

TRIANGLE SHARIA JUSTICE ECOSYSTEM: NEW BUSINESS MODEL FOR ISLAMIC DIGITAL PENSION FUND

Fahmi Alamil Huda

Indonesian International Islamic University (UIII), Indonesia, fahmi.huda@uiii.ac.id

ABSTRACT

The objective of this paper is to redesign the Indonesian pension fund's business model, management system, and new strategies to balance adequate profits, affordability, and sustainable programs. Consider the Malaysian pension system and adapt the INTERDAP application used by PT. Angkasa Pura II. Through this qualitative case study, we applied the foundations of the Triangle Sharia Justice Ecosystem (TSJE); Sharia, digitized the system, and supported green investment in the long run. By modeling the business strategy, facilitating the business model and supplier relationship management, and creating mutually beneficial management among stakeholders. The study found that Malaysia's pension system has an investment purpose. Indonesia, on the other hand, provides pension loans only based on previously agreed cumulative contributions. Malaysia encourages people across the country to save on severance funds. The pension system is still managed conventionally. Malaysia requires a pension contribution of 23% of the employee's base salary, while Indonesia requires only 3%. This will affect the contribution of pension funds to the GDP. Malaysia's pension fund accounts for 60% of GDP. Besides, Indonesia is at only 6.03%. Another view is, to become a developed country, pension funds need to reach 60% of GDP by 2045. Because 42% of the total supply of funds in the infrastructure sector comes from pension funds. The practical implications of this study are access to information, security, and transparency in the management of pension funds through a digital system supervised by the Sharia Regulator (BPS) and the Indonesian government's efforts to realize that supports the green economy This study integrates the foundations of the TSJE about pension funds management. The limitation of the research study is that more detailed studies and methods are needed to analyze this study. It is expected that this TSJE system will be applied further.

JEL Classification: O21, Q58, 022

Keywords: Digital, Green Investment, Pension Fund, Sharia, TSJE

Article History: (filled by Conference Book Manager)

Received :
Revised :
Accepted :
Available online :

I. INTRODUCTION

1.1. Background

The retirement agenda is always set based on an agreement between the employer and the employee. Contracts usually take the form of ordinances, commonly referred to as pension fund regulations, that apply to both employees and employers. Pension regulations are part of a collective bargaining agreement (Kusmayanti et al. 2021).

Pension payments not only provide income security but also motivate employees to improve their performance. Employees can rest assured by offering a post-retirement service program. Especially for those who think that retirement will reduce their productivity. On the other hand, for some who are still productive, it is also motivated that their performance is still being evaluated by the company. Recent developments in pension services have led several institutions to set up pension funds. The management of this pension fund is very beneficial from a business point of view. You can imagine the profits from interest-free contributions, which are then invested in various investment areas. In Indonesia's pension fund regulation, the existence of a pension program funding system can form the accumulation of funds needed to maintain the income continuity of old-age program participants (Meilanni 2015).

The basic problem with Indonesian pension funds is that (1) not all participants understand that their pension fund is invested and that the return on investment achieves a certain rate of return, and (2) the Sharia Pension Fund is not included in the Pension Fund Act, (3) investment portfolio restrictions, at the beginning become a sign of caution in pension fund management, but investment options are limited.

Pension funds play a very important role in nation-building. On the other hand, Indonesia's pension savings contribute very little to GDP, reaching only 6.03% compared to Malaysia. Malaysia is still very late as it reaches 60% of GDP based on pension savings (Juliasari 2020). In general, the Malaysian pension system is an arrangement that contributes to a fund designed to provide pensions to employers and employees, usually employees who have retired. Malaysia's retirement income strategy aims to reduce poverty in the elderly by ensuring financial well-being in old age. Otherwise, there is a risk that pension support will not be sufficient to provide these groups with sufficient income for old age (Ali et al. 2021).

One path can be followed by pursuing financial inclusion under Shariah to promote transparency in the management of pension funds. Unfortunately, Indonesia's Islamic financial literacy and penetration index is still less than 9% (PT Bank Syariah Indonesia (BSI) President, 2022). The level of Islamic financial

inclusion is still low at only 9.1%. It is well below the traditional financial inclusion of 76.72% (OJK, 2022). Malaysia's Islamic financial market share has reached 30%. Therefore, media efforts that are easily accessible and accessible to the community are needed, especially for workers who are about to retire. Digital media is a solution to financial inclusion under the Shariah Act and is believed to promote the creation of transparency in information related to managed pension funds.

1.2. Objective

Following the example of a Malaysian country that has turned its pension fund into a form of investment, this study attempts to present a means of investment in a built digital system. Green investments, especially sustainable energy sources and clean technologies, include multiple technologies at different stages of maturity and require different types of financing tools. Most pension funds have stable inflation adjustments. We are interested in low-risk investments that provide a source of later income. Therefore, green bonds are attracting attention as an asset class. Despite their interest in these vehicles, they lack environmental policy support. Due to appropriate investment vehicles and other investment constraints, the allocation of pension funds to such green assets remains low. Market liquidity, size issues, regulatory impediments, and knowledge. Lack of pension fund performance and expertise on these investments and associated risks. End investors in pension funds and institutions have access to attractive options and products.

The impact of digitalization and the transition to a green economy require a portfolio investment strategy. Post-retirement savings as a simple response to disasters and climate change average only 2% per monthly net wage or net salary. This should be increased to 10%. In addition, Indonesia is committed to supporting green investment: job creation, overcoming disasters and climate change, transitioning to renewable energy, reducing carbon emissions by 2023, and zero emissions by 2060. This study reinvents new business models, management systems, and strategies for pensions. The form of funds incorporating digitalization based on Shariah, balancing adequate profits, affordable financing, and sustainable pension programs through the implementation of Triangle Justice Sharia Ecosystems, which supports green investment in Indonesian pension fund management is expected.

II. LITERATURE REVIEW

2.1. Background Theory

Some examples of pension fund business models that have been implemented in Indonesia are PT. Taspen with the segmentation of Civil Servants/ PNS and BPJS

(Social Security Administering Body) Employment with the segmentation of private employees who implement a contribution scheme with a certain percentage rate deducted from monthly income (basic salary + family allowance). PT TASPEN (Persero) or Civil Service Savings and Insurance Fund is an Indonesian State-Owned Enterprise that is engaged in old-age savings insurance and pension funds for ASN and State Officials. TASPEN was appointed as the provider of pension payments based on the Decree of the Minister of Finance Number: 79/KMK.03/1990 dated January 22, 1990, and the letter of the Minister of Home Affairs Number: 842.1-099 dated February 12, 1990. Contributions that must be paid by participants are $4.75\% \times \text{Monthly income (basic salary + family allowance)}$.

BPJS (Social Security Administering Body) Employment contributions are deducted every month from employees. The deductions for each employee are different, depending on the amount of salary earned. The bigger the employee's salary, the bigger the BPJS deduction every month. The purpose of BPJS Employment is to provide old-age insurance for wage recipients and non-wage recipients. Contributions paid every month can later be disbursed on the condition that they are not working or unemployed. Many people when not working take care of BPJS to disburse funds. However, some are left alone for savings in old age. To enjoy these facilities, employees must first become BPJS Employment participants, which are usually taken care of by the company where they work. The BPJS Employment contributions are not all borne by the workers. Some are deducted from employee salaries and partly from the company (Yandani, 2016).

According to Purba (2022), the Pension Guarantee (JP) facility is only intended for wage earners by paying monthly contributions of 1 percent of workers and 2 percent of companies. As quoted from the BPJS Employment website, pension insurance is one of the social security services that aims to ensure that BPJS participants who have entered retirement age or have permanent disabilities get a decent life. There are several benefits offered through this program, namely: (1) participants who have paid a minimum contribution of 15 years or 180 months will receive monthly cash when entering retirement age until they die, and (2) registered heirs will also receive monthly cash. until he dies or remarries, (3) participants who experience a disability due to work accidents will receive monthly cash assistance with a density rate (the level of compliance with Contribution payments by Participants) of at least 80 percent, (4) children who become the participant's heirs will also receive monthly cash until the age of 23 years.

Participants will receive funds regularly every month with a maximum value of up to 40 percent of wages. So, even if the participant does not work, he will still get monthly money from BPJS. For example, in a simulation of the calculation of the BPJS Employment pension fund, an employee earns a monthly income of Rp. 10 million. Then the contributions that must be paid by the employee are: (1) Paid by the company, 2 percent \times Rp. 10 million = Rp. 200 thousand, (2) Deducted from the employee's salary, 1 percent \times Rp. 10 million = Rp. 100 thousand. So, the total pension contribution that must be paid by the employee every month is Rp. 300 thousand. The pension scheme adopted in Indonesia currently uses a pay-as-you-go system. This means that the government through the state budget pays 100% of pensions for civil servants. Government Regulation (PP) number 18 of 2019 regulates pension schemes in Indonesia. In Indonesia, the age for retirement for civil servants starts from the age of 58 years. After retiring, civil servants will receive a monthly allowance just like getting a salary every month. This pension scheme which is fully borne by the government is known as defined benefit (Prasetyo & Rahardjo, 2022).

In the Melbourne Mercer Global Pension Index (MMGPI) research, Indonesia's pension insurance system scores 52.5 or falls into category (grade) C. Malaysia occupies the position above it with a score of 60.6. The aspect of the Pension Fund management system in Malaysia that will be applied in this study is that the main goals of the pension fund there are for investment, not a cash contribution system that must be paid every month and deducted from salary to be able to enjoy the pension insurance program. According to Ali et al. (2020) at the beginning, employees or workers in the government and private sectors had obtained an explanation and agreement with the Employees Provident Fund (EPF) or the Employee Savings Fund Association (KWSP) that the final purpose of the pension fund was used for one of these investment purposes, namely education, marriage, umrah, buying gadgets, vehicles, houses, entertainment, vacations, buying furniture, fashion, or others with the calculation of the risk and return.

The INTERDAP (Integrated Information on Pension Fund) system is a pension fund payment application used by PT. Angkasa Pura II (Persero) is digital-based and the only one in Indonesia to provide benefit satisfaction, good governance principles, and on target for workers and companies from data and information processing systems. However, it is still based on conventional, not Sharia, and aims to green investment. This application uses the QL server method and Microsoft Visual Basic 6.0 which are integrated in terms of (1) participation, (2) administration, (3) accounting, (4) investment, (5) HR, and (6) finance. This can be a solution for transparently delivering information on pension benefits so that it

reaches its participants after entering retirement (Sari & Wandanya & Hanifah, 2019). The aspect of INTERDAP that will be applied in this research is the digitalization aspect.

The new conceptual business framework that will be implemented in this research is the Triangle Sharia Justice Ecosystem (TSJE). This model designs the management of pension funds in Indonesia to enter the realm of digitalization is sharia-based and has a long-term green investment goal. First, this model adopts a digital system as implemented by PT Angkasa Pura II (Persero) in the application of the INTERDAP System (Integrated Information System for Pension Funds) by correcting all existing deficiencies. Second, the management of pension funds in the majority in Indonesia is expected to be run based on Sharia, because it is considered safer, more reliable, and transparent (profit sharing) by paying attention to the orientation of the blessing aspect, not just the high return or more profitable element. Indonesia's largest Muslim population in the world can support Islamic financial inclusion and literacy in Indonesia. Both the Employer Pension Fund (DPPK) and Financial Institution Pension Fund (DPLK) in running and managing the Defined Contribution Pension Program (PPIP) or Defined Benefit Pension Program (PPMP) must comply with the Sharia principle scheme and be free from elements prohibited by the law. Islam, namely the elements of maysir, gharar, usury, ryswah, and falsehood. Contracts or *ijab qabul* ties made between two or more parties, according to Sharia principles: grant contracts, *bi syarth* grant contracts, *muqayyadah* grant contracts, *wakalah* contracts, *wakalah bil ujah* contracts, and *muqayyadah* contracts (Yuliani, 2017).

The funds collected from the contributions paid by participants will later be invested in green investment instruments that are justified by Sharia and support the Indonesian government's commitment to carbon tax management and trading by 2025 through the Minister of Finance Regulation (PMK) which is currently being initiated. Pension fund participants can choose themselves or be selected by the Manager in choosing one or more green investment instruments, namely: (1) Coping with Disasters and Climate Change, (2) Renewable Energy Transition, (3) SDGs: Carbon Emission 2023 & Zero Emission 2060, (4) Creating Environmental Project Jobs.

2.2. Previous Studies

The fundamental weakness of the pension fund industry in Indonesia is that literacy in the non-bank financial sector in general and in the pension fund sector in Indonesia, in particular, has increased but remains very low compared to

neighboring countries, and inadequate technical expertise, especially in the actuarial and investment fields. , has led to weak corporate risk management in both industries. In addition, efforts to strengthen market behavior highlight the need for regulatory and supervisory reforms. Community pension funds need to be increased to 10 percent of take-home pay or net salary. Total Indonesian people's pension funds have only reached 6 percent of the Gross Domestic Product (GDP). Indonesia can increase the pension fund as other countries such as Malaysia, where pension funds reach 60 percent of GDP, and Australia up to 130 percent of GDP. Indonesia's total pension funds managed in 2022 are still around 6.03% of Gross Domestic Product (GDP) and are projected to be 13% in 2045. To become a developed country, pension funds must reach 60% of GDP in 2045. This figure is far from expected and it is necessary to strengthen investment governance to accelerate the inflow of pension funds. Pension funds are a source of sustainable national development funds. Provision of funds in the infrastructure sector where the private sector, namely pension funds, plays a very important role, namely 42% of the total required funds. However, currently, the pension fund program is only able to raise Rp. 955.08 trillion of the total Rp. 2.707 trillion private sector contributions.

With the many problems related to this research, the practical implications of the research are threefold, namely changing business models and new strategies from the conventional pension fund finance industry into a Triangle Sharia Justice Ecosystem (TSJE), namely combining digital, green investment, and Sharia-based systems regarding the fund system. The best pension in Southeast Asia is Malaysia. First, a case study on the use of the Internet of Things (IoT) based on the INTERDAP (Pension Fund Integrated Information System) Application System aims to determine the benefits and information of a data and information processing system in a Pension Fund. The system application design using SQL Server and Microsoft Visual Basic 6.0 applications, becomes the system method used to be integrated (accounting, investment, finance, human and general resources, and participation and administration) and supports the principles of good Pension Fund Governance in PT Angkasa Pura II (Persero). Where this can be a problem solver in the delivery of information on pension benefits to employees, to find out the process of paying the pension. To get it right to the participants, namely, employees of PT Angkasa Pura II (Persero) after the participants enter retirement. Second, about Sharia investment, there are several recommended policy recommendations, including the establishment of a Green Investment Bank (GIB) in Indonesia. It's miles predicted that great investment for low-electricity initiatives is probably acquired through syndication and co-

financing employing the private sector within three years way to this employer's mandate to address dangers that the prevailing marketplace can not manage via trying to draw institutions thru brand-new monetary units.

It is also advised that the government and officers aid investment in green infrastructure, eliminate root limitations to funding, educate and manual buyers, give a boost to governance, create suitable investment instruments and foster a liquid marketplace. Administer pension price range inexperienced investment specializes in agencies or investment potentialities that are dedicated to the maintenance of natural sources, the creation, and exploration of the latest and renewable strength sources (EBT), the implementation of smooth air and water tasks, as well as funding activities that can be environment-pleasant round. The development of the green economy (green economic system) has to be centered on environmental development objectives like preventing weather trade, defensive biodiversity, decreasing environmental pollutants, and using new and renewable electricity resources. The use of environmentally pleasant enter substances, low intensity of input substances, application of the concept of decreasing, reusing, recycling, and recovering, low energy intensity, human sources who have a level of competence of their field and have a perception, especially aid efficiency, the volume of water used decreases and meets environmental nice, consistent with the Ministry of enterprise of the Republic of Indonesia. Climate change adaptation, the transition to renewable energy, the SDGs of carbon emission 2023 and zero emissions 2060, and the creation of environmental project jobs are among the investment outputs of green pension funds.

Third, applying sharia to pension fund organizations in Indonesia is quite likely. This would entail utilizing a plan devoid of characteristics that are forbidden in Islam, such as maysir, gharar, usury, ryswah, and batil aspects. As a result, the monies raised through participant contributions must be invested in sharia-compliant financial products. investing, for instance, in sharia-compliant securities, such as those of businesses included in the Jakarta Islamic Index (JII). Existing sharia investment instrument portfolios include Mudharabah Deposits, Sharia Shares, Sharia Mutual Funds, and Sharia Bonds. Both the Employer Pension Fund (DPPK) and the Financial Institution Pension Fund (DPLK) must meet the six requirements for a good Islamic contract when managing the Defined Contribution Pension Program (PPIP) and the Defined Benefit Pension Program (PPMP), namely grant contracts, bi syarth grant contracts, muqayyadah grant contracts, wakalah contracts, wakalah bil ujah contracts, and mudharabah contracts. Sharia-compliant investment plans are required for Sharia-compliant

Pension Funds. In actuality, in 2021, there is just one Sharia Pension Fund in Indonesia, which is issued by PT. Indonesian Principals.

2.3. Conceptual Framework

This research contributes to the new business model and strategy of the pension fund financial industry in Indonesia by implementing the Triangle Sharia Justice Ecosystem (TSJE) strategy that combines digital, green investment, and sharia. The case study was conducted by comparing 2 countries, namely the INTERDAP application used in one company in Indonesia and the best pension fund system in Southeast Asia, namely Malaysia. First, pension funds are something that workers want as a guarantee for their retirement. The payment is also something that needs to be considered. The application of the right payment system can provide satisfaction for both the workers and the company itself. Information systems that are developing very rapidly make all agencies, both government and private, inevitably have to follow this development, from the use of computers to the application of applications that can help us in dealing with various kinds of problems, one of which is the payment of pension funds which will be very complicated. if done manually. The system provides convenience and speed in the data processing. With the ease of data processing using the system, it must also be accompanied by an increase in the ability of users who use the system.

In financial capacity, the role of the pension fund sector is considered very important, and sustainable financing is needed as domestic funding reports. In 2022, the total assets of the financial market will be around 20% of the country's normal GDP, while if viewed as an economic benchmark, nominal GDP will reach more than 20 thousand. Community pension funds need to be increased to 10 percent of take-home pay or net salary. Apart from being increased from take-home pay, pension funds can also be used for long-term green economy funding. Savings in the form of pensions as a simple response to disasters or climate change in Indonesia only reach an average of 2 percent per take-home pay each month, the government must increase it to 10 percent. The total pension fund of the Indonesian people has only reached 6 percent of the Gross Domestic Product (GDP), Indonesia can increase the pension fund as other countries such as Malaysia where pension funds reach 60 percent of GDP, and Australia up to 130 percent of GDP. The hope is that more jobs can be created, including green investment The government and policymakers deemed it necessary to redesign the pension fund management system to achieve a balance between sufficient profits, affordable funding, and sustainable programs. In particular, several root

causes cause the growth of pension funds in Indonesia not to be as fast as expected. The first is about transparency. To build trust, all investment policies and performance must be communicated to stakeholders. Not all participants understand that their pension funds are actually invested and then the investment returns generate a certain rate of return. An example is BPJS Ketenagakerjaan, which has tried to achieve transparency by providing individual access to this information, although it is still at a limited level and quality. Therefore, education and socialization of pension schemes, pension administration, and pension management are also important to participants and other workers to give appreciation to pension managers. Second, the limitation of the investment portfolio which was originally intended as a sign of caution in the management of pension funds resulted in a limited selection of investment instruments. The government needs to reconsider the approach to find a middle point between the safety of funds and a good rate of return on investment.

. Third, inadequate contributions to cover long-term benefits. The government needs to redesign the program to make it sustainable. The old system implemented defined benefits which over time, there was a mismatch between the funds needed for the best practice of providing benefits and the real funds that had been collected so that it became a financial burden for the management of pension funds. This happened to the Taspen and Asabri pension plans. The government is reviewing the appropriate institutional arrangements to manage the Taspen and Asabri mandatory pension programs. So far, the government sees three options, namely, first, the existing funds are managed by State-Owned Enterprises, second, create a special institution called Sui Generis which is mandated by law, and finally place the management of these funds in a unit under one of the one ministry, such as the Ministry of Finance. In Malaysia, with 20 years of service, retired employees will receive JHT 55.2 times their monthly salary. When added to the severance pay which reaches five times the monthly salary, the total money received by retired employees in Malaysia reaches 60.2 times the monthly salary. According to a study published by the Asian Development Bank (ADB) in 2012, Malaysia is one of the countries in Southeast Asia that adheres to a defined benefits system. In the study, ADB stated that the number of civil servants in Malaysia in 2008 reached 1.24 million people, or equivalent to 11% of the total workforce and 4% of the total population. Total retired civil servants in 2008 reached 0.53 million with pension costs reaching RM 8.1 billion or equivalent to 1% of Malaysia's GDP.

III. METHODOLOGY

3.1. Triangle Sharia Justice Ecosystem (TSJE)

The qualitative, case study and observational research method was applied in this study. We observe sharia management and pensions that have not been well marketed. Thinking about pension fund management in Malaysia, which is said to be better than in Indonesia. We took the initiative to establish a digital pension fund management policy based on Sharia principles, as well as to apply the relevant pension fund management pattern in Malaysia.

Adapting the INTERDAP application applied to PT Angkasa Pura II to guarantee the pension funds of its employees. The application of the INTERDAP System (Integrated Information System for Pension Funds) aims to find out the benefits and information of a data and information processing system in a Pension Fund. The system application design using SQL Server and Microsoft Visual Basic 6.0 applications, becomes the system method used to be integrated (accounting, investment, finance, human & general resources, and participation and administration) and supports the principles of good Pension Fund Governance in PT Angkasa Pura II (Persero). Where this can be a problem solver in the delivery of information on pension benefits to employees, to find out the process of paying the pension.

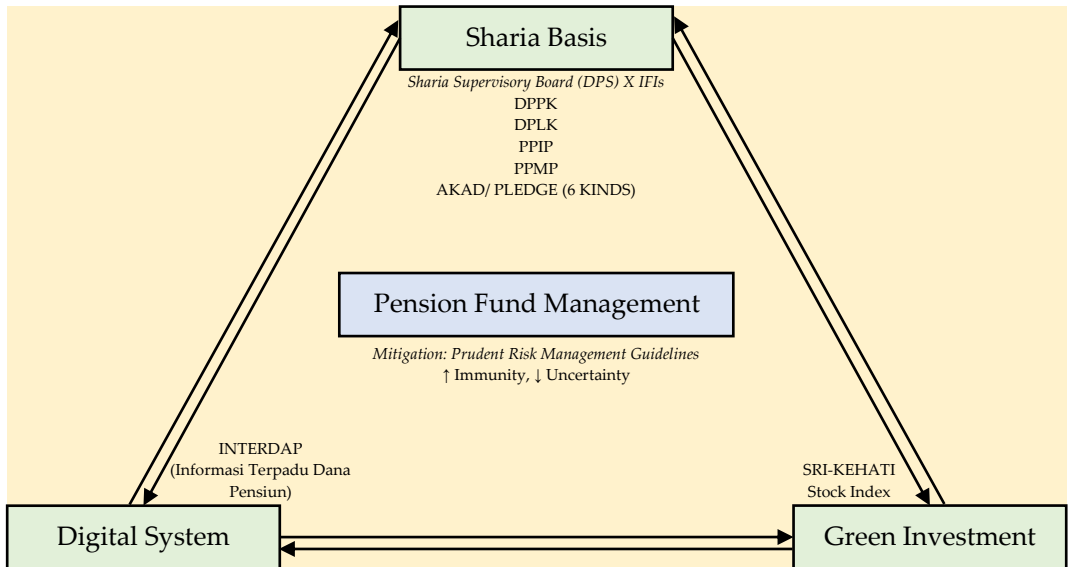
The above application is still in conventional-based management, but it can be presented as a reference application to integrate the management of sharia-based pension funds by adhering to the guidelines established by the Financial Services Authority in partnership with the Indonesian Ulema Council. The following guidelines have been established:

- a) The Financial Services Authority or OJK regulates the implementation of Sharia pension funds in Regulation Number 33/POJK.05/2016 concerning the Implementation of Pension Programs Based on Sharia Principles.
- b) Sharia pension funds are defined as pension funds whose management is guided by Islamic law and fatwas issued by the MUI's National Sharia Council.
- c) Every management must have a Sharia Supervisory Board, according to OJK regulations. Its responsibility is to ensure that no sharia principles are violated in the administration of the pension program.
- d) The MUI National Sharia Council has also issued a fatwa concerning the establishment of sharia pension funds. Fatwa Number 88/DSN-MUI/XI/2013 on General Guidelines for the Implementation of a Sharia-Based Pension Program.

- e) The MUI National Sharia Council fatwa sets the regulations for managing money that must not break sharia principles; for example, if funds are invested in shares, the shares must be on the IDX Sharia Securities List. Furthermore, this fatwa governs the beneficiaries and the contract used.

Underneath the foregoing, for the reason that pension finances can be controlled inside the funding budget, we advocate that cash control consistent with Sharia laws can be managed in the form of green investment. Consistent with Rafaele and associates' research, the damaging environmental coverage backdrop is a sizable impediment to additional investment via pension funds. Most green investments at the moment are uncompetitive, owing in element to the truth that they often consist of novel technology that requires backing and hasn't begun to be commercialized. But, they may be also uncompetitive due to market failures, with existing, black technology mispriced because of unaccounted for pollutants externalities and fossil fuels being appreciably subsidized. Consequently, authorities regulations are required to inspire the commercialization of the latest technologies (R&D tax credit, elevated depreciation, investment incentives, authorities support for project capital budget, and output-level assistance like feed-in tariffs, and so forth.), as well as to address market disasters via carbon pricing. Such aid should be sturdy sufficient to influence the bottom line, lengthy sufficient to remain for a sustained period, and criminal enough to supply this sort of investment-grade coverage (with regulatory frameworks established).

The general mapping of the Triangle Sharia Justice Ecosystem (TSJE) in this research is as follows:



Source: Analysis Result, 2022

Figure 1. Improvement of Regulation and Supervision of Effective Articulation Pension Funds

3.2. Idea Sources

To identify the problem and observe the notion, the researchers did a complete literature review. We attempt to simplify the challenges and conclusions of prior investigations in this table.

Table 1. Lists some of the literature references

Sources	Proposition	Notion	Yield
Sari, Herva Emilda, dkk (2019)	A proper payment system can give satisfaction to both workers and the company, but it has not been executed following the aims of the employee pension payment system.	Using the INTERDAP Application, the Space Pension Funds Angkasa Pura II Payment Information System	Using the Visual Basic 6.0 program, the system, work procedures, and everything else related to the system has been extremely effectively planned and integrated. However, because the archive is still manual, an application or program that can perform/operate

			associated office archives digitally is still required.
Efrita Norman; Enah Pahlawati (2021)	Knew the difference between conventional pension funds and traditional pension funds sharia pensions and how to manage pension funds according to sharia	Sharia Pension Fund Management	The premise for distinguishing Islamic pension finances from conventional ones is that the sharia pension price range has numerous blessings, including having an agreement in every transaction; having a sharia supervisory board; and when contributors are late in paying the pension contributions, they may be a challenge to punishment, however, the proceeds from the punishment budget will be allotted for social sports, so there may be a detail of assisting (atta'aun) fellow humans.
Danu Alit Aji Pamungkas (2018)	Explain and review in the view of Islamic law on the management of Pension Funds Muhammadiyah Surakarta University.	Pension Fund Management In Perspective Islamic Law	The contract utilized in the management of the University Pension Fund Muhammadiyah Surakarta is a mudharabah, wakalah, and

			grant contract. Mudharabah contracts are utilized between pension funds and participants, as well as pension funds and investors. The Wakalah contract is used between the Employer and the Pension Fund. Meanwhile, the Employer and Participant are using the grant contract.
Della Groce; Kaminker; Stewart (2011)	Contribute to the OECD's continued efforts to engage the private sector in green growth financing.	Pension Funds' Role in Financing Green Growth Initiatives	The paper concludes with the subsequent policy suggestions: provide a history of favorable environmental coverage; increase the right funding car and sell a liquid market; assist funding in green infrastructure; cast-off investment boundaries; offer training and steerage to investors, and beautify pension fund control.
Hanung Harimba Rachman (2018)	Analyzing the overview of emission conditions in	Green Investment Directions and Policies	The creation of environmentally friendly technology, the

	Indonesia, green investment policies, investment and funding needs, banking support for investment		growth of priority industries, and the use of potential new and renewable energy sources.
Global Green Growth Institute (GGGI)	Five results of green growth	Green growth training kit	Five outcomes of green growth, sustainable economic growth, healthy natural capital providing ecosystem services, equitable and inclusive growth, social, economic, and environmental resilience
Huda (2021); Bappenas, 2022	Indonesia Green Growth Program	Indonesia Green Growth Program	New green technologies and worldwide competitiveness. Funding in the inexperienced financial system is anticipated so that you can generate 7–10 times greater jobs than traditional funding. The green boom software assists Indonesia in achieving inexperienced increase, which could eradicate poverty and guarantee social inclusion, environmental

			sustainability, and aid efficiency.
Nina Paklina; (2018)	Effect of Digitalization on Monetary Offerings	Private Pension Sector Supervisory	In step with the findings of this survey, fraud, robbery of pension belongings, non-public facts breaches, and cyberattacks have to be the top priority for supervisory exams. Numerous jurisdictions have implemented hazard-focused and era-neutral regulatory and supervisory procedures, in which the troubles are treated underneath the risk instead of the selected era. Generation-enabled solutions, which might be nevertheless inside the early degrees of development and attractiveness in most people of jurisdictions, are concept to be important instruments that would enhance the usual efficacy of supervisory oversight.

Source: Analysis Result, 2022

3.3. Implementation Procedure

The application of INTERDAP in management and pensions is modified in this study. To encourage transparency and clarity in the distribution of pension money, this application will incorporate sharia-compliant features. The Financial Services Authority (OJK), in coordination with the Indonesian Ulema Council, has produced regulations that serve as the foundation for the application of sharia law. Mudharabah, Wakalah, and Hibah is the contracting framework that is used in the operation of this pension fund. Contracts called mudharabah are utilized between pension funds and investors as well as pension funds and investees. The Employer and the Pension Fund are bound by a Wakalah contract. Both the Employer and the Participant are using the Hibah in the meanwhile.

By implementing a sharia fund management pattern, the digital system can make it easier for users who allocate their pension funds to be invested in Green Investment whose instruments can be openly explained in the submitted application.

Table 2. Differences in the Scheme of the Pension Fund System in Malaysia and Indonesia

Malaysia (Employee Provident Fund (EPF))	Indonesia (BPJS Ketenagakerjaan)
<ul style="list-style-type: none"> • National mandatory savings – Private sector • Contribute longer • More careful de-accumulation of assets 	There are no nationally binding rules
Retirement Age: 60 years (Hussein, 2019)	Retirement Age: 56 years
Employee Provident Fund Act 1991	
23% of employee salary <ul style="list-style-type: none"> • 11% employees • 12% ≤ company Formula: $\text{dues percentage} \times \text{work period} \times \text{months} \times \text{last salary}$ Assumption: Total Funds in Retirement Account $23\% \times 28 \times 12 \times 10.000.000 = 772.800.000$ Account I $70\% \times 772.800.000 = 540.960.000$ Account II $30\% \times 772.800.000 = 231.840.000$	3% of employee salary <ul style="list-style-type: none"> • 1% employees • 2% company Formula: $\text{dues percentage} \times \text{work period} \times \text{months} \times \text{last salary}$ Assumption: Total Pension Fund Contribution $3\% \times 28 \times 12 \times 10.000.000 = 100.800.000$ Formula:

			$maximum\ withdrawal \times last\ salary$ Maximum Benefit earned per month $40\% \times 10.000.000$ $= 4.000.000$
“Beyond Savings” Initiative February 1, 2008 → Changes (↑ member financial security) life expectancy ↑, family ties ↓ and medical expenses ↑			
1.	Employee age 55-75 years old	Contribution rate reduced by 50% • $5.5\% \leq$ employees • $6\% \leq$ company	
2.	Employee age 55 years	Basic Savings MYR 120,000 (EUR 24,600)= Rp. 403,719,708.19	The total savings of employees during the retirement deduction is unknown at the end.
3.	Withdrawal options (1 November 2007)	Before: - Monthly payments/withdrawals from savings After: - Flexibility < - Withdraw part of the savings at any time → Prevent members from withdrawing money at once → Not practical in long term financial security → (Research) Withdrawal at once spent within 10 years; life expectancy 75	Maximum withdrawal of 40% of accumulated pension contributions

		<p>→ Accumulated savings are spent too quickly and prematurely</p> <p>→ EPF balance that is not withdrawn at the age of 80 is transferred to the Unclaimed Money Keeper</p> <p>→ Multipurpose savings fund (Withdrawal → housing, Education, medical expenses)</p>	
4.	2 Withdrawal Accounts (January 2007)	<p>Account Savings Account I</p> <ul style="list-style-type: none"> • 70% of monthly contribution → pension financing • Minimum overall withdrawal age: 55 years old/ become incapacitated/ leave the country • Withdrawal delays: (1) resume contributions; (2) withdraw savings dividends/year • January 31, 2008 Savings > MYR 55,000 = Rp. 185,161,268.11 → investment in external fund manager 	Only in the form of a Retirement Account

		<p>(approved by Ministry of Finance)</p> <ul style="list-style-type: none"> February 1, 2008 <p>Only 20% of the balance is >Basic Savings → investment in products from approved investment institutions (43 companies)</p> <ul style="list-style-type: none"> EPF does not cover investment losses in external fund managers <p>Account Savings Account II</p> <ul style="list-style-type: none"> 30% of monthly fee: <ul style="list-style-type: none"> Housing (loans and balance determination) Treatment Education Other goals (age: 50 years) Minimum withdrawal age: 50 years old <p>Withdrawal frequency → Destination (Restriction)</p>	
--	--	--	--

Note: ↑ increasing, ↓ decreasing

Source: Analysis Result, 2022

IV. RESULTS AND DISCUSSION

4.1. Employee Provident Fund (EPF)

A crucial tenet of Malaysia's pension system is the EPF. A wide range of social security purposes is served by it. An employee contribution equal to 23% of their salary is used to fund the EPF, which is managed by the government. One-

eleventh of them (11%) were workers, while one-two-thirds (12%) were employers. The employer may choose to pay a higher rate of contribution than the required minimum of 12 percent. RM290 billion (€59.5 billion) in assets were accumulated by EPF as of September 2007. The majority of the fund's assets are invested in low-risk fixed income instruments like government bonds, loans, and money market products, which have enabled it to grow stably for decades.

Investments in EPF assets are subject to quantitative regulations. Up to 25% of the portfolio should be allocated to domestic stocks, with at least 70% allocated to low-risk fixed-income products. The Ministry of Finance must give its blessing to any foreign investment. The Employee Pension Fund wants to diversify its asset allocation, even more, to justify the fund's expansion and enhance its risk/ return profile. His party is searching for fresh investment opportunities through foreign investment schemes as a result.

4.2. Integrated Pension Fund Information System (INTERDAP)

Applying the INTERDAP System "Integrated Information System for Pension Funds" The purpose is to discover the benefits and information of pension fund data and information processing systems. System application design using SQL Server and Microsoft Visual Basic 6.0 applications has become an integrated system approach (accounting, investment, finance, human and general resources, participation, and management) and excellent pension fund management at PT Angkasa. Supports the principle. Pura II (Persero). When this can be a solution when sending information about pension benefits to employees to explore the pension payment process. To reach employees of PT Ankasapura II (Persero) after the participant, that is, the participant retires.

4.3. Sharia Pension Fund

It is quite likely that entities managing pension funds will implement Sharia. By employing a plan devoid of the ingredients Maysir, Gharar, Riba, Ryswah, and Bathil-all of which are forbidden by Islam-it is complying with this directive. As a result, the donations made by the participants, which raise money, must be invested in Sharia-compliant financial assets. Invest, for instance, in securities compliant with Shariah, i.e. securities of businesses represented by the Jakarta Islamic Index (JII). Sharia investment trust portfolios come in a variety of forms already. Specifically, shariah stocks, shariah investment trusts, shariah bonds, and mudaraba deposits. The investment policy for pension funds managed according to Sharia must follow the rules of that religion. The DSN-MUI Fatwa states that

investments may only be made in justifiable things. The Sharia Pension Fund is needed to manage and invest in a portfolio of Sharia products Giuliani (2017).

The most striking difference between Islam and traditional pension funds lies in the contract. Islamic pension funds use contracts in all transactions, while traditional pension funds do not use contracts in transactions. Contracts that contain sharia pension funds and their uses include:

- a) Bi syarth grant: This agreement governs the payment of contributions by the participant's employer.
- b) Muqayyadah grants: Employers and participants who are paying contributions use both bi syarth grant contracts and muqayyadah grants.
- c) Wakalah: a legal agreement utilized between the employer or participant and the Pension Fund that manages the Sharia Principle-Based Pension Program.
- d) Wakalah bil ujah: a legal document that is used to communicate between an employer or participant and the pension fund that manages the pension program based on sharia principles.
- e) Mudharabah: this term refers to the method through which pension funds collaborate with investment managers to develop pension programs based on sharia principles.
- f) Ijarah: a legal framework utilized by pension funds to coordinate Sharia-compliant pension plans with the help of actuaries, custodian banks, investment consultants, and/or public accountants.

The guidelines for organizing a pension program based on Sharia principles are the Word of God in QS. Al-Hasyr [59]: 18, QS. An-Nisa' [4]: 29, QS. Al-Baqarah [2]: 275, QS. Ali-Imran [3]: 130, QS. Al-Maidah [5]: 1, QS. An-Nisa' [4]: 58, and QS. Luqman [31]: 34. Hadith of the Prophet nar-rated by Abu Hurairah, Nu'man bin Basyir, Muslim from Abu Musa al-Ash'ari, Tirmidhi from 'Amr bin 'Auf, Tirmidhi, Hakim, Atsar Companions, and Qaul Ulama. In addition, there is a Fiqh Rule which states that basically, all forms of muamalah are permissible unless there is an argu-ment that forbids it. All harm (danger) must be removed. The actions or policies of the Imam (government) towards the people must be mashlahat oriented. Based on the Syar'i Standards (AAOIFI), gharar that damages the legality of the contract is the gharar contained in a business contract (mu'awadhat) and which is equated with it, among others, in the form of buying and selling contracts, ijarah,

and sharia. On the other hand, gharar does not damage the legality of the tabarru's contract even though it is dominant, including grants and wills.

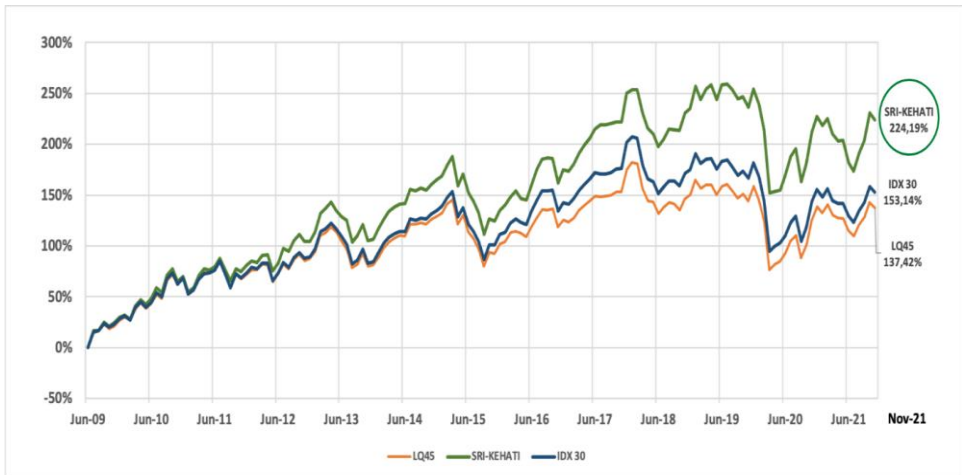
It also pays attention to the DSN MUI Fatwa No. 10/DSN-MUI/IV/2000 concerning Wakalah, DSN MUI Fatwa No. 52/DSN-MUI/III/2006 concerning Wakalah bil Ujrah Agreement on Sharia Insurance and Reinsurance, DSN MUI Fatwa No. 53/DSN-MUI/III/2006 concerning the Tabarru' Agreement on Sharia Insurance and Reinsurance, Results of the study and mudzakaroh conducted between DSN-MUI and IKNB OJK and the Association of Pension Funds on Sharia Pension Funds, and the Plenary Meeting of DSN-MUI.

4.2. Return and Risk Perspective in Green Investment

Numerous varieties of investment are wished for inexperienced initiatives at various tiers of improvement, especially the ones involving smooth technologies and sustainable electricity assets (from new technologies to already extensively deployed technology). It's incorporated. Such projects are available to institutional buyers thru equity (consisting of indexes and mutual price range), fixed earnings (especially inexperienced bonds), and alternative investments (together with personal equity and direct investment via green infrastructure finances). Green bonds are an appealing asset elegance, particularly for institutional buyers interested in socially responsible investments, as maximum pension budgets are searching out low-risk investments that provide a steady move of income adjusted for inflation (SRI) gathering as traders. Notwithstanding interest in those goods, the pension price range continues to allocate most effectively a small component of their belongings (much less than 1%) to such inexperienced property. There are several reasons for this (Della and Stewart 2011).

The benefits of green investment are as follows:

- a) Green Growth is a strategy for attaining several objectives at once that moves Indonesia closer to truly sustainable development.
- b) Offer a workable framework for national development objectives such as East-West integration, food, and energy security, disaster preparedness, and climate change mitigation.
- c) Green Growth encourages goals that benefit the economy, jobs, the underprivileged, and the environment.
- d) Green Growth concepts and methods will help decision-makers assess policies and initiatives more thoroughly so that the economy, society, and environment can all benefit.



Source: Sri-Kehati Index, 2022

Figure 2. Comparison of Performance Stock Index of SRI-KEHATI, IDX 30 and LQ45 in 2009-2021

Based on the return and risk perspective in Figure 2, green investment can be made in the SRI (Sustainable and Responsible Investment) stock index at the Indonesian Biodiversity Foundation (KEHATI) for grants on investment returns in the forestry, agriculture, and marine sectors. History SRI-KEHATI is a United States grant to Indonesia in the form of an Endowment Fund which continues to be managed and its profits are made in the capital market (stocks and bonds). The SRI-KEHATI stock index is the only reference for investment principles that focuses on Environmental, Social, and Good Governance (ESG) or ESG in Indonesia. Four types of portfolios can be used by investors in investing their pension funds, namely: (1) KEHATI Lestari Mutual Fund (RDKL) managed by PT. Bahana TCW Investment Management. Until 2022, 12 companies have joined. Furthermore, there are 3 stock index products based on ESG, namely: (2) the SRI-KEHATI stock index with the 25 best publicly listed companies; (3) ESG Quality 45 IDX (Indonesia Stock Exchange/ BEI) Kehati (ESGQ 45) with 45 selected companies; (4) ESG Sector Leaders IDX Kehati (ESG SL IDX KEHATI) with 48 selected companies representing their fields. Based on the results of time series data taken every June for 13 years from 2009-2021, it was found that historically the SRI-KEHATI index had a better performance than IDX30, Liquid 45 (LQ45), Jakarta Islamic Index (JII), Jakarta Composite Index (JCI), and so on. A performance Index is a statistical measure that reflects the overall price movement of a group of stocks selected based on certain criteria and methodologies and evaluated regularly. Therefore, investors can be optimistic about being able to get income or income from pension fund investment activities in the future.

4.3. Business Model Canvas (BMC)

A strategic management tool is known as the "Business Model Canvas" (BMC) is used to swiftly and clearly describe and express business ideas or concepts. The Pension Fund Application's business model canvas is shown in this table.

Table 3. The New Business Model Canvas (BMC) of Pension Fund

Business Model Canvas (BMC) of TSJE Pension Fund				
⁹ Key partners	⁶ Key activities	¹ Value proposition	⁵ Customer relationships	² Customer segments
*MUI (Indonesian Ulema Council) *OJK (Financial Services Authority) *Website Developers *Apps Developer *Stakeholders *Sharia Bank *DPPK *DPLK	*Website Development and Maintenance *Plate Form Developer *Pension Management	*Syariah Base *Discoverability *Easy Access *Community Development *Transparency *Accountability *Trust	*MPC (Membership, Points, Coupon) *Promo *Customer support: FAQ and service Contact us via website, phone, WA, and email *Social media, blogs, newsletter *Involvement through open source projects *Loyalty bonus	*Employee of the private sector and Government sector
	⁷ Key resources		³ Channels	
	*Customer Trust *Human Resources *Capital Structure *The Experts *Investor *Office Activity		*Appstore *Google Play *Mobile (Smartphones and tablets) *Website	
⁸ Cost structure			⁴ Revenue streams	

<ul style="list-style-type: none"> *Platform Cost - Risk Management fee - System development/Maintenance - Screening fee - Investment Instrument *Company Cost - Operational Cost - Officers - RnD - Salary - Pension Roadmap - Marketing 	<ul style="list-style-type: none"> *Pension Fund *Investment Instrument *Transactional cost *Fees for Additional services *Platform fees and Subscription
<p><i>Note:</i> Value proposition= 1 Value turnover= 2, 3, 4, 5 Value generation= 6, 7, 8, 9</p>	

Source: Analysis Result, 2022

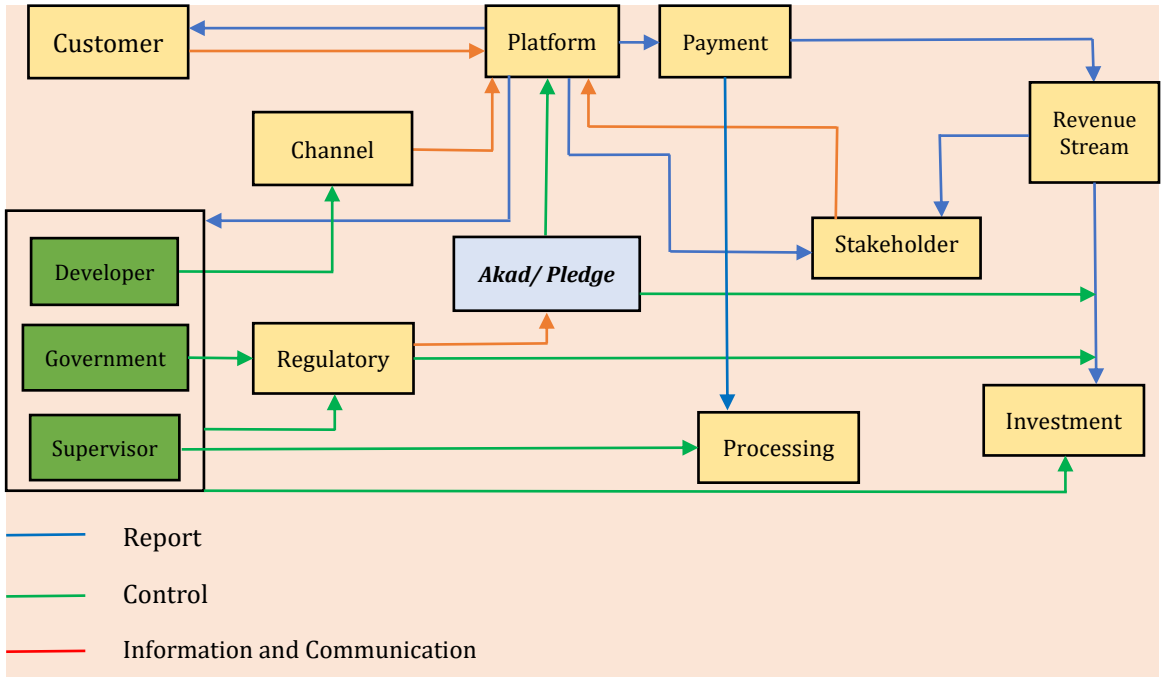
The core activity for the Pension Fund Application development team and very important to carry out is the value proposition. In other words, the main resource is the developer. This application needs a foundation infrastructure for the foundation why customers will be interested in using this application. The next element is to determine the customer segment that will be the target market. In this case, the Customer segments of this research are the employees of the private sector and Government sector who have obtained fixed income and are later expected to become users of this service. Also, channels are a way to be able to convey products to consumers, also called value propositions, which can be conveyed to customer segments if using the right channel. Therefore, the Channels described above are considered to be able to channel this system properly.

The most effective way to interact with consumers and potential customers is through customer relationships. The ways to hook users above that have been described can be considered as an effort to interact effectively with users or potential users. All activities related to business productivity and also related to a product, as well as generating a value proposition are also called key activities. In this stage, the company must explain how to create a business value proposition by carrying out activities so that a product can be better known to the wider community. On the other hand, the revenue stream is income that has been deducted from the costs incurred. This is a very crucial element of the Business Model Canvas (BMC), so it must be managed as much as possible to increase business revenue. Starting from raw materials, and products, to performance, must be used properly.

A partition in the BMC called "Key Resource" comprises a list of planned resources that the company needs to own to realize its value offer. All resources, from HR administration to output prioritize customer trust while supporting it with other factors. One more phrase is "element of Key Partner works as structuring of a product's or another service's flow, having a significant impact on the consistency and continuity of the business over time. Additionally, this important partner can improve the effectiveness and efficiency of the important decisions that have been taken. The business financing structure is the final but no less significant component of this business model canvas. You must be able to manage capital effectively if you want to save more money and reduce your chance of losing money. Additionally, it can guarantee that clients are receiving the proper value proposition. In this project, the cost structure is separated into two categories: firm costs, which are expected to be able to create cash flow in the system, and platform costs.

4.4. Pension Fund Matrics

Pension Fund Application is a subscription-based online solution for managing pension funds. The user will be given information about the Akad/ Pledge that ties this application before being confirmed as an official user. The pension funds that have been automatically deposited through the relevant bank will be disclosed to registered users here. These apps encourage the government and associated institutions to act as consultants and overseers to guarantee top performance throughout the process continuity. The existing system must be updated and improved, according to the developer. Figure 3 below provides a summary of pension fund metrics.

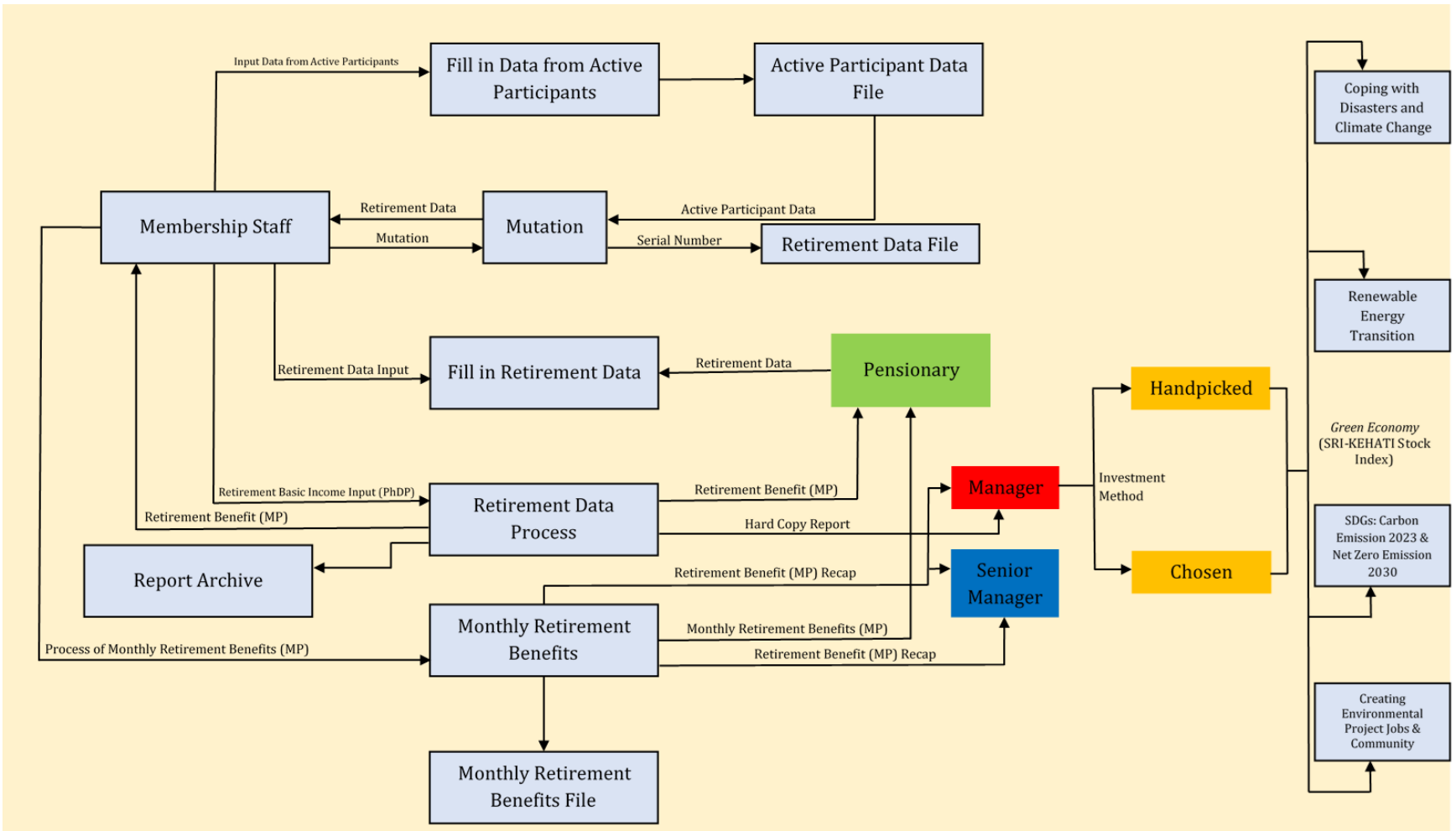


Source: Analysis Result, 2022

Figure 3. The New Pension Fund Metrics

4.5. New Business Model and Strategy of the Triangle Sharia Justice Ecosystem (TSJE) Pension Fund

From the discussion above, what is needed is a strategy to build a system and build infrastructure for business ideas. The discussion in this paper refers to the sharia system so that pensioners receive pension benefits that are managed and applied in a digital system within the sharia corridor supervised by the relevant agency for active participants and transferred to become retirees. Panelists try to map out the business model flow in this pension fund application in Figure. 4 below. It is hoped that the system, work procedures, and everything related to the system are well organized and integrated using sharia-based digital software and that the collected pension funds can be allocated to support the green investment movement in the future.



Source: Analysis Result, 2022

Figure 4. New Business Model and Strategy of the Triangle Sharia Justice Ecosystem (TSJE) Pension Fund

V. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

There are several differences in the management and pension schemes for private employees between Malaysia and Indonesia based on those managed by the government, namely the Employee Provident Fund (EPF) not only functions as a pension fund but is also a multipurpose savings fund that allows withdrawals to be made to finance housing, education, and cost of treatment. Meanwhile, when compared to the management of pension funds at BPJS Employment, there are no binding rules. In addition, there are also differences in pension age determination, and total withdrawal of funds to investment instruments presented in the pension fund management system in Malaysia.

TSJE is a general idea that combines three corners, namely Sharia, Digital, and Green Investment. Digital media is a solution to financial inclusion under the Shariah Act and is believed to promote the creation of transparency in information related to managed pension funds. Following the example of a Malaysian country that has turned its pension fund into a form of investment, this study attempts to present a means of investment in a built digital system. Green investments.

To examine the green investment samples SRI KEHATI index is representative. The SRI-KEHATI index is a stock price representation of 25 issuers selected by considering criteria such as total company assets, price-earning ratio (PE), and free float. This index was formed in collaboration between the Indonesia Stock Exchange and the Indonesian Biodiversity Foundation (KEHATI). SRI stands for Sustainable Responsible Investment. This index is expected to provide additional information to investors who want to invest in issuers that have excellent performance in encouraging sustainable businesses, have environmental awareness, and practice good corporate governance.

To manage the strategy of the big plan business this study implemented Business Model Canvas. It also helps to quickly and clearly describe and express business ideas or concepts, Pension Fund Matric as a description of the flow of system management regulated by TSJE, then New Business Model as a reconstruction of the INTERDAP application that inserts sharia management and includes green investment instruments.

5.2. Recommendation

The limitation of this research is that it is still in the form of a new business model concept and strategy from the Pension Fund financial industry in Indonesia, both in the form of Business Model Canvas (BMC) and Supplier Relationship

Management (SRM) by taking a case study on the INTERDAP system application (Integrated Information on Pension Funds). However, conventionally-based applications recognized that there are still many problems. The pension fund system in Indonesia is also the lowest, far below Malaysia. Therefore, digital, green investment and Sharia-based integration strategies are needed as a solution. Research that can be done in the future is how to make this application real and used by the wider community through collaboration with a reliable IT team. The system provides convenience and speed in the data processing. With the ease of data processing using the system, it must also be accompanied by an increase in the ability of users who use the system. Therefore, it takes a study of the introduction of the system, so that in operating the system the user does not feel confused that he can understand the commands in the system. To get the right form of learning, further analysis of the system is needed.

REFERENCES

- Ahmed, Y. A. (2020). Examining the financial performance of pension funds focused on sectors related to sustainable development goals. *International Journal of Sustainable Development & World Ecology*, 27(2), 179-191.
- Berg, M. (2021). Value Judgments at the Heart of Green Transformation: The Leverage of Pension Fund Investors. *Global Environmental Politics*, 21(3), 77-96.
- Bongini, P., & Cucinelli, D. (2019). University students and retirement planning: never too early. *International Journal of Bank Marketing*.
- Botezatu, N. (2017). Development Opportunities for Non-State Pension Funds in the Republic of Moldova in the Context of Digital Economy. In *Fostering Knowledge Triangle in Moldova: 2017 Conference Proceedings* (pp. 63-69). Academy of Economic Studies of Moldova, Centre for Studies in European Integration.
- Breit, E., & Salomon, R. (2015). Making the technological transition—citizens' encounters with digital pension services. *Social Policy & Administration*, 49(3), 299-315.
- Della Croce, R., Kaminker, C., & Stewart, F. (2011). The role of pension funds in financing green growth initiatives.
- González Páramo, J. M. (2017). Financial innovation in the digital age: Challenges for regulation and supervision. *Revista de estabilidad financiera*. N° 32 (mayo 2017), p. 9-37.
- Huda, F. A., Meitasari, D., & Widayawati, W. (2021). Analisis Daya Saing Ekspor Minyak Atsiri Nilam (Patchouli Essential Oil) Indonesia di Pasar Internasional dengan Negara Brazil, Amerika Serikat, Meksiko, dan Perancis Periode 2001-2018. *Jurnal Ekonomi Pertanian dan Agribisnis*, 5(4), 1069-1085.

- Huda, F. A. (2022). The Use of Simultaneous Equation Model (SEM) in Understanding the Dynamic Relationships Between Economic Openness and Real Disposable Personal Income on Inflation: the Indonesian Experience. *Muslim Business and Economic Review*, 1(1), 87-108.
- Kasri, R. A., Haidlir, B. M., Prasetyo, M. B., Aswin, T. A., & Rosmanita, F. (2020). Opportunities and Challenges in Developing Islamic Pension Funds in Indonesia. *ETIKONOMI*, 19(2), 311-322.
- Khansa, A. Z., & Ferdian, A. (2021). The Effect of Digital Culture on Employee Performance at Telkom Pension Fund. *Asian Journal of Research in Business and Management*, 3(3), 158-162.
- Muminova, E., Honkeldiyeva, G., Kurpayanidi, K., Akhunova, S., & Hamdamova, S. (2020). Features of introducing blockchain technology in digital economy developing conditions in Uzbekistan. In *E3S Web of Conferences* (Vol. 159, p. 04023). EDP Sciences.
- Norman, E., Pahlawati, E. 2021. Sharia Pension Fund Management. *Reslaj: Religion Education Social Laa Roiba Journal*. Volume 3 Nomor 2 (2021) 227-235 P-ISSN 2656-274x E-ISSN 2656-4691. DOI: 10.47476/reslaj.v3i2.349
- Purnamasari, S. D., & Rani, L. N. (2019). Risk Management of DPLK Pension Funds of Sharia Financial Institutions (Evidence from a DPLK Pension Funds of Muamalat Sharia Financial Institutions). *KnE Social Sciences*, 469-491.
- Sun, Y., Yesilada, F., Andlib, Z., & Ajaz, T. (2021). The role of eco-innovation and globalization towards carbon neutrality in the USA. *Journal of environmental management*, 299, 113568.
- Walter, I. (2016). The infrastructure finance challenge. Available at SSRN 2841281.
- Yuliani.M. (2017). Management of Non-Bank Funding Institutions Pension Based on Sharia Principles. *Tanjung Redeb Muhammadiyah College of Economics*.