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## **Constructing A Business Model for Islamic Digital Pension Fund: Depth Think Case Study from INTERDAP and Malaysia**

**Fahmi Alamil Huda<sup>1</sup>, Andiyani Kurnia<sup>2</sup>**

**Indonesian International Islamic University (UIII) Depok<sup>1,2</sup>**

*fahmi.huda@uiii.ac.id<sup>1</sup>, andiyani.kurnia@uiii.ac.id<sup>2</sup>*

### **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.

**Keywords:** Business Model, Digital, Green Investment, Pension Fund, Sharia, TSJE

## INTRODUCTION

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. 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 platform 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, predominantly supporting the movement of 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. In this case, interested in investments that provide a source of later income. Therefore, green investment attracting attention as an asset class. One of the Movements that supports green investment as The Sustainable and Responsible Investment (SRI)-KEHATI stock index is an index that is an indicator of stock price movements on the Indonesia Stock Exchange (IDX). This index uses the principles of sustainability, finance, and good governance, as well as concern for the environment as a benchmark. Currently the SRI-KEHATI Index is the only reference for investment principles that focus on ESG issues in the Indonesian capital market.

Based on the explanation above, the formulation in this study creates an ecosystem called the Triangle Shariah Justice Ecosystem as a form of advice in reconstructing the business model of pension fund management. Among the corners of the triangle, there is a technology base, it creates investment instruments and is managed according to sharia.

## LITERATURE REVIEW

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  $4.75\% \times$  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 x 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).

## RESEARCH METHOD

### Triangle Sharia Justice Ecosystem (TSJE)

The qualitative, case study and observational research methods were 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:

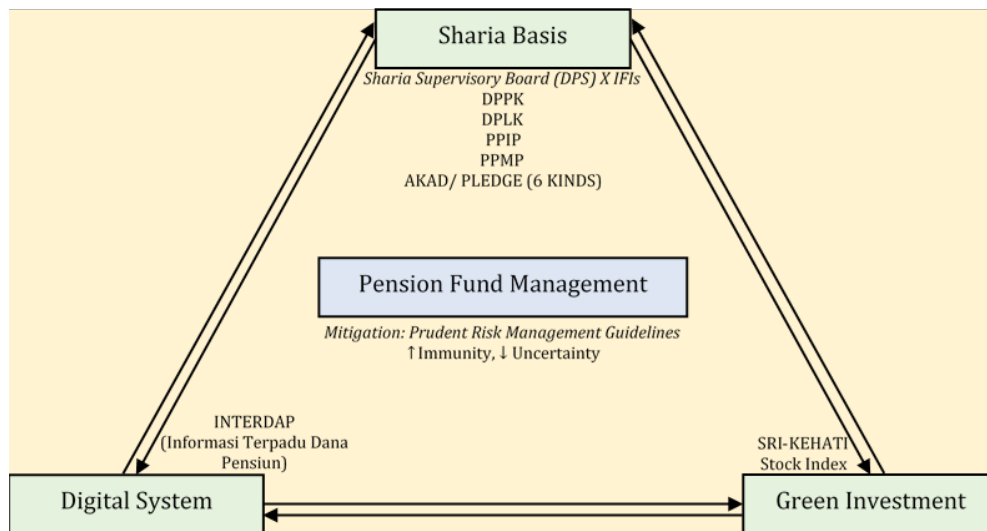
- a) The Financial Services Authority or OJK regulates the implementation of Sharia pension funds in Regulation Number 33/POJK.05/2016 concerning the Implementation of Pension Programs Based on Sharia Principles.
- b) Sharia pension funds are defined as pension funds whose management is guided by Islamic 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:

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



Source: Analysis Result 2022

### 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 have 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 Indonesia, green investment policies, investment and funding needs, banking support for investment	Green Investment Directions and Policies	The creation of environmentally friendly technology, the 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: Data Processed 2022

## Pension Fund in Malaysia

The Employee Provident Fund (EPF), the national mandatory savings scheme for individuals working in the Malaysian private sector, is based on the Employee Provident Fund Act 1991. The pension scheme is fully funded and provides members with defined contribution type benefits. EPF is managed and financed by the public through contributions of 23% of employee salaries. Of these, employees contributed 11% and employers 12%. Employers are required to contribute at least 12%, but can voluntarily pay a higher rate. (Asher 2001)

To increase the financial security of EPF members, several changes, known as the “Beyond Savings” initiative, were introduced effective February 1, 2008. The reasons for the reforms are similar to those in most other Asia Pacific countries: increased life expectations, general weakening of family ties and rising medical costs, among other things. The first key change is that the contribution rate changes when the employee reaches the age of 55. The employee is still responsible for the EPF contribution (and this continues until the age of 75), but the employer’s share is reduced to 6% and the employee to 5.5% of the total wage. Both are free to contribute a higher percentage above the minimum rate. (Asher 2001)

Second, the Basic Savings amount was introduced. It stipulates that plan members must have a minimum amount of savings in an account that is appropriate for their age. By the age of 55, package members are expected to have accumulated at least MYR 120,000 (EUR 24,600). (Asher 2001)

Simply put, the following table is presented as an illustration of the comparison between the government-managed pension system in Malaysia (EPF) compared to the policy of one of the pension fund management institutions in Indonesia under the government, namely *BPJS Ketenagakerjaan*.



**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"> <li>National mandatory savings – Private sector</li> <li>Contribute longer</li> <li>More careful de-accumulation of assets</li> </ul>	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	3% of employee salary
<ul style="list-style-type: none"> <li>11% of employees</li> <li>12% ≤ company</li> </ul>	<ul style="list-style-type: none"> <li>1% of employees</li> <li>2% company</li> </ul>
<p>Formula:</p> $\text{dues percentage} \times \text{work period} \times \text{months} \times \text{last salary}$	<p>Formula:</p> $\text{dues percentage} \times \text{work period} \times \text{months} \times \text{last salary}$
<p>Assumption:</p> <p>Total Funds in Retirement Account</p> $23\% \times 28 \times 12 \times 10.000.000 = 772.800.000$	<p>Assumption:</p> <p>Total Pension Fund Contribution</p> $3\% \times 28 \times 12 \times 10.000.000 = 100.800.000$
<p>Account I</p> $70\% \times 772.800.000 = 540.960.000$	<p>Formula:</p> $\text{maximum withdrawal} \times \text{last salary}$
<p>Account II</p> $30\% \times 772.800.000 = 231.840.000$	<p>Maximum Benefit earned per month</p> $40\% \times 10.000.000 = 4.000.000$

“Beyond Savings”  
(↑ member financial security)  
*life expectancy ↑, family ties ↓, and medical expenses ↑\**  
(Asher 2001); (Thillainathan 2000)

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**Employees aged 55-75 years old**

The contribution rate was reduced by 50%

1.
    - 5.5% ≤ employees
    - 6% ≤ company
- 

**Employee age 55 years**

2. 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.

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Withdrawal options (1 November 2007)

**Before:**

- Monthly payments/withdrawals from savings

**After:**

- Flexibility
  - Withdraw part of the savings at any time
3. → 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
    - Accumulated savings are spent too quickly and prematurely
    - EPF balance that is not withdrawn at the age of 80 is transferred to the Unclaimed Money Keeper
    - Multipurpose savings fund (Withdrawal → housing, Education, medical expenses)
- 

Maximum withdrawal of 40% of accumulated pension contributions





## 2 Withdrawal Accounts (January 2007)

### Account Savings Account I

- 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 (approved by Ministry of Finance)

- February 1, 2008

Only 20% of the balance is >Basic Savings

Only in the form of a Retirement Account

4. → investment in products from approved investment institutions (43 companies)
  - EPF does not cover investment losses in external fund managers

### Account Savings Account II

- 30% of the monthly fee:
  - Housing (loans and balance determination)
  - Treatment
  - Education
  - Other goals (age: 50 years)
- Minimum withdrawal age: 50 years old

Withdrawal frequency → Destination (Restriction)

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\*↑ *increasing*

↓ *decreasing*

Source: Analysis Result 2022



## RESULT AND DISCUSSION

### 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.

### 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 narrated 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 argument 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 Ujah 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 mudzakarah conducted between DSN-MUI and IKNB OJK and the Association of Pension Funds on Sharia Pension Funds, and the Plenary Meeting of DSN-MUI.

## Green Investment Performance

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).

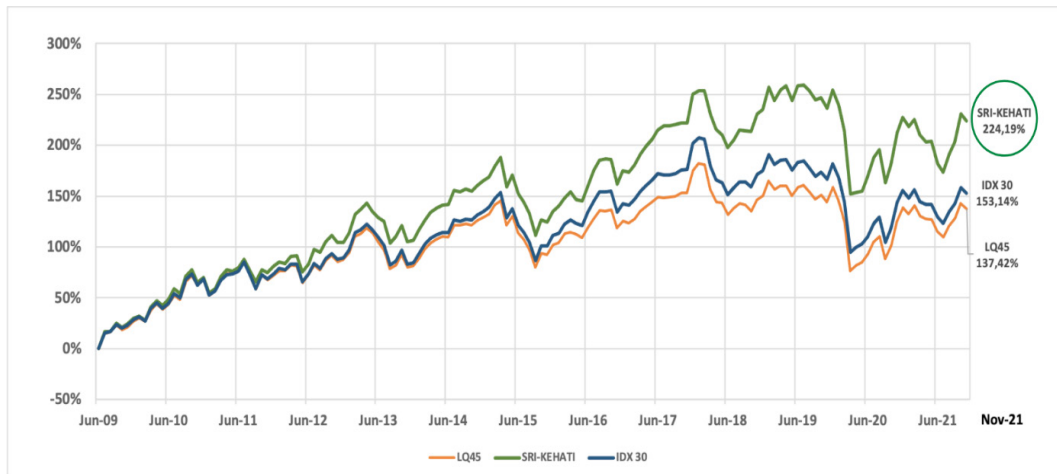
The benefits of green investment are as follows:

- 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 under-privileged, 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.

From the INTERDAP system that was built based on the conventional system, we strive to integrate the system based on sharia. This idea emerged based on the implementation of the pension system implemented in Malaysia, known as the Employee Provide Fund (EPF) as one of the countries with the best pension fund management in Southeast Asia.



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



Source: Indeks Sri-Kehati 2022

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.

### Business Model Canvas (BMC)

A strategic management tool 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					
<sup>9</sup> Key partners	<sup>6</sup> Key activities	<sup>1</sup> Value proposition	prop-	<sup>5</sup> Customer relationships	<sup>2</sup> Customer segments
*MUI (Indonesian Ulema Council)		*Syariah Base		*MPC (Membership, Points, Coupon)	
*OJK (Financial Services Authority)	*Website Development and Maintenance	*Discoverability		*Promo	
*Website Developers		*Easy Access		*Customer support: FAQ and service Contact us via website, phone, WA, and email	*Employee of the private sector and Government sector
*Apps Developer	*Plate Form Developer	*Community Development			
*Stakeholders	*Pension Management	*Transparency		*Social media, blogs, newsletter	
*Sharia Bank		*Accountability			
*DPPK		*Trust		*Involvement through open source projects	
*DPLK				*Loyalty bonus	





<sup>7</sup> Key resources	<sup>3</sup> Channels
*Customer Trust	*Appstore
*Human Resources	*Google Play
*Capital Structure	*Mobile (Smart-phones and tablets)
*The Experts	*Website
*Investor	
*Office Activity	
<sup>8</sup> Cost structure	<sup>4</sup> Revenue streams
*Platform Cost	
- Risk Management fee	
- System development/Maintenance	
- Screening fee	
- Investment Instrument	*Pension Fund
*Company Cost	*Investment Instrument
- Operational Cost	*Transactional cost
- Officers	*Fees for Additional services
- RnD	*Platform fees and Subscription
- Salary	
- Pension Roadmap	
- Marketing	

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.

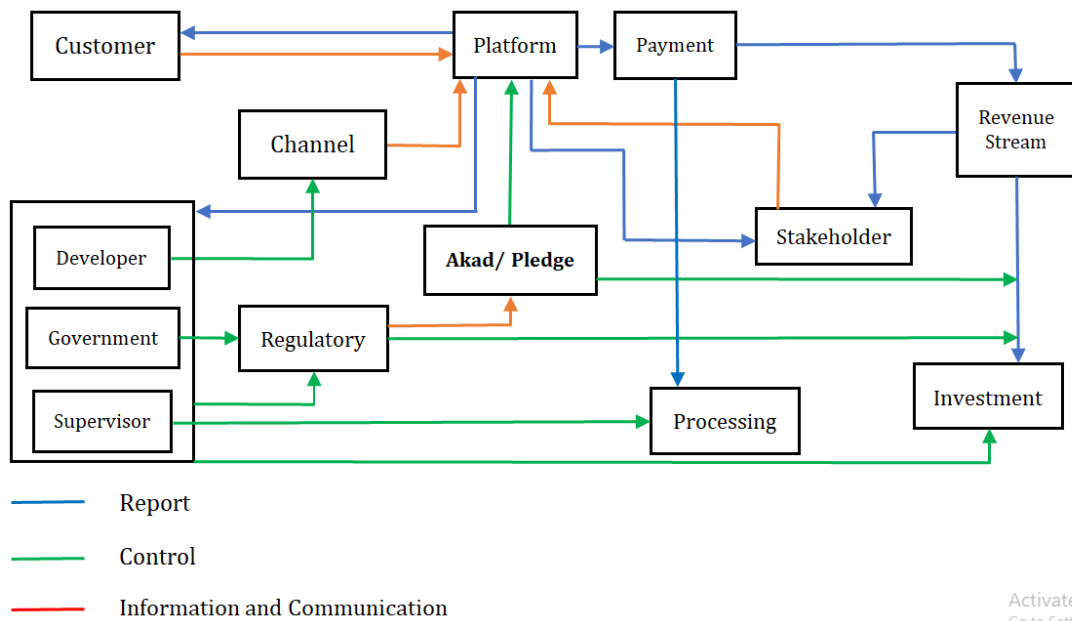
### **Pension Fund Matrics**

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.

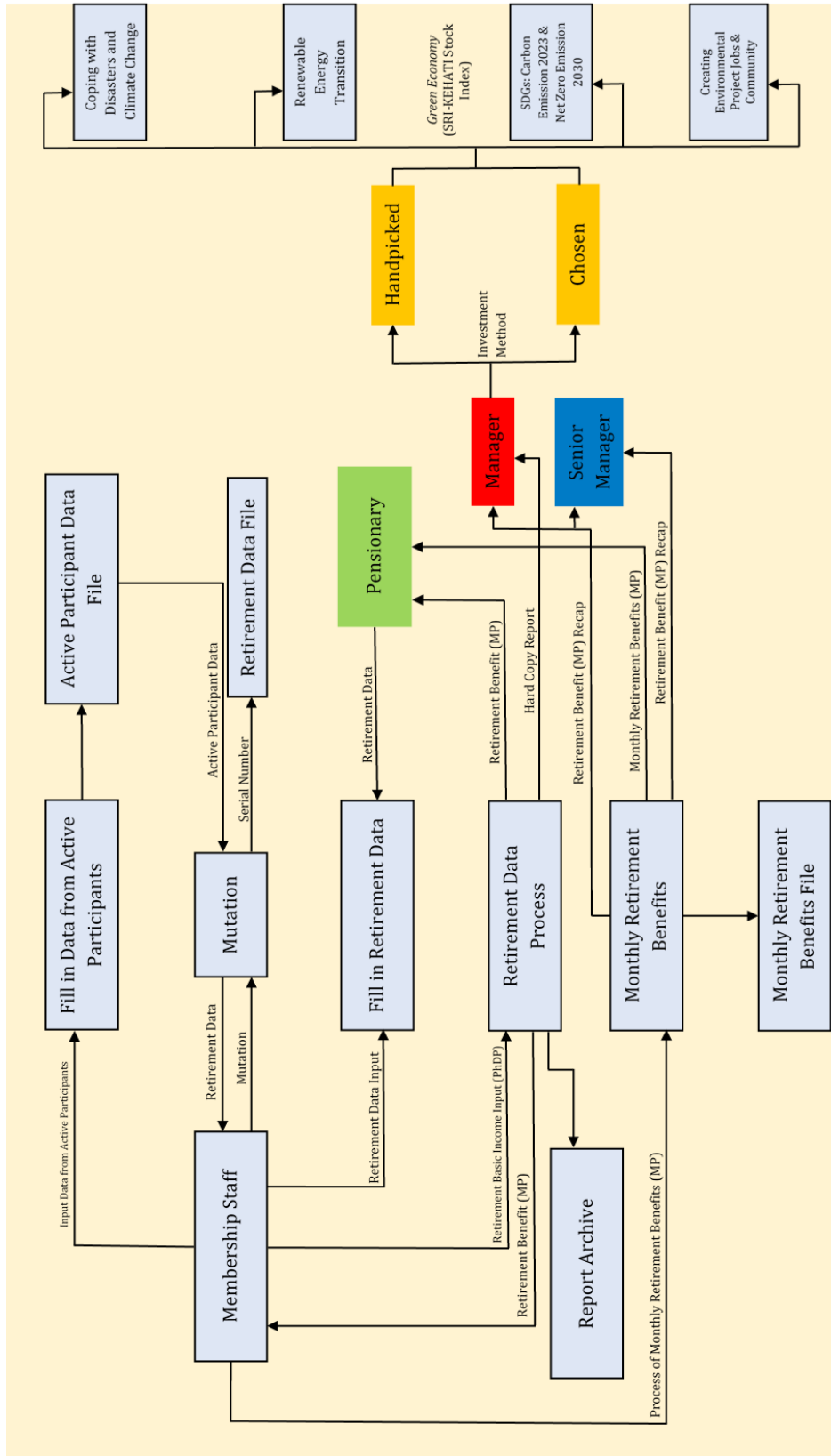
**Figure 3.**  
**The New Pension Fund Metrics**



### 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.

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



Source: Analysis Result 2022



## CONCLUSION

. There are several differences from 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, 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 as a 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, and have environmental awareness and practice good corporate governance.

To manage the strategy of the big plan business this study implemented Business Model Canvas. It is 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.

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