5) When column (time), focuses on cycles describing time every time internal processes occur something organization that has relation in build criteria performance and level qualitative For source Power organization.
6) Why column (motivation), focuses on vision, mission and goals describing organization motivation and goals end organization along with strategies and methods achievements used by the organization.

Whereas There are 6 types of sequence on the side of the row description which includes :

1) Goals and space scope define the business model functional globally and variously condition or need external organization.
2) The enterprise model defines each business model, allocation function business, process of elimination every overlapping and ambiguous functions.
3) System model define any logical model, management project, and definition requirements and needs.
4) Technology model define each physical model, management technology, and definition solutions and development.
5) Detailed representation defines draft management configuration system and implementation development system.
6) Organizational performance or company define various type guide for user so that can use system, do management operations, and evaluate system.

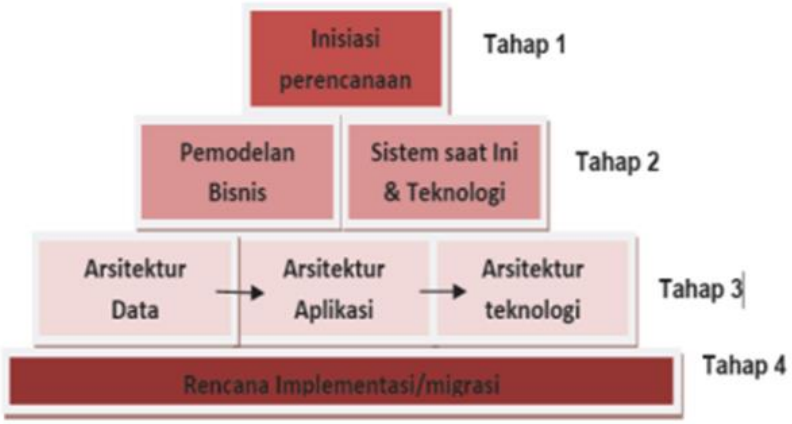

Figure 3. Stages Implementation

There are four stages in formulating the EAP structure, namely the initial stage, the stage of understanding the current situation, the stage of determining the future, and the stage of formulating plans to realize the future vision. Below is a picture of the enterprise architecture planning stage (Indey, et al., 2022). In the enterprise architecture planning diagram, each stage has an explanation, and the first, second, third and fourth stages are interconnected, which can be explained as follows:

1) Stage 1: Initiation of Planning n
   This stage includes determining the methodology that will be used, the people that will be involved, and the tools that will be used. The result is an EAP plan and management commitment to proceed with the next six phases.
2) Stage 2: Understanding current conditions i

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This stage consists of two parts, namely: Business Modeling This phase compiles and builds a knowledge base about the business and the information that the business currently uses. Current Systems and Technology, defines the application systems and technology platforms that exist to support today's business.

3) Stage 3: Future Plans
At this stage there are 3 parts, namely: Data Architecture, which defines the main data types needed by the business. Application architecture, which defines the types of applications required to process data and support business functions. Technology Architecture, which defines the technology platform required to produce the environment for data management applications and support business functions.

4) Stage 4: Achievement Strategy
The implementation plan or migration planning stage determines the application implementation sequence, implementation timeline, cost/benefit analysis, and proposes a migration path from the current state to the desired state.

3. RESULTS AND DISCUSSION

3.1 Company Initialization

In this research, the focus is on the company's business processes which involve inputting product stock data and sending goods to retail locations. The company has the following vision and mission:

1) The company's vision is to be a supporter who never gives up to satisfy the company's subsidiaries.
2) The company's mission is to provide professional and superior support so that its subsidiaries can achieve their missions.
3) The company also aims to exercise control and make strategic decisions so that the company's subsidiaries can have a quality life.

In order to achieve this vision and mission, this research will examine further the company's business processes related to managing product stock and sending goods to retail locations.

3.2 Condition Current Business

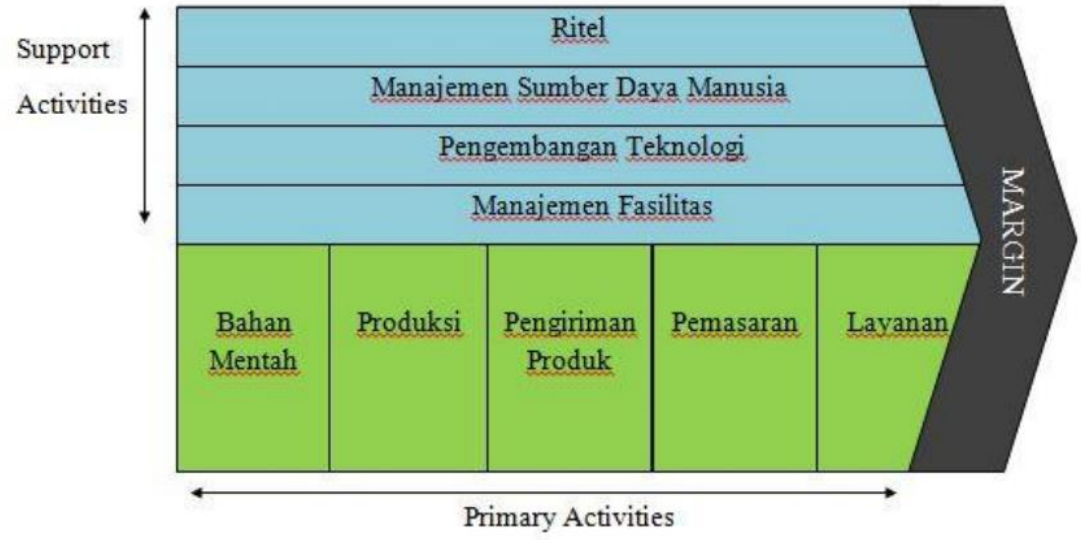

Figure 4. Value Chain

Based on the results of defining the main activities and supporting activities using the value chain, there are the following results. From figure 4. value chain then can explained as following :

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After know existing activities Good main nor supporter in company, step furthermore is understand How activities the each other related and contributed in running business processes company. Following is explanation short about every activity :

1) Inbound Logistics: Involving delivery materials from suppliers to company. Activity This covers management receiving, storage, and distribution necessary materials For production.
2) Operations : Related activities with management material raw inside factory. This includes production processes, management quality, management inventory, and control operational other.
3) Outbound Logistics: Involving delivery products that have been processed to place retail or customer. Activity This covers storage product, packaging, shipping, and management chain supply For ensure product appropriate on time and right quality until to customer.
4) Marketing and Sales : Related activities with marketing products and sales to customer. It includes marketing strategy, market research, promotion product, sales, and management connection customer.
5) Service: Engaging services provided to customer after purchase product. This includes support technical, maintenance product, handling complaints, and efforts For maintain customer.
6) Firm Infrastructure: Represents supporting infrastructure the running of business processes in the company. This includes management finance, administration general, management risk, and compliance law.
7) Human Resource Management : Related activities with management source Power people in the company. This includes recruitment, training, development employees, management performance, and payroll.
8) Technology Development: Involving use technology Good in form device hard nor device soft For support business processes company. This includes development system information, research and development products, as well integration technology in operational company.
9) Procurement: Involving procurement necessary equipment, goods and services For running business processes company. Activity This covers procurement, negotiation contract, evaluation suppliers, and management purchase.

When all activity the each other related and functional with OK, company can running business processes with efficiency and effectiveness, as well reach vision and mission that has been set.

Table 1. SWOT Analysis Results

Strength	**Weakness**	
a. Own branch more from one that is scattered almost throughout Indonesia. b. Own strategic location. c. Own various type jewelry for sale to customer	a. Websites owned by jewelry companies are lacking develop. b. Shipping method goods Still Not yet organized with Good. c. Recording booking product by the client still done Manually.	**Internal**
Opportunities	**Threats**	
a. Jewelry companies have suppliers who provide them quality materials. b. Own reliable employees in interesting interest customer. c. There is IT technology that supports jewelry company business processes.	a. Many people sell jewellery with Name Name famous origin from outside come to Indonesia. b. If No follow development technology can give bad impact to performance company. c. Need do innovation new in apply method sales to remain constant interesting	**External**

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	customer.	

3.3 Current Systems and Technology

The systems and technology running in current business processes are as follows: a. The process begins when the company leader orders materials to make jewelry from the supplier. After an agreement is made between the company and the supplier to negotiate regarding the specified price, then the supplier will send the materials. Currently, the systems and technologies used in business processes company jewellery is as following :

1) Booking material : Leader company use system booking For order materials to suppliers. This process involve communication between companies and suppliers for determine price and order details.
2) Delivery materials : After agreement achieved, the supplier uses technology logistics and delivery For send materials to location factory making jewellery. Might also be used system tracking delivery For monitor delivery status.
3) Separation and manufacturing process jewelry : On stage This is the factory jewellery use appropriate machines and technology For separate jewelry stones of stone that is not own stuffing. Then, technology and equipment production used For make jewellery in accordance with design that has been set.
4) Determining jewelry design : Yes possibility use device soft design helpful jewelry in design and determine desired design before the production process started.
5) Production jewelry : After design approved, company use technology production like machine jewelry and equipment other For produce jewellery in accordance with design that has been determined.
6) Determination mass and carat of jewelry : After jewellery finished produced, company use technology testing and measurement For determine mass and carat of jewelry with appropriate accuracy.

In this whole process, technology information and communication Possible used For facilitate communication between internal company parties, such as leadership and staff production, as well between companies and suppliers. System management production and database systems are also possible used For track and manage information related stock materials, production jewelry, and information other relevant ones in business processes company jewellery.

Table 2. Condition Company Systems and Technology

Division	Data Storage	System Operation	Software	Device Supporter
Finance	Internal and External HDD	Windows 7	Microsoft Office	Printer, fax, Wifi

The next stage in the jewelry company business process is the jewelry packaging process which is adjusted to the inventory available at each retailer. If there is a shortage or vacancy of goods at the retail, employees will determine the delivery of the goods to that retail. In terms of technology used, the company currently uses several devices and applications as follows:

1) Microsoft Office: Used to create financial reports, such as Microsoft Excel for managing financial data and Microsoft Word for creating report documents.
2) Email: Used for internal and external communications. Employees can communicate via email to share information, send orders, and establish communication with external parties such as suppliers or retailers.

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3) Computers and laptops: Used as the main work device by employees in carrying out daily tasks, such as data processing, jewelry design, inventory management, and other administrative tasks.
4) Printer: Used to print documents, reports, or labels needed in company operations, such as financial reports, invoices, or packaging labels.
5) Fax machine: A fax machine may be used to communicate with external parties who still use the method of sending documents via fax.
6) Wifi: A wifi connection is used to connect devices to the internet, allowing access to online resources, email, information browsing, and faster and more efficient communication.

The technology used today includes standard office applications such as Microsoft Office, hardware such as computers, printers and fax machines, as well as internet connectivity via WiFi. With this technology, companies can facilitate communication, manage data, and carry out administrative tasks required in the jewelry business process.

3.4 Analysis of Current Condition Results

From the discussion above, starting from the value chain and the current condition of the company's systems and technology, it can be concluded that there are still weaknesses. So, it is necessary to make a plan table 3 :

Table 3. Proposal Application

Process	Application	Information
Marketing	Company Profile Website	New Development
Recording Product	Stock Recording	New Development
Ordering goods	Ordering goods	New Development
Payroll	Payroll	New Development
Processing Absence	System Absence	New Development
Control Delivery	Control Delivery	New Development

In Table 3. proposals application show some of the processes that have been planned in business processes. Following explanation :

1) Marketing: This process involves activity for promote, advertise and distribute information about product jewelry sold by the company. The goal is for interesting interest candidate customers, build brand, and improve sales. Activity marketing can include advertising strategies, promotions sales, online presence via website and social media, as well as Work The same with partner marketing.
2) Recording product: This process involve activity For take notes all product jewelry owned by the company. This matter includes making notes about amount stock, characteristics products, information price, and availability of each product. Recording products can also be covers making report about inventory jewelry, update stock, and analysis availability product.
3) Booking goods: This process happens when a client or customer order product jewellery from employees working on site retail. Activity This involve accept order from client, note down order details like type product, quantity, size, and delivery, as well processing order the for processed and sent to customer.
4) Payroll: This process involves activities carried out by leaders' company For give wages or payroll to employee every the month. This includes calculation wages based on appropriate wages, allowances, deductions and bonuses with policy company. Payroll processing can also be done covers

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arrangement payment wages in a way electronic or print, as well storage notes salary and fulfillment condition taxation.

5) Control Delivery: This process involves activities carried out by employees for arrange scheduling delivery product jewellery to each retailer. Activity This covers make timetable delivery, coordinating with team logistics or party third in charge answer on shipping, as well make report receipt of the sent packaging to each retailer for ensure proper delivery time and suitability.

In total, activities This is part important in running business processes company jewelry and make sure smoothness operations, effective marketing, management proper inventory, as well satisfaction high customer base.

3.5 Data Architecture

The following is the data architecture required for each process related to the proposed application along with the application priorities.

Table 4. Data Requirements for Each Application

Application	Data Requirements
Company Profile Website	Account, General Company Information, and Contact Us
Stock Recording	Outgoing Stock.
Ordering goods	Available Stock, Orders Product
Payroll	Account, Information Employees, Salary
System Absence	System Absence
Control Delivery	Accounts, Scheduling Delivery

Table 5. User Design and Priorities

Application	User	Priority
Company Profile Website	Website Admin	Currently
Stock Recording	Employee	Tall
Ordering goods	Employee	Currently
Payroll	Leaders, Employees	Currently
System Absence	Employee	Currently
Control Delivery	Employees, Drivers	Tall

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3.6 Architecture Application

Table 6. Details Application

Candidate Application	Description
Company Profile Website	Used For promote products sold by the company to public
Stock Recording	Helpful application in keep a number products manufactured by the company.
Ordering goods	Applications used For keep order requested by the client
Payroll	Applications used For assist with the payroll process employee in the company.
System Absence	Helpful application employee in the attendance process inside company
Control Delivery	Applications used For make timetable delivery to each individual retail

This part explain about applications that have been proposed to company This. proposal application This based on consideration from the existing architectural blueprint made using the Zachman Framework. Following details in table 6. details application. From the results proposal application the so obtained portfolio application. Portfolio This will help sorting in implementation to company. Following is his portfolio.

Table 7. Portfolio Application

Strategic	High Oriented
Application recording stock goods, orders item, system absenteeism	Application control delivery goods
Operational Key	**Supporter**
Application Payroll Employee	Company Profile website

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3.7 Architecture Technology

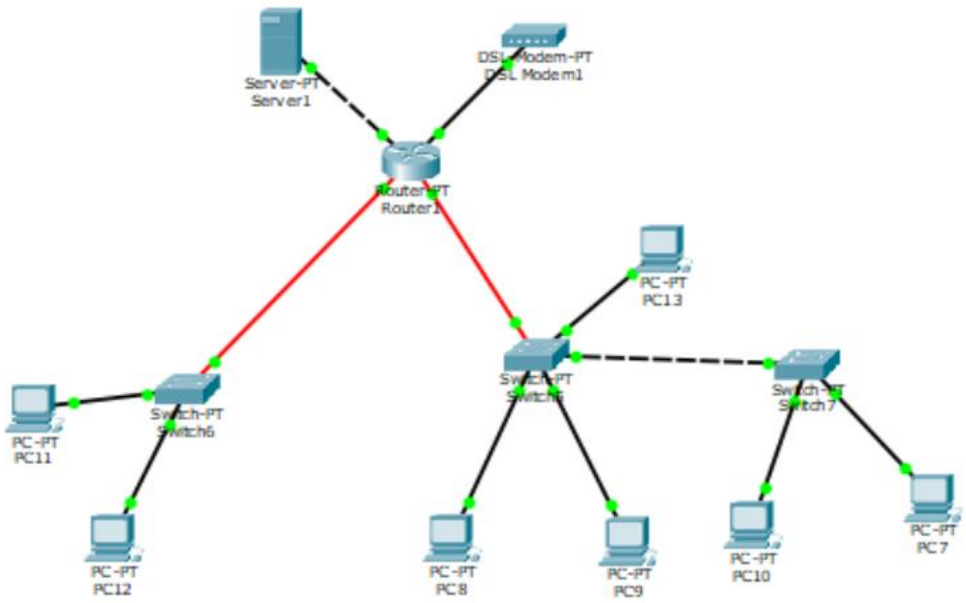

Figure 6. Proposed Network Map

This section will explain the form of network that is proposed to be implemented within the company to support the applications that have been proposed previously. The proposed network topology is a star topology, where each computer is connected directly to the center or main server

In a star topology, if damage occurs to one computer, it will not affect other computers in the company. Each computer has its own communication path to the main server, so damage to one computer will not affect the connectivity or performance of the other computers.

Table 8. Proposed Technology Infrastructure

No	Equipment Name	Specification	Amount
1	Mikrotik routerboard	RB 941	1
2	TPLINK switches	SF1024D	1
3	Network cable	CAT 7	200 m
4	Web servers		1
	Processor	Intel core I3 2.4 GHZ	
	Motherboards	Q150	
	Memory	4GB	
	Hard Disk	1TB GB	

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No	Equipment Name	Specification	Amount
	LAN Card	Gigabytes	
	Processor	Intel core I3 2.4 GHZ	
	Motherboards	Q150	
	Memory	8GB	
	Hard Disk	1 TB	
	LAN Card	Gigabytes	

This section will explain the time schedule required for preparation and implementation of project construction, including architectural planning. Architectural planning includes four types, namely data, applications, technology, and business processes. Each type of architectural planning has positive and negative impacts that may occur within the company. The processing time for each type of architectural planning can vary depending on the level of difficulty of each process involved. Following is in table 9. Architectural Blueprint Considerations.

Table 9. Architectural Blueprint Considerations

Plan architecture	Impact Positive	Impact Negative	Processing time
Data	Connect data and applications from distance near nor distance Far	Need sufficient cost big	12 months.
Application	In the implementation of activity in the company become more easy	Big expense as well as time required long enough.	6 – 8 Months.
Technology	With exists connected system with technology can help system walk with Good	Need quite a long time too substantial costs For build a network computer	3 – 4 Months.
Business process	Planning walk with OK, so minimize risk to system.		4 – 6 months.

4. CONCLUSION

Based on the results of the Zachman Framework analysis, it can be concluded that the use of Information Systems and Information Technology (IS/IT) is very important for the continuity and growth of an organization. In a competitive business era, effective use of IS/IT can enable companies to continue to improve operational efficiency and support business strategies that are in line with organizational goals. By utilizing IS/IT optimally, organizations can adapt their business strategies quickly to changes in the external and internal environment, so that they remain relevant and competitive in the market.

Furthermore, an enterprise architecture based on the Zachman Framework provides a solid framework for planning and managing organizational information systems. From the results of this

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architectural analysis, several specific applications can be recommended to support various business needs, such as company profile websites, barcode scanners, barcode printers, payroll systems, attendance systems, and delivery tracking systems. The use of these applications not only helps in improving operational efficiency, but can also improve customer experience and open up new opportunities for business growth.

Overall, integration between IS/IT with the organization's business strategy and implementing applications that suit business needs is the main key to achieving competitive advantage. In this way, organizations can continue to adapt and develop amidst continuous changes in the dynamic global business environment.

REFERENCES

AL- Rawhani, TH and Zahary, A. (2022). Strategic information system planning: a review. 2022 *International Conference on Intelligent Technology, Systems and Services for Internet of Everything (ITSS-IoE).* https://doi.org/10.1109/itss-ioe56359.2022.9990967

Dumitriu, D. and Popescu, M. O. (2020). Enterprise architecture framework design in it management. *Procedia Manufacturing, 46,* 932-940. https://doi.org/10.1016/j.promfg.2020.05.011

Gerber, A., Roux, P.L., Kearney, C., & Merwe, A. vd (2020). The zachman framework for enterprise architecture: an explanatory theory. *Lecture Notes in Computer Science,* 383-396. https://doi.org/10.1007/978-3-030-44999-5_32

Güney, H., Sakarya, M., Kizilkaya, H.T., & Varol, E. (2022). Examination of the necklace and pentands found in niğde museum. Zeitschrift Für Die Welt Der Türken / *Journal of World of Turks, 14* (2), 259-272. https://doi.org/10.46291/zfwt/140214

Indey, YM, Hartomo, KD, & Sembiring, I. (2022). Planning Architecture System Information and Technology Information on Ottow Geissler University Papua Using Enterprise Architecture Planning (EAP). *JATISI (Journal of Information and Systems Engineering Information), 9* (4), 3119-3131. https://doi.org/10.35957/jatisi.v9i4.2373

Lapalme, J., Gerber, A., Merwe, A. vd, Zachman, J. A., Vries, M. D., & Hinkelmann, K. (2016). Exploring the future of enterprise architecture: a zachman perspective. *Computers in Industry, 79,* 103-113. https://doi.org/10.1016/j.compind.2015.06.010

Löhe, J. and Legner, C. (2013). Overcoming implementation challenges in enterprise architecture management: a design theory for architecture-driven IT management (Adrima). *Information Systems and E-Business Management, 12* (1), 101-137. https://doi.org/10.1007/s10257-012-0211-y

Lühmann, T., Raatz, N., John, R., Lesik, M., Rödiger, J., Portail, M., ... & Pezzagna, S. (2018). Screening and engineering of color centers in diamond. *Journal of Physics D: Applied Physics, 51* (48), 483002. https://doi.org/10.1088/1361-6463/aadfab

Nugroho, A. (2021). Planning application booking food and Drink based erp (open erp) at cafe cozy. *Journal of Research and Applications Student Informatics (JRAMI), 2* (02). https://doi.org/10.30998/jrami.v2i02.680

Priandika, AT, & Riswanda, D. (2023). Planning System Information Management Online- Based Ordering of Goods Using Extreme Programming Approach. *Journal Scientific Computer Science, 1* (2), 69-76. https://doi.org/10.58602/jics.v1i2.8

Indonesian Journal of Enterprise Architecture
P-ISSN: 3035-6410; E-ISSN: 3035-6402
Journal Homepage: http://journal.lontaradigitech.com/IJEA

Priatama, Y.,Nugroho, A., & Sitokdana, M. N. N. (2019). Evaluasi tatakelola teknologi informasi di pd bpr bank bapas 69 magelang menggunakan itil v3 domain service strategy. *Jurnal Mnemonic, 2*(1), 28-34. https://doi.org/10.36040/mnemonic.v2i1.48

Robertson-Dunn, B. (2012). Beyond the zachman framework: problem-oriented system architecture. *IBM Journal of Research and Development, 56* (5), 10:1-10:9. https://doi.org/10.1147/jrd.2012.2205633

Singeh, F.W., Abrizah, A., & Kaur, K. (2020). Bringing the digital library success factors into the realm of the technology-organization-environment framework. *The Electronic Library, 38* (3), 659-675. https://doi.org/10.1108/el-08-2019-0187

Tannady, H., Ivgantius, T.Z., Andreas, T.J., & Felix, F. (2021). Enterprise Architecture Design Using the Zachman Framework for a Jewelry Company. *JBASE-Journal of Business and Audit Information Systems, 4* (1). http://dx.doi.org/10.30813/jbase.v4i1.2731

Venkatraman, S. (2017). A proposed business intelligent framework for recommender systems. *Informatics, 4* (4), 40. https://doi.org/10.3390/informatics4040040