Enhancing ERP Performance and Business Efficiency Through TOGAF Implementation

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ARTICLE INFO	ABSTRACT
	This article discusses how TOGAF (The Open Group Architecture Framework) is applied to Gojek's corporate information system with the aim of increasing business efficiency and information system performance. In the growing digital era, information systems are very important for business. TOGAF helps companies develop, plan, implement, and properly manage their architecture. In this article, the basic concepts of TOGAF are explained, as well as how Gojek companies can implement them. This study used a qualitative method by conducting interviews with Gojek and Enterprise Resource Planning (ERP) employees. In addition, the results and discussion of the GAP analysis conducted on Gojek's business architecture, data architecture, and enterprise application architecture are discussed in this article. TOGAF is expected to improve the performance of Gojek's information system. This article provides an overview of the topics to be covered and summarizes the contents of the article.

1. INTRODUCTION

TOGAF TOGAF (The Open Group Architecture Framework) is a comprehensive framework used in enterprise architecture development. It helps organizations to plan, develop, implement, and manage their enterprise architecture effectively and efficiently.

Gojek is an Indonesian-based technology company providing various digital services such as ride-hailing, food and product delivery, digital payments, and more. Like other tech companies, Gojek has high demands for reliable and efficient information systems to support its operations.

ERP (Enterprise Resource Planning) is an information system that manages and integrates business processes within a company. As described by Fadillah Zakaria & Afrianto (2023), ERP consolidates functions like manufacturing, sales, accounting, and inventory management into a single platform. ERP plays a crucial role in strategic planning for information systems, supporting business growth and technological development (de Vries & van Rensburg, 2014).

The development of business alongside information technology implementation is vital for company growth (Indriani et al., 2016). In the current digital era, information systems are critical for organizations. Companies face the dilemma of aligning their business strategies with their IT strategies (Wulandari & Hartomo, 2022). A robust and effective information system can enhance operational and business performance. Hence, many organizations adopt enterprise architecture frameworks such as TOGAF to ensure their information systems are well-integrated and structured. An effective, aligned information system can provide a competitive advantage in business (Wulandari & Hartomo, 2022).

The implementation of IT aims to achieve process-business alignment (Ekawati, 2017). Gojek, as one of Indonesia's largest tech companies, requires a reliable and effective information system to maintain its competitive position. Currently, IT has become a vital aspect across various fields (Fathurohman & Legowo, 2023). Technology and communication have significant, organized impacts, as anticipated (Mualo & Budiyanto, 2016). Therefore, Gojek's focus on TOGAF aims to improve its information system performance. Information technology and systems are crucial in modern organizations, where aligning business and IT strategies is necessary for effectiveness and efficiency (Murti et al., 2017).

This article discusses the implementation of TOGAF within Gojek's information system to enhance performance and business efficiency. It introduces basic TOGAF concepts and how this framework can be applied in Gojek. Globally, many companies are increasingly adopting enterprise architecture frameworks like TOGAF for structured organizational planning (Supriyana, 2010).

According to Djumoko & Augie David Manuputty (2021), strategic organizational planning involves defining goals, necessary information, required technology, and transition steps to adopt new technologies responding to organizational changes. Enterprise architecture aims to address and meet organizational challenges. For instance, LTC - UKSW requires effective enterprise architecture planning to realize its vision and mission, using TOGAF as a guiding framework.

The main goal of this research is to introduce how TOGAF can be implemented to improve Gojek's information system performance. It aims to provide an overview of the background challenges Gojek faces regarding its information system and how TOGAF can serve as a solution. Additionally, it seeks to motivate readers by highlighting the relevance and benefits of applying TOGAF to Gojek, summarizing the key points and potential advantages (Panama, 2021).

2. METHODS

The purpose of the qualitative approach is to collect detailed data. Sufficient resources are needed to carry out this research. The author conducted interviews with sources working at PT. Gojek Property Indonesia and the ERP team, taking the necessary steps. This research uses an Enterprise Architecture Planning (EAP) method consisting of four phases: initial design phase, current business and technology modeling, architecture of business, data, applications, and technology, and the implementation or transition plan phase. The following is the systematic framework used to study:
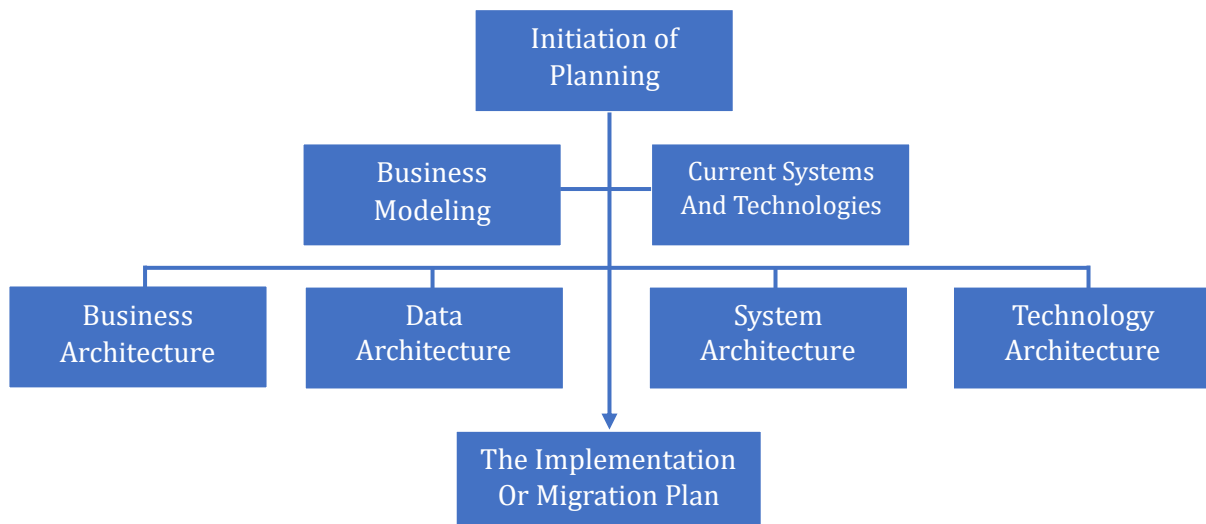

Figure 1. illustrates the research framework.

1) Initiation of Planning
   This is the initial stage of a project or activity where objectives, goals, and scope are defined. It focuses on understanding the project needs, gathering information about potential risks and obstacles that may arise during implementation.
2) Business Modeling
   Business modeling is the process of depicting how an organization creates, delivers, and sustains value for customers and stakeholders.
3) Current Systems and Technologies
   This includes the development and deployment of new technologies such as Internet of Things (IoT), Artificial Intelligence (AI), and blockchain, which offer opportunities to increase efficiency and enable innovation.
4) Business Architecture
   Business architecture is a systematic approach to designing and integrating business processes, technology, data, and human resources within an organization.
5) Data Architecture
   Data architecture involves systematically designing, integrating, and managing organizational data. It includes mapping organizational data and determining how data is used, stored, processed, and governed in the context of business processes.
6) System Architecture
   System architecture is the discipline of designing, implementing, and maintaining complex system structures. It encompasses hardware components, software, networks, infrastructure, as well as processes and procedures supporting system operations.
7) Technology Architecture
   Technology architecture is a systematic approach to designing and integrating information technology (IT) that supports organizational goals. It covers mapping the entire IT infrastructure, applications, data, and network systems used within the organization.
8) Implementation or Migration Plan
   This is a structured plan for transitioning to or deploying a new system or updating an existing one. It includes steps to ensure a smooth transition from the old system to the new or upgraded system without disrupting ongoing business operations.

3. RESULTS AND DISCUSSION

TOGAF (The Open Group Architecture Framework) is a comprehensive enterprise architecture framework useful for designing, planning, implementing, and managing an enterprise's architecture in a structured and high-level manner. According to (Wulandari & Hartomo, 2022), based on previous research, TOGAF consists of eight primary phases for development and maintenance, covering efforts related to architecture, data, implementation, and technology. The process begins with analyzing organizational or company requirements and needs. The analysis output is then used to define the ideal conditions the company aims to achieve.

In this study, the process involves assessing existing requirements and setting targets within PT. Gojek Indonesia, which has already integrated an ERP system. These requirements will be identified using TOGAF and documented as a business blueprint architecture. This blueprint is represented through an IT Roadmap that considers the duration of process implementation, based on factual data. The results are expected to provide a synchronized view that combines real-world information and innovation.

The article notes that PT. Gojek has adopted TOGAF as a foundation to develop and implement enterprise architecture for their ERP system. TOGAF, as a structured and standardized framework, helps companies plan, design, implement, and manage their enterprise architecture effectively.

By applying TOGAF, PT. Gojek can integrate various components of their ERP system, including human resource management, finance, logistics, and customer service. This ensures that all system components work synergistically and align with the company's vision and business objectives.

The article also discusses the benefits PT. Gojek gains from implementing enterprise architecture with TOGAF, such as increased operational efficiency, better coordination and collaboration across departments, and the ability to quickly adapt the ERP system to changing business needs.

Overall, the article illustrates how PT. Gojek has successfully implemented TOGAF within their ERP context, resulting in improved system utilization and performance.

3.1 Business Architecture GAP Analysis

This section presents a gap analysis of the Business Architecture phase, focusing on Building Management. The assessment evaluates business functions at PT. Gojek, specifically in Building Management, with the following categories

1) Tambah (Add): Introduction of new elements or processes.
2) Kemajuan (Progress): Improvements to existing processes.
3) Pertahankan (Maintain): Retaining current processes.

Table 1. Business Architecture GAP Analysis

Business Need	Maintain	Progress	Add	Notes
Evaluate and monitor all business activities at the end of each month		✔		The speed of information for decision-making needs to be improved.
Conduct product marketing activities via online and offline media		✔		Increase the number of advertising offers, both online and offline.
Create price logs, negotiations, and pricing agreements for rental events	✔			Current processes are functioning well.
Based on protocol agreements, create cooperation agreements for offices using Gojek		✔		Complete standard rental agreements so responsible employees can handle contracts independently.
Record sales monthly during the contract period		✔		Consistent recording of monthly revenue is maintained, avoiding confusion in cash flow records.
At the end of each year, each business unit plans the budget for the upcoming year	✔			This process is permanently implemented.
Manage budgets and assessments at the end of each month	✔			Also permanently implemented.

3.2 GAP Analysis Data Architecture

The following is a gap analysis of the data architecture phase, focusing on Building Management:

Table 2. Data Architecture GAP Analysis

Data Requirement	Maintain	Progress	Add	Remarks
Information can be linked to one or more users to support organizational business activities and avoid duplication and repetition of information.		✔		Currently, data entry is done manually, which often affects accuracy when reporting and analyzing business results.
Authorized business personnel can access the information when needed.		✔		This is necessary so management can monitor and control all business operations in real-time.
Company information must be protected from external exploitation.		✔		Protecting all company business information is essential due to its confidential nature.
Personal information is a vital asset that must be managed properly.		✔		Similar to company data, personal data must also be safeguarded as confidential.
Authentic information that can be considered by users according to their job responsibilities.		✔		This is required because each data input becomes the responsibility of the respective authorized officials.
Information can be changed at any time in real-time.		✔		Management needs to be aware of the company's operational situation instantly.
Protected data provides freedom in decision-making and business strategy.	✔			This is crucial for management to make informed decisions and strategic plans.

3.3 GAP Analysis Application Architecture

The following is a gap analysis of the application architecture phase, focusing on Building Management:

Table 3. Application Architecture GAP Analysis

Application Requirement	Maintain	Progress	Add	Remarks
Official company entities can use the application correctly.			✔	Management needs to be able to monitor all business processes and company results in real-time.
The application can be used on multiple devices as long as they are connected to the internet and have a browser.			✔	Management requires timely access to all business processes and achievements across various situations and locations.

The application can assist in running the company's operational activities.	✔	Management needs a program that facilitates business control.
The application can be easily accessed by authorized personnel with appropriate rights and permissions.	✔	Management must know all business processes and results in real-time, regardless of location or condition.
The application has a user manual that simplifies its use.	✔	The usefulness of the application is crucial because each user has different characteristics and needs.

3.4   GAP Analysis Technology Architecture

The following table presents a gap analysis of the technology architecture phase, focusing on Building Management Systems:

Table 4. Technology Architecture GAP Analysis

Technology Requirement	Maintain	Progress	Add	Remarks
The technology has the capability to be protected from all threats that could compromise the reliability and robustness of the information system		✔		The rapid development of technology necessitates management to continuously enhance the use of technological applications according to company growth needs and requirements.
The technology can effectively support and provide optimal security for the integration of the company's systems.		✔		Must be adjusted according to the company's development needs.
The technology can be utilized to optimize application usage with standard operating systems.		✔		Should align with technological development and business expansion.
The technology supports information exchange and ensures business operational continuity through dedicated systems.		✔		Needs to meet the requirements of technological and business development.
The technology can be managed to maintain an efficient technology infrastructure.		✔		Must be aligned with the company's technological and business growth.
Must be aligned with the company's technological and business growth.		✔		Must be aligned with the company's technological and business growth.

The technology has server backups in case of failure.	✔	Critical to ensure operational resilience aligned with development needs.

4. CONCLUSION

Company Architecture GAP Analysis: There are several issues with PT Gojek's building management, including lease agreement standards, the number of offline or online promotions, and the speed of information flow in decision-making. However, some business operations, such as evaluation and supervision of business activities, monthly revenue recording, annual budget planning, and cost control, are functioning well. Data Architecture GAP Analysis: Several improvements are needed in the Data Architecture for Building Management. Business performance reporting and analysis results are inaccurate because data entry is still done manually. Additionally, data must be enhanced to be accessible by authorized personnel and protected from exploitation by external parties; managed as a valuable asset; guaranteed and updated in real-time; and used for strategy and decision-making. Application Architecture GAP Analysis: The application for Building Management must meet several requirements. It should support operational processes, be easy to use, and accessible by authorized personnel. The application should also be accessible from anywhere at any time in real-time. Technology Architecture GAP Analysis: The company must consider several aspects when implementing technology architecture for building management. The technology must be secure from attacks, support and protect system integration, maximize application compatibility with standard operating systems, support data exchange, and have good control mechanisms. Additionally, the technology should have a backup server to prevent failures.

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