

**DIGITAL TRANSFORMATION STRATEGY FOR PT PENJAMINAN  
INFRASTRUKTUR INDONESIA (PERSERO)**

**STRATEGI TRANSFORMASI DIGITAL UNTUK PT PENJAMINAN  
INFRASTRUKTUR INDONESIA (PERSERO)**

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**ABSTRACT**

*PT Penjaminan Infrastruktur Indonesia (Persero)/Indonesia Infrastructure Guarantee Fund (IIGF) is very aware of the important role of digital technology in collaborating both with internal and external stakeholders. The use of digital technology effectively will speed up the process of collaboration both within IIGF and expanded by digital collaboration with external stakeholders. In this final project will explore how to develop a digital transformation strategy at IIGF by studying literature on digital innovation theories, digital transformation, business model transformation, business process transformation and cultural/organizational transformation. The research method in this final project by identifying business issues, analyzing the status quo with interviews, analyzing factors related to digital transformation, formulating effective digital transformation strategies and providing recommendations for business solutions that can be pursued by the management of IIGF, implementation plan of digital transformation more effective. Based on the findings in this study, the results are that we provide business solutions within 3 main elements in digital transformation, namely people, processes and technology.*

**Keywords:** *Indonesia Infrastructure Guarantee Fund, PT PII (Persero), Government Guarantee, PPP, Digital Transformation Strategy*

**ABSTRAK**

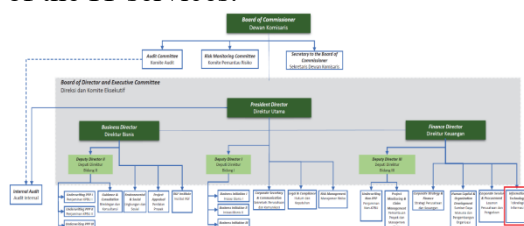
PT Penjaminan Infrastruktur Indonesia (Persero)/Indonesia Infrastructure Guarantee Fund (IIGF) sangat menyadari peran penting teknologi digital dalam berkolaborasi baik dengan pemangku kepentingan internal maupun eksternal. Pemanfaatan teknologi digital secara efektif akan mempercepat proses kolaborasi baik di dalam PT PII maupun diperluas melalui kolaborasi digital dengan pemangku kepentingan eksternal. Dalam riset ini akan digali bagaimana mengembangkan strategi transformasi digital di PT PII dengan mempelajari literatur tentang teori inovasi digital, transformasi digital, transformasi model bisnis, transformasi proses bisnis dan transformasi budaya/organisasi. Metode penelitian dalam tugas akhir ini dengan mengidentifikasi isu bisnis, menganalisis status quo dengan wawancara, menganalisis faktor-faktor terkait transformasi digital, merumuskan strategi transformasi digital yang efektif dan memberikan rekomendasi solusi bisnis yang dapat ditempuh oleh manajemen PT PII, rencana implementasi transformasi digital lebih efektif. Berdasarkan temuan dalam penelitian ini, diperoleh hasil bahwa kami menyediakan solusi bisnis dalam 3 elemen utama dalam transformasi digital, yaitu manusia, proses, dan teknologi.

**Kata Kunci:** PT Penjaminan Infrastruktur Indonesia (Persero), Penjaminan Pemerintah, PPP, Strategi Transformasi Digital

## INTRODUCTION

Rapid advances in digital technology, coupled with the massive amounts of data collected every day from devices and apps, are rapidly forcing organizations to fundamentally change their business architectures to create and leverage value (Correani *et al.*, 2020). PT Penjaminan Infrastruktur Indonesia (Persero) / Indonesia Infrastructure Guarantee Fund (IIGF), a State-Owned-Enterprise (SoE) under the Ministry of Finance Republic Indonesia, is currently forced to transform its organization because it is sluggish in following the digitalization trend. Consequently, there are a lot of opportunities that IIGF have been missing. This problem, however, may be resolved if IIGF were using technology to speed up or transform its current manual process. Therefore, to sustain its business in the era of digitalization of economies IIGF needs to do digital transformation.

IIGF organizational structure can be seen from Figure 1.1 wherein Achmad division, information technology (IT), is on the far right of the structure and directly under finance director in which this division have two main functions. First is IT Strategy and Architecture, the role is to prepare IT strategy which is aligned with the company's business strategy. Second is IT Delivery, Project and Operation, wherein the role is to manage internal and external resources in the delivery process both for the operational needs of the IT services.



**Figure 1. IIGF Organizational Structure.**

This division has a strong relation with digital transformation that can be described in two folds. First, this division is responsible for the IT architecture and strategy thus the digital transformation strategy responsibility is carried by this division.

IIGF CEO, M. Wahid Sutopo, stated that “As a knowledge intensive organization, which relies on different partnership in achieving its objective, IIGF relies heavily on digital tools and platforms to enable its mission. Therefore, tools like collaboration tools are very important for IIGF and this is not only for internal use but also need to be extended in collaborations with each partner in achieving their mutual objective”.

Similar to Wahid Sutopo statement, Achmad Abimanyu, IIGF’s Acting Head of Information Technology Division, stated that “regarding to IIGF information and technology, my hope is that the infrastructure at IIGF is stable enough supported by qualified vendors so that there is no longer the burden of managing physical storage server assets and all users understand what data should be generated. We have a good data warehouse and data analytics capabilities so that the Board of Directors can make decisions based on the data in IIGF, be it daily operational data including process requirements, including project-related data needed to make decisions related to guarantees and support projects at clients or customers”.

IIGF in creating pipelines and monitoring the ongoing guaranteed project is still using manual Standard Operating Procedure. That is to say that most of the process, either operational or business, is done manually without the help of an AI. Furthermore, IIGF have not been utilizing the digital

landscape effectively. This manual process, however, would not sustain IIGF business because IIGF has abundance of stakeholders from the Central Government, Provincial Government, and Municipal Government. The impact of having manual business and operational processes instead of a digital one is that the process tends to be slow, and the employees are having difficulties in managing the projects. It is submitted that the core issue currently faced by IIGF is its performance that has been unsatisfactory which can be seen from Figure 2.



**Figure 2. Cause Map**

Figure 2 shows that there are three main factors that led to IIGF subpar performance and the analyzed root cause. It is argued that the key cause why IIGF has been missing business opportunities is because its operational process is still lacking manual. Next, it is submitted that the nonexistent PPP Centre Platform for GCA to obtain information is the root cause why miscoordination has been occurring. In 2020 and 2021 IIGF held assessment of knowledge and perceptions of IIGF stakeholders which employed a purposive sampling method of 20 respondent of IIGF stakeholders. One of the respondents stated, “PPP and IIGF for us is still very new, and we ask a lot and discuss with PII to get a clear picture”. This proves that one of the causes of miscoordination as stated in the problem exploration that is GCA doesn’t fully understand PPP is

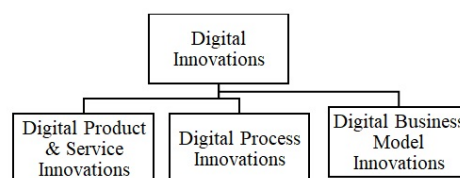
accurate, that is GCA doesn’t have access towards up-to-date information about PPP as well as IIGF. In conclusion, based on these analyzed root causes, it is argued that IIGF needs a digital transformation to address its problems. Therefore, the first thing IIGF needs to do is develop its digital transformation strategy.

As introduced before, albeit digitalization is fundamental in sustaining business in the era of digitalization of economies, IIGF is sluggish in following the digitalization trend. Therefore, this final project will address the following research questions:

1. What kind digital innovation to be implemented in IIGF?
2. What factor will determine successful digital transformation in IIGF?
3. How to develop an effective digital transformation strategy for IIGF?

### Digital Innovation

Digital innovations are the result of a creative digital solution combined with a complementing digital business idea. In general, digital inventions may be divided into three types which can be seen in Figure II.1 below that is digital product and service innovations, digital business process innovations, and digital business model innovations (Wiesböck & Hess, 2018).



**Figure 3. Categorization of digital innovations (Wiesböck & Hess, 2018, 2020)**

Digital product & service innovations involves using digital technology to build fundamentally new

digital products and services or to improve current products and services by adding or integrating digital components. Digital process innovations on the other hand harnesses the creative application of digital technology to improve or build new business processes. Digital innovations, however, must be supported by enablers such as organizational IT infrastructures, organizational structures, organizational cultures, and organizational capabilities (Wiesböck & Hess, 2020).

### (1) IT Infrastructure

Organizations must prepare their information system landscapes in order to welcome digital innovations thus organizations must create information system infrastructures that provide the required interface and give sufficient degrees of centralization and flexibility (Wiesböck & Hess, 2020). The term digital infrastructure, i.e., information and communications technology (ICT) system, refers to "a system that, in some way, supports another" (Lee & Schmidt, 2018).

### (2) Organizational Structure

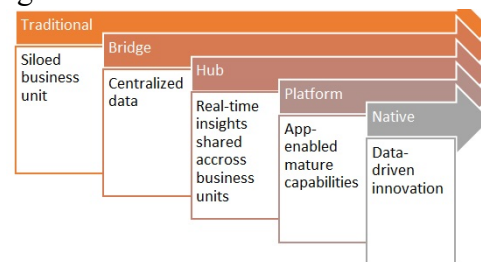
To fully capitalize on the advantages provided by digital technology, organizations must create organizational structures that allow digital innovations to attain necessary levels of agility (Wiesböck & Hess, 2020). Organizational structure refers to the way a company is set up and the relationships between different levels of management and employees. Digital innovations can be enabled by a well-designed organizational structure that supports the implementation and effective use of technology.

### (3) Organizational Cultures

The culture of a company affects both how innovation project teams pursue the creation of digital innovations in general and how employees accept the numerous changes brought about by digital technology on organizational functioning. Additionally, an organization's culture determines its overall attitude toward digital technology, its risk-taking (or risk-averse) behavior toward new business prospects, and how it values both internal and external innovation (Wiesböck & Hess, 2020).

### (4) Organizational Capabilities

The starting point in developing and choosing digital innovation is to assess the organizational capabilities/digital maturity level. Digital maturity refers to an organization's ability to compete effectively in an increasingly digital world wherein it is grouped into three main category that is early, developing and maturing (Kane *et al.*, 2017). Nonetheless, it can be detailed into five stages or model which can be seen from Figure 4 below.



**Figure 4. The Stages of Digital Maturity (Iansiti & Nadella, 2022)**

In the traditional model Digital and technology investments are the domain of the IT department with influence spread across the group wherein IT projects are tailored to the exact needs of the individual silos. This type of disconnected approach will in turn make it nearly hard to share, expand, or disseminate innovation

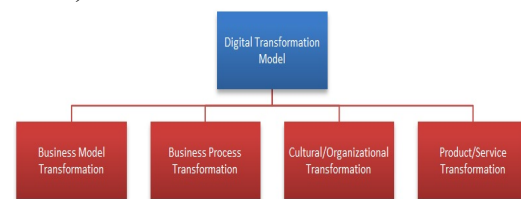
activities throughout the firm. In the bridge model, companies often begin by establishing pilots that connect previously disparate groups and building shared data and technological assets to allow new breakthroughs. Next, as further pilots confirm the new approach's effectiveness, companies build data and capability hubs and eventually acquire the capacity to integrate and engage more departments and business divisions in pursuit of transformational prospects. This is the Hub model. As businesses progress to the platform stage, data hubs combine to provide a robust software foundation that allows for the quick deployment of AI-based apps. Lastly, on the native model, businesses have implemented a completely new operational architecture, focusing on interconnected data assets and software libraries and built to expand AI across a vast, scattered spectrum of applications (Iansiti & Nadella, 2022).

### Digital Transformation

How businesses create and extract value has significantly changed in the digital age (Woerner *et al.*, 2022). Data demonstrates that middle-market businesses expand 75% more quickly on average than less digitally advanced competitors when they have a clear, complete digital vision that drives strategic decisions. Nonetheless, more than half of midsize businesses (annual revenues between \$10 million and \$1 billion) according to a recent research lack a roadmap for their digital strategy or digital transformation (Farren & Makhija, 2021).

Digital transformation is not the same as digitization or digitalization (Hoe, 2022). Digital transformation focuses on the adjustments that digital technologies can make to a company's organizational structure, business

strategy, and range of products and services (Hess *et al.*, 2020). Others define digital transformation as the change in the way people work, the roles they play, and the business they deliver, caused by the introduction of digital technologies into an organization or its operating environment (Parviainen *et al.*, 2017). Concisely, businesses and organizations are using digital transformation in many ways such as to create multifaceted platforms and transform their role and impact across entire industries, to improve their ability to communicate with and work with customers, and to enhance the internal organization process (Cennamo *et al.*, 2020).



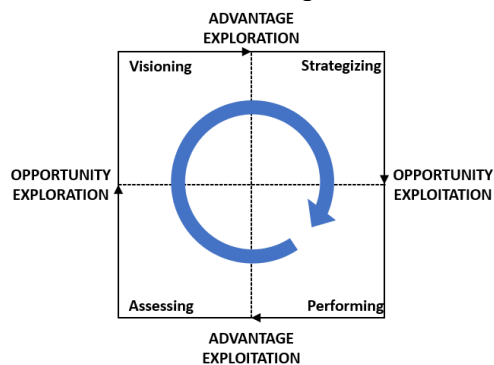
**Figure 5. Three Digital Transformation Main Models**

### Business Model Transformation

Business model is defined as the design or architecture of the value creation, delivery and capture mechanisms employed (Holtström, 2022; Teece, 2010). There are two opposing perspectives on how to alter a company's business model wherein some contend that thorough investigation is required before a successful change in business model can take place whilst others prefer a more impromptu and emergent strategy based on situational trial-and-error techniques (Cavalcante, 2014). In terms of staging, a research found that business model transformation consist of two main phases that is exploration and exploitation (Sosna *et al.*, 2010). Others, however, argued that those two main phase of business model



transformation can be detailed to be visioning, strategizing, performing, and assessing the goal stages (Ahokangas & Myllykoski, 2014). In terms of business model transformation, it is suggested that there are 6 key aspects that needs to be considered that is value proposition, target market, value chain, revenue mechanisms, value network, and competitive strategies (Holtström, 2022). These factors are incumbent in business transformation practices.



**Figure 6. Business Transformation as Practices (Ahokangas & Myllykoski, 2014).**

Figure 6 shows that a business transformation starts from performing (business as usual). However, the market then pushes the organization to reassess its current business model, in this case the demand for digital company, by seeing the target market and the value network.

### Business Process Transformation

An important component of quality management is business processes (Okrepilov *et al.*, 2020). Organizations have discovered the necessity to move toward a digital transformation in order to optimize their processes (Silva *et al.*, 2021). For business process management, digital transformation offers two distinct contexts that it relies on the properties and possibilities of the digital realm with its inherent generative properties and the significant structural changes

involved. In terms of business process transformation there are three factors that needs to be considered such as business process modeling, IT infrastructure design, and the employees authorization (Baiyere *et al.*, 2020). A study done by Kondarevych *et al.* (2020) suggested that there are four things needs to be done by a company for digital transformation of business processes which can be seen in Figure 7 below.



**Figure 7. Business Process Transformation**

Figure 7 above shows that enterprises first should explore existing digital technologies and understand the impact it would give to their business. Next, enterprises, by prioritizing the most significant digital portfolio, should start to use digital technology.

### Cultural/Organizational Transformation

To support the modern workplace and expand a workforce that is equipped with digital skills, organizations must continue to enhance their digital capabilities (Hoe, 2022). A study done by Berghaus (2016) suggested that there are 5 stages of organizational transformation that is:

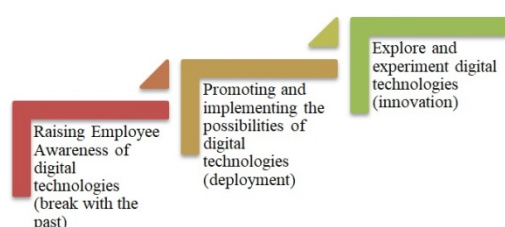
1. Promote & support: Prioritization of strategic objectives, adaptability of work, and management support for digital transformation.
2. Create & build: This also entails assessing internal communication and service procedures to see if digital technology may enhance them.
3. Commit to transform: Proactive mistake management, sharing lessons learned from unsuccessful initiatives, and a willingness to take

chances are crucial organizational culture traits.

4. User-centered & elaborated processes: The personalization of customer experiences, user participation in innovation processes, and interface design that prioritizes customer data.
5. Data-driven enterprise: The concerns pertain to using cutting-edge data analytics tools for budgeting, gathering customer information from many sources, real-time analysis, and tailoring client interactions.

According to Heavin & Power (2018) there are 7 factors that needs to be considered or changed by management in terms of organizational digital transformation namely:

1. Priorities;
2. Aggregate data or personalize;
3. Providing more resources to IT staff vs. more self-service analytics;
4. Storing all data vs. selecting data to store that serves a specific purpose;
5. Work performed by people vs. computing machines;
6. Security vs. accessibility; and
7. Privacy of individuals vs. understanding of an individual.



**Figure 8. Organizational Transformation Stages**

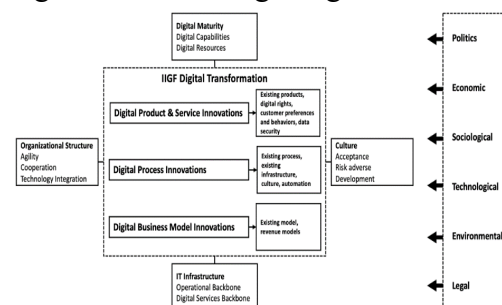
Figure 8 shows that organizational transformation stages differ than the other digital transformation models with the fact that it starts with the deployment of currently available digital technologies first and then later followed by exploration.

## Product/Service Transformation

Product or service digital transformation refers to the process of incorporating digital technology into the development, delivery, and management of a company's products or services (Kraus *et al.*, 2021). This process can involve rethinking and redesigning the entire value proposition, as well as the processes and systems used to bring the product or service to market. The goal of product or service digital transformation is to create new and enhanced customer experiences, improve operational efficiency and productivity, and drive new sources of revenue.

## Conceptual Framework

A conceptual framework serves as the foundation for a methodical approach to strategy development. To build the analysis, the author created a conceptual framework that will serve as a guide to achieving the goal.



**Figure 9 . onceptual Framework**

The above framework is needed in designing and executing digital strategies for IIGF Digital Transformation.

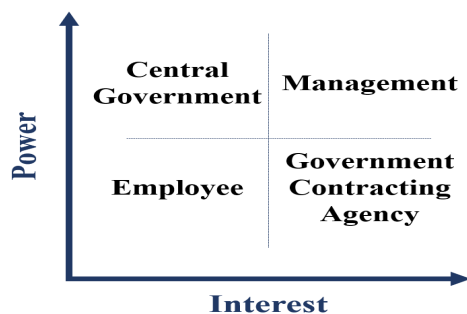
## RESEACH METHODS

This research will be conducted as an exploratory study aimed at finding solutions to the problems explored in this final project with a qualitative approach. This research utilizes both primary and secondary data. In management and organizational research, interviews are the most

commonly used qualitative approach (Bluhm *et al.*, 2011), therefore primary data was collected by doing direct interviews with IIGF management namely the CEO and the Head of Information and Technology Division. Primary data were also obtained directly from IIGF management which include but not limited to their annual and sustainability reports, IIGF's surveys, internal procedure, business process information, business model information, organizational/culture information, and service/product information. The technique used to obtain secondary data is by collecting and studying documents such as books, journals, and other documents related to this research. This research employs content analysis as the data analysis tool for the obtained data.

### Stakeholder analysis

As part of data analysis in this research also analyze the stakeholders involved in construing the digital transformation strategy for IIGF this study used the power-interest grid shown in Figure 10



**Figure 10. Power-Interest Grid**

First, the management is placed at the high power and high interest position. This is because the execution of the digital transformation strategy is mainly in the hands of management. Given the far-reaching implications of digitalization, it is critical that stakeholder (management) respond to digital developments in a methodical

manner (Brunetti *et al.*, 2020). Therefore, IIGF's management is the player in this project. Second, the central government (in this case the Ministry of Finance) is the one with the high power and low interest. This is the implication of Ministry of Finance (MoF) having a lot of influence over the project because MoF is IIGF's sole shareholder. Nonetheless, MoF doesn't want to be involved in the technical details. Consequently, it is perceived as the context-setters. Third, the Government Contracting Agency (GCA) is assigned as the low power but having high interest. This is because the digital transformation strategy would impact IIGF as the service provider and GCA as its main client. Hence, GCA is the subject in this project because they could offer great insights and ideas for IIGF digital transformation as the other end of the B2B process. Lastly, employees are given low power and lower interest position.

## RESULT AND DISCUSSION

### Analysis

The success of a digital transformation strategy for the Indonesia Infrastructure Guarantee Fund (IIGF) will depend on PESTEL factors. Here's an analysis of these factors:

1. Political: The political environment in Indonesia can impact the ability of IIGF to implement its digital transformation strategy. For example, if the government changes its policies or priorities, this could affect the funding or support for the digital transformation effort.
2. Economic: The economic environment in Indonesia will impact the ability of IIGF to allocate resources for its digital transformation effort. For example, if the economy is in a recession, IIGF



may have limited funds available for technology investment.

3. **Social:** The social environment in Indonesia can impact the adoption of digital tools and technologies by employees and stakeholders. For example, if there is a low level of digital literacy, employees may need additional training to effectively use new digital tools.
4. **Technological:** The technological environment in Indonesia will impact the availability of digital tools and technologies that can be used by IIGF. For example, if the infrastructure is not developed enough to support new digital technologies, this could limit the ability of IIGF to implement its digital transformation strategy.
5. **Environmental:** The environmental factors in Indonesia can impact the ability of IIGF to implement its digital transformation strategy. For example, if there are environmental regulations that limit the use of certain digital technologies, this could affect the ability of IIGF to implement its digital transformation plan.
6. **Legal:** The legal environment in Indonesia will impact the ability of IIGF to implement its digital transformation strategy. For example, if there are restrictions on the use of certain digital tools and technologies, this could affect the ability of IIGF to implement its digital transformation plan.

By considering these PESTEL factors, IIGF can identify potential challenges and risks in its digital transformation efforts and take steps to address them. This will help to increase the chances of success for its digital transformation strategy and support its mission to develop infrastructure in Indonesia. The

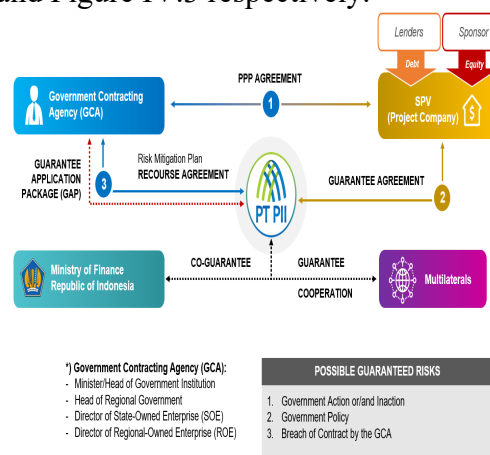
analysis can be seen on the table below.

**Table 1.**

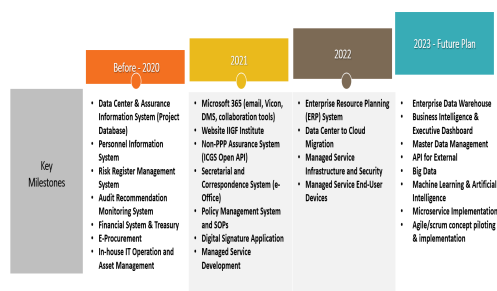
Politics	Economic	Sociological	Technological	Environmental	Legal
Strong political support from Ministry of Finance	High demand of government guarantee	Public need more infrastructure quality	Infrastructure technology is available in country.	Need of green infrastructure with low carbon print, using renewable energy and energy transition	Development of regulatory framework support infrastructure sustainability
IIGF as single window policy for PPP Government Guarantee	it needs big amount of investment if government want it available for public and need private investment				

### Summary of Interview Result

The initial stage in getting data is to conduct interviews with the IIGF management. The author was able to derive the general business model, business process, and culture/organizational information from the interview and other supporting materials such as IIGF annual reports and sustainability reports which is depicted by Figure IV.1, Figure IV.2, and Figure IV.3 respectively.



**Figure 11. Business Model**

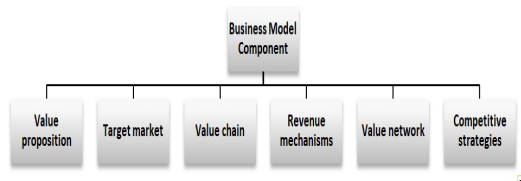


**Figure 12. Organizational/Cultural Status**

IIGF claimed that it has made improvements both in terms of supporting infrastructure and increasing employee awareness to ensure network security that supports the sustainability of the Company's operations from the investment in IT. Nonetheless, there is a significant gap between IIGF IT budget target and its implementation.

### IIGF's Business Model Analysis

There are 6 key aspects that needs to be considered as business model components that is value proposition, target market, value chain, revenue mechanisms, value network, and competitive strategies which can be seen on Figure 13below.



**Figure 13. Business model components (Holtström, 2022)**

Each of the business model components has their own key aspects. The key aspect of value proposition is the development of essential products, services, and technology; wherein target market aims to create new consumer connections while maintaining and expanding on existing ones. Similarly, value chain creates a value chain position to attract new clients and grow as a niche-technology specialist. Revenue mechanisms would aim to

adapt to new revenue systems and become a revenue-risk-sharing partner.

### IIGF's Business Process Analysis

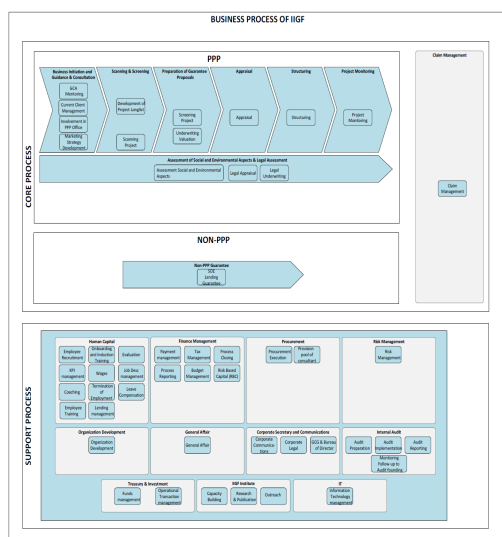
In designing dan renewing business processes there are three factors that need to be considered which is business process modeling, IT infrastructure design, and the employees authorization.

#### (1) Business Process Modelling

Business processes are viewed as sequences of operations that may be completely understood, modelled, and remodelled as needed. It is suggested that many firms have amassed libraries of business process models throughout time, which serve as a knowledge foundation for continuing business process management activities (Aalst & P, 2013). To carry out IIGF's function as the only state-owned company that runs the infrastructure development guarantee business, the business processes and activities carried out consist of:

- The main activities**, which include PPP Activities; Non-PPP Activities; and Claim Management, this activity covers PPP and Non-PPP activities.
- Supporting Activities**, including Human Capital; Finance Management; Procurement; Risk Management; Organization Development; General Affair; Corporate Secretary; Internal Audit; Treasury & Investment; IIGF Institute; and Information Technology.

These business functions and activities are depicted in the business process diagram as shown in figure IV.7 which are categorized into 2 main business processes and supporting business processes as shown below.



**Figure 14. IIGF Business Process**

Here's an example of a level 2 business function derived in the business detail and data tiers shown in Figure IV.7. The business details in question are existing business process flows. Data information input output, RACI (Responsible, Accountable, Consulted, Informed), the application used and where the process is run.

## (2) IT Infrastructure Design

To keep up with these technological trends, IIGF's topology needs to be supported by adequate infrastructure. With adequate infrastructure, the process of processing and exchanging data/information between applications can run smoothly and securely.

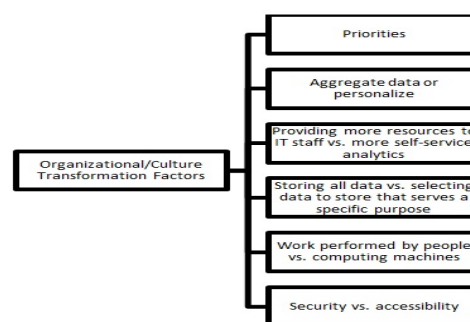
## (3) Employee Authorization

Every employee, not only supervisors, is in charge of overseeing and directing their own job (Hung, 2006). A horizontal management style should be structured around fundamental processes, boost employee engagement across divisions, develop tight working relationships, and improve communication. Therefore, authorization of personnel and teams to accomplish activities as needed is fundamental. Once achieved (and

consistently maintained), shared corporate purpose and values can serve numerous objectives inside the organization (vom Brocke & Rosemann, 2010). One of the objectives that may be achieved is to enable the newly designed business process to work. Therefore, IIGF needs to consider its corporate purpose and values when analyzing, modeling, enacting, and managing its business process. It is conceded that the role of professional and competent human resources will enable the Company to realize a sustainable vision, mission, and work plan.

## IIGF's Organizational/Culture Analysis

Employee behavior is correlated with company goals via structural change, strategy implementation, and culture transformation (Hung, 2006). There are 6 relevant factors that needs to be considered or changed by IIGF management in terms of organizational digital transformation namely: Priorities; Aggregate data or personalize; Providing more resources to IT staff vs. more self-service analytics; Storing all data vs. selecting data to store that serves a specific purpose; Work performed by people vs. computing machines; and security vs. accessibility which can be seen on Figure IV.9 below.



**Figure 15. Organizational/Culture Transformation Factors**

## **Digital Transformation Factors Analysis**

### **(1) Organizational Structure**

Organizational structure is a key component of digital transformation, as it can have a significant impact on the success of digital initiatives. A well-designed organizational structure can help to ensure that digital transformation initiatives are aligned with the organization's strategy, and that they are implemented in a secure, compliant, and sustainable manner. Here are some possible organizational structure changes that the IIGF could consider as part of their digital transformation:

1. Centralized digital team
2. Cross-functional collaboration
3. Chief Digital Officer (CDO)
4. Digital transformation steering committee
5. Re-skilling and upskilling programs

### **(2) IT Infrastructure**

Information technology (IT) infrastructure is a critical component of digital transformation, as it provides the foundation for digital initiatives and supports the delivery of digital services. A robust IT infrastructure can help organizations to improve efficiency, reduce costs, and enhance customer experience. Here are some possible IT infrastructure changes that the IIGF could consider as part of their digital transformation:

1. Cloud computing
2. Network modernization
3. Cybersecurity
4. Data management
5. Implementing DevOps

### **(3) Culture**

Culture plays a critical role in digital transformation, as it can either enable or hinder the successful implementation of digital initiatives. A

culture that is supportive of digital innovation and change can help organizations to embrace new technologies, drive digital initiatives forward, and reap the benefits of digital transformation. Here are some possible cultural changes that the IIGF could consider as part of their digital transformation:

1. Emphasizing digital literacy
2. Fostering a culture of innovation
3. Empowering employees
4. Promoting transparency and collaboration
5. Encouraging experimentation:

By fostering a supportive culture, the IIGF can help to ensure that digital transformation initiatives are implemented successfully, and that the organization is positioned to take advantage of new digital opportunities.

### **(4) Digital Maturity/Capability**

Digital capabilities are the skills, knowledge, and resources that organizations need to succeed in the digital era. Developing and strengthening digital capabilities is an essential part of digital transformation, as it helps organizations to take full advantage of digital technologies and deliver new digital services and experiences to customers. Here are some possible digital capabilities that the IIGF could consider as part of their digital transformation:

1. Assess current digital maturity
2. Develop a digital strategy
3. Invest in digital capabilities
4. Adopt digital technologies
5. Embed digital practices

## **Business Solution**

Based on the analysis from the preceding section, this study argued that IIGF should do a business process digital transformation or digital process innovation. People, process, and

technology (PPT) are widely recognized as the three critical elements for process improvement. This holistic approach was developed with the understanding that in order to improve the overall organization, efforts must be concentrated in these three areas (Prodan *et al.*, 2015). Therefore, this framework would be utilized as the foundation in construing the effective digital transformation for IIGF.

In terms of technology, Achmad argues that the current technology and IIGF vendor would be ready for digital transformation. In other words, Achmad suggested that IIGF is ready to become a data driven enterprise. In relation to process, Achmad admitted that the current process is still manual, but the Company have been trying to implement technology towards its process, especially in relation to operational, such as the use of Integrated Corporate Guarantee System (ICGS) with the Ministry of Finance, E-Office System, and digital signature. Nonetheless, Achmad said that the systems are still silos & unintegrated. This leaves the last element that is people. Achmad conceded that some employees lack digital skills needed and there is a generation gap as mentioned in the business process audit section above. Moreover, this is exacerbated by the fact there is a low commitment from the management. Therefore, to execute an effective digital transformation for IIGF by considering the PPT Framework it is argued that the following strategy must be implemented:

1. **Technology:** maximize the use of trusted, secure, and reliable Cloud Technology.
2. **Process:** collaborate with Technology Managed Service providers to ensure that service quality can be maintained properly.

3. **People:** Implement Change Management to ensure the transition from the transformation program runs smoothly.

### **Implementation Plan and Justification**

In doing business process transformation, the implementation of application system development needs to follow development standards in the form of Software Development Life Cycle (SDLC) applied in the Company with a waterfall method that includes activities: needs analysis (requirement); model (design); implementation; integration & system testing; installation (deployment) to enter the operation and maintenance stage (operation & maintenance) and pay attention to Application Control.

To align business needs, management direction with IT development studies, and business strategies that have been launched by IIGF, a strategy (technology driven) is needed as outlined in the IT Vision and Mission to support flexible business processes. A digital transformation strategy for the Indonesia Infrastructure Guarantee Fund (IIGF) should include the following steps:

1. Assess the current technology landscape;
2. Define digital transformation objectives;
3. Develop a roadmap;
4. Implement digital tools and technologies;
5. Strengthen data management;
6. Foster a digital culture;
7. Monitor and evaluate progress;
8. Continuously innovate;

By following these steps, IIGF can effectively leverage digital technologies to improve its operations and better serve the needs of its



stakeholders. The direction of IIGF 's IT strategy going forward is as follows.



**Figure 16. Proposed IT Strategy for IIGF**

## CONCLUSION

### Conclusion

Based on the study restrictions, the following findings are reached from this final project:

1. From assessing three different digital innovation types it is established that the most suitable transformation for IIGF is business process innovation because IIGF business process mostly is manual and data base still use for internal. The transformation strategy must consider to maximize the use of trusted, secure, and reliable Cloud Technology, collaborate with Technology Managed Service providers to ensure that service quality can be maintained properly, and implement Change Management to ensure the transition from the transformation program runs smoothly. This transformation strategy would then be further described to be 6 strategies that is Mobile Application, Technology Research, Improving HR Competencies, Digitalized process, Integration, and Improving IT Agility.
2. In terms of organizational transformation, IIGF should consider to appoints a CDO or establish a digital transformation steering committee. IIGF should also employ

cloud computing and enhance its cybersecurity in the pursue of developing its IT infrastructure. IIGF should emphasize digital literacy as well as encouraging experimentation for the purpose of culture development. Lastly, to improve its digital capabilities, IIGF should embed digital practices and invest in digital capabilities.

3. IIGF Digital Transformation should follow these steps: first, enhancing operational backbone by improving its business architecture. Second, developing digital services backbone to maintain and entertain customers as well as keeping the research technology going. Lastly, maintenance and expansion by doing integration and improving IIGF IT agility.

### Recommendation

Based on the conclusion and benchmark above this study recommends IIGF to follow the roadmap depicted below. The roadmap contains an implementation plan of each given initiative based on the results of the analysis of the assessment process carried out. Initiatives are derived based on the constraints and needs of business users and stakeholders. Each of these constraints and needs is formulated into requirements and analyzed so that IT implications and initiatives that need to be implemented as solutions to these constraints and needs are obtained. The initiative is then mapped to the implementation year within the next 3 (three) years based on priorities and estimated investment value and in accordance with IIGF's Company Long Term Plan of 2023-2027.

**Table 2.**

No	STRATEGIES	TIMELINE					
		2023		2024		2025	
		S1	S2	S1	S2	S1	S2
1	Enhancing Operational Backbone						
	Improve business architecture by						

No	STRATEGIES	TIMELINE
	understanding company flow of information	
	Application development which directed at mobile-based applications.	
	Improving HR Competencies every year.	
2	Developing Digital Services Backbone	
	Digitalized process to minimize manual work either for internal and external use.	
	Technology research to acquire new technological developments that can be utilized in accordance with IIGF business needs.	
3	Maintenance and Expansion	
	Integration of data, databases, and applications.	
	Improving IT Agility to respond to opportunities or threats from outside.	

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