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Financial Management of Indonesian Hajj Against the Yield by Using a Dynamics System Model

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ABSTRACT

This research aims to analyze the financial management of Indonesian hajj on yield using a dynamic system model and determine and simulate the return obtained with the expenditure so that the hajj funds remain safe. In addition, the purpose of this research is to provide input on policy strategies to the BPKH in increasing hajj financial yields. The method used in this research is dynamic systems modeling. The resulting model structure formulation is illustrated by a causal loop diagram and a stock-flow diagram. The results obtained were then simulated, and model validation was carried out using AME and AVE. Operational data used in this study uses time-series data. This study's population or several samples are annual historical data during the research period. In modeling the dynamic system of hajj financial management on yield, it is divided into 2 (two) sub-models, namely the economic sub-model and the social sub-model. Meanwhile, to find out and simulate the yield obtained with the yield expenditure, 3 (three) scenarios were made, namely the existing, moderate, and optimistic scenarios. From the simulation results, it can be seen that making changes to portfolio policies with an optimistic scheme in the form of placements in Islamic Banks with a maximum of 20% and 80% investment and increasing the initial deposits of pilgrims from IDR 25 million to IDR 30 million in 2022 is a government policy intervention that produces optimal yield.

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1. INTRODUCTION

The organization of the Hajj is interesting to discuss because the Hajj has dimensions of worship, economy, and activities whose implementation is carried out from the homeland to the holy land. For this reason, the entire community is interested in the success of the implementation of the pilgrimage in the context of guidance, service, and protection as mandated by the Law on the implementation of the pilgrimage. [1] Indonesia is recorded as the country that sends the largest hajj delegation among all countries worldwide. The number of pilgrims continues to increase, and the economic situation appears to be very influential on participation in the pilgrimage. The increase in the number of pilgrims will undoubtedly lead to the accumulation of funds from the pilgrims managed by the hajj organizer.

In the management/investment model of hajj funds, since the hajj funds have been managed by the Ministry of Religion and are currently managed by BPKH, there is a gap phenomenon in the form of the number of pilgrimage fees paid by pilgrims with the overall cost of hajj departure costs. In the hajj season in 2019 or 1440 Hijriyah, the number of subsidies that the government must bear for each pilgrim who departs is approximately 100% of the number of hajj fees paid by pilgrims [2].[3] The hajj fee in the 2019 M or 1440 Hijriyah pilgrimage season is Rp35,235,602 even though the total cost of organizing the Hajj (BPIH) is Rp70,000,056 per pilgrim. The total cost of organizing the Hajj, both direct costs (costs borne by pilgrims) and indirect costs (subsidized costs from the yield of Hajj fund management) from 2011 to 2019 are as follows:

Years	Direct Cost (BPIH)	Indirect Cost	Total
2011	30,375,756	7,300,000	37,675,756
2012	34,484,478	8,800,000	43,284,478
2013	34,708,464	14,100,000	48,808,464
2014	38,277,129	17,900,000	56,177,129
2015	36,024,703	24,700,000	60,724,703
2016	34,639,363	23,353,011	57,992,374
2017	34,890,312	26,896,478	61,786,790
2018	35,235,602	28,633,220	63,868,822
2019	35,235,602	34,764,454	70,000,056

Table 1. Costs of the Hajj for Indonesian Pilgrims

The theoretical gap in the management of Indonesian haj funds is that there is a gap between investment provisions based on Government Regulation No. 5/2018, which requires BPKH to reduce placements in Islamic banking and shift to other Islamic investment instruments in the hope that investment yields are higher than placements in Islamic Banks. The gap is that there is still a small number of Islamic investment instruments in Indonesia, affecting BPKH's discretion in investing its funds. So that this will affect the amount of yield on the investment made. In addition, a reduction in the placement of funds in Islamic Banks will certainly affect third-party funds, especially Hajj funds. Regarding the still small gap in the number of Islamic investment instruments in Indonesia, it is also listed in the OJK road map related to the 2015- 2019 Islamic capital market, where it is stated that the market share of Islamic products consisting of Islamic stocks, Sukuk and Islamic mutual funds is still relatively small compared to capital market products as a whole. This condition is due to the lack of issuance of Islamic capital market products and the number of investors investing in these Islamic capital market products. Therefore, it is necessary to encourage the growth of the Islamic capital market both in terms of supply and demand.[4] Research by Rongiyati, Indonesia, needs to learn from the management of Hajj funds in Malaysia, which successfully manages Hajj savings and places them in productive investments but still pays attention to risk and reasonable, transparent, and accountable investment management. Based on Law No.34 /2014 Article 53 (1), members of the executive board and the supervisory board are jointly

and severally responsible for losses due to the placement and negligence in its management. Due to the provisions of this Law, the management of Indonesian Hajj is still limited to low-risk instruments (Islamic banking and Sukuk). From the research above, there is a gap where on the one hand, Indonesia must learn from Malaysia to manage Hajj investment, but on the other hand, there is joint responsibility for losses arising from the placement and financial investment of Hajj. As we know, Malaysian Hajj investment is currently many instruments that are high risk but high return, such as stocks (equity).[5]

2. Methodology

The methodology used in this research is a system dynamics model. Operational data used in this research uses time-series data. The population in this research is all annual historical data during the study period from 2014 - 2019, both data on placement of hajj funds in Islamic banking and placement of hajj funds in investment instruments in the form of Islamic securities and sharia effect, gold, direct investment, and other investments, as well as yield and expenditure. This study does not use a sample but uses a population because all the data analyzed is population data in secondary data. This study uses secondary data obtained from the Ministry of Religion's haj fund reports for the period 2014-2016 and the published reports of the Hajj Financial Management Agency (BPKH) for the 2017-2019 period. In addition, data is also obtained from literature research from various scientific publications or other sources related to hajj financial management.[6] Data processing in this study was carried out in the following ways:

1. The data obtained are grouped into respective tables made annually. The data in the table are the variables under study. [7]
2. Then create a causal loop diagram. In technical development, this cause and effect diagram will be used as the basis for making SFD (Stock Flow Diagram)
3. The data is entered in the stock-flow diagram using the Powersim Studio 10 application, the results of the simulation will be compared with the actual data in each table. Before the stock-flow diagram model simulation is made, dynamic system stages are first made, such as identification of system requirements, customer formulation, and system identification. 4. Model validation is carried out so that the model can be scientifically accountable.

The statistical tests commonly used are: 1) Absolute Mean Error (AME), where the deviation (difference) between the average (mean) of the simulation results against the actual value, 2) Absolute Variation Error (AVE), namely the deviation of the variance value. Simulation against actual. The acceptable deviation limit is <10%.

To

AME = [(Si – Ai)/Ai].....**(1)**
Si =Si N, where S = simulation value
Ai = Ai N, where A= actual value
N= interval of observation time
AVE = [(Ss-Sa)/Sa].....**(2)**
Ss = ((Si-Si)2 N)=deviation of the simulation value
Sa = ((Ai-Ai)2 N) = deviation of actual value

prove that the hypothesis is true or not, a model simulation will be carried out from each hypothesis that is made. Based on the framework and theory used, and referring to the problem formulation, a dynamic hypothesis can be developed as follows :

1. From a dynamic system simulation using Stock Flow Diagrams (SFD) related to the financial management of Indonesian hajj on yield, validation testing of each variable will be carried out in both the economic sub-model and the social sub-model. As well as testing of policy interventions, both exclusive policies, moderate policies, and favorable policies. This test shows that the level of model variable validation and the stimulus factor in the model structure can produce optimal yield. The optimistic policy intervention is expected to have the best validation from the simulation.
2. From the dynamic system testing and simulation, the projection yield obtained will also be seen, which is compared with the yields spent within a simulated timeframe so that the pilgrims' funds remain safe. The yield of hajj funds will be optimal if there is a reallocation of hajj funds from Islamic Banking to Islamic investment instruments and to increase hajj managed funds by increasing pilgrims' initial deposits (direct cost).

3. From the policy simulations that will be carried out, be it simulations with existing, moderate, and optimistic conditions, the results will be used to provide input to the government (BPKH) in developing policy strategies to increase the yield of hajj financial management. The policy simulation will be made by comparing the yield with the expenditure.

2.1 Background Theory

Abhimanyu, Hajj philosophically shows the totality of religion for Muslims. The implementation of the pilgrimage is a series of religious worship that has been guaranteed in the 1945 Constitution of the Republic of Indonesia. Therefore, the state is responsible for implementing the pilgrimage as mandated in Article 29 paragraph (2) of the 1945 Constitution of the Republic of Indonesia. Muneeza, the implementation of the pilgrimage, is an amalgamation of religious and social dimensions. The religious dimension means that Muslims are expected to become more pious after performing the pilgrimage. At the same time, the social dimension created from the cost of Hajj incurred by every Muslim embeds a vast economic potential. [8] After the issuance of Law no. 34/2014 concerning Hajj Financial Management. In this law, it is explained that the accumulated amount of hajj funds can increase yield so that it can be used to support the implementation of quality hajj pilgrimages. Therefore, with the establishment of the BPKH, it is hoped that the management of Hajj finance can be more trusted with a transparent and modern financial system to increase rationality and efficiency through investments that consider optimal yields and apply sharia principles to improve the welfare of the people. The law then became the basis for Presidential Regulation Number 110 /2017 concerning the Hajj Financial Management Agency (BPKH) and was followed by Government Regulation number 5 /2018 on Hajj Financial Management. Furthermore, based on Presidential Regulation No. 110 of 2017, Article 2 is formed BPKH, a public legal entity independent and accountable to the President through the Minister. According to Regulation of the Minister of Religion of the Republic of Indonesia number 13/2018, prospective regular Hajj pilgrims pay an initial BPIH deposit to a BPKH account of IDR 25,000,000.00 through BPS BPIH to obtain a validation number. Meanwhile, the validation number is the BPIH initial deposit transaction proof number issued by the Ministry of Religion. According to the Regulation of the Minister of Religion of the Republic of Indonesia, number 6 /2010, concerning the procedures and requirements for Hajj pilgrim registration, the initial deposit for the special Hajj fund is USD 4,000. [9] Wijaksono in 2018 BPKH transferred the placement of Hajj finance of Rp17.5 trillion to Rp19 trillion from the portion of placements in Sharia Banking to Sharia Investment Managers (MI). The opening of the tap for investing in Hajj funds for the mutual fund industry began with the issuance of PP No. 5/2018 concerning the implementation of Law no. 34/2014 regarding Hajj financial management. PP No.5 of 2018, which regulates the hajj fund investment portfolio as much as 50% in banking instruments through Islamic commercial banks and sharia business units (UUS) for three years after BPKH was formed, after investment in Islamic banking is a maximum of 30%. Then as much as 20% is invested directly, then 5% is invested in gold, and another 10% is invested. The rest is invested in securities. In accordance with BPKH regulation No.5/2018. Hajj financial investment aims to increase the practical value of funds managed by BPKH. The choice of financial or investment instruments to be used is selected according to sharia principles by considering security, prudence, benefit value, and liquidity aspects.[10] Tarif System dynamics is a methodology for studying and managing complex feedback systems like someone knows them in business and other social systems. The word system has been applied to all kinds of situations, while the word feedback here is a tool to describe a process of differentiation. The basic principles in developing dynamic systems are causal relationships and time dynamics. The causal relationship is the basic thing in simplifying the way of thinking. The Casual Loop can be built by illustrating the relationship of system variables. The feedback loop is the most distinctive feature of system dynamics compared to other approaches to understanding complex systems. In further understanding, the feedback loop is expressed in the concept of stock (stock) and flow (flow). The concept of stock and flow explains that the components of the system are accumulated, namely stock, and some are flowing, namely flow. With this concept of stock and flow, feedback in a system can be understood and simulated. Moreover, with this stock concept, the concepts of delay and nonlinearity will also emerge—the concept of feedback, stock, and flow. Delay and nonlinearity are the premises for recognizing patterns of interrelationships between components of a phenomenon in system dynamics modeling.[11] Forester in the book industrial dynamics, models have been widely accepted to study complex phenomena. Models can be classified into several groupings, one of which is static and dynamic. A static model is a model that describes a relationship that does not change over time. Dynamic models are models that interact and experience changes over time. Muhammadi, dynamic behavior is a combination of feedback loops that explain complexity. The more loops represent the more variables (elements) and parameters (time), which means the more detailed and dynamic. In line with the development of the need for modeling with system dynamics, various software was developed as tools so that the use of system dynamics methodology, as one of the modeling techniques, becomes more efficient. Currently, the software is developing that makes it easier for users to build models and for

simulations and various model sensitivity tests. System dynamics assistive software available on the market include Dynamo, Venison, Powersim, I think, and Stella. Avianto, Powersim is a software for simulating system dynamics models. So Powersim is only a tool (tools) to simplify the simulation of system dynamics models. It should be emphasized here that using Powersim software does not necessarily mean using a system dynamics methodology. System dynamics can be simulated with various types of software, including spreadsheet software, for example, Excel.[12]

2.2 Previous Studies

Wijaksono carried out previous research related to Hajj financial management regarding BPKH's investment strategy and direction, types of investment made by BPKH, BPKH investment performance, BPKH risk management, and examples of Hajj financial management in various countries. Muneeza also researched Hajj management in this study that the issuance of law no 34/2014 is a breakthrough in the management of haj funds in Indonesia, where returns from deposits and investments will be used in three ways: first, to subsidize the cost of the pilgrimage to Mecca; second, to cover operational costs, and finally, to return to the virtual account of the prospective pilgrims. This research also concludes that Tabung Haji has a more sophisticated investment portfolio, varying from banking products, Sukuk, equity, and small businesses. In Indonesia, the hajj fund is placed in Sukuk, and BPKH aims to diversify its investment portfolio. Indonesia can learn from the successful journey of Tabung Haji in Malaysia to improve their hajj fund management to have greater financial returns and, at the same time, facilitate economic development and improve social welfare at the national level. Related to the management of Hajj in Indonesia, research was conducted by Mubarak, which states that the management of Indonesian hajj funds through the BPKH institution is by the applicable laws and regulations.[13]

Meanwhile, research by Jumena and Jumali states that the initial deposit of BPIH pilgrims to the account of the Minister of Religion through BPS BPIH is to use the wadi'ah yad al dhamanah contract. Furthermore, research was conducted by Nidjam, which states that the costs of organizing Hajj consist of components of direct costs and indirect costs. However, the accountability of the information still needs to be improved, especially about the information on indirect cost components.[14]

Mufraini also conducted research that concluded that the confidence of prospective pilgrims in depositing the hajj funds to Islamic bank (BPS BPIH) has a great effort in determining the level of operational stability of the bank. Investor confidence may construct formatively while operational stability by CAMEL proxy may construct reflectively. The composite formative factor of investor confidence is the pilgrimage fund that is compared with third-party funds. Fikri concluded that BPKH as the hajj finance faces exchange rate risk due to fluctuation of IDR against USD and SAR, increasing demand for SAR along with the increasing number of hajj funds every year, and dynamic Islamic hedging on hajj funds has not been implemented even though the fatwa and Bank Indonesia regulations concerning Islamic hedging were already issued. Based on the research results on the 25% of hajj funds in the Islamic bank (BUS), dynamic Islamic hedging is recommended based on the appropriate time and premium value, as well as the period and amount of hajj funds that can result in maximum cost savings. In the end, the people's money can be saved by saving a large number of funds which are supposed to be spent. [15] Munira and Shinta Data was obtained through literature review and interview. This preliminary study concludes that legally, the management of financial pilgrimages by Law No. 34 /2014 concerning Financial Management of Hajj. Alfiyanti Hajj Financial Management in the Maqāṣid Sharī'ah Perspective The contract factor between prospective pilgrims as the owner of BPIH funds with BPKH as the Hajj financial manager. Markum concluded that the Hajj has enough importance in the eyes of Muslims in Indonesia to improve the hajj management system because the system generates more income, and people are focused enough to facilitate the hajjis and generate the incomes. Moreover, the SCM (supply chain management) system also plays a role in improving the hajj management system.[16]

Setyawan concluded that Portfolios in the moderate scenario provide a return of 14,70% and have a risk level of 3,22% per year with a 30% deposit composition, 60% Sukuk, and 5% in stocks and the real sector. Kurniadi Deposit of Hajj funds accumulated due to the limitation of the waiting list and based on management conducted by the Government (BPKH). Then direct and indirect policy, hajj operational determination, financial accounting report Hajj, and the subsequent investment of Hajj funds can be the basis of capability in legal form in the pool of fund of hajj funds.[17]

3. Results and Analysis

Firmansyah there are six groups of variables that affect system performance, namely:

1. The desired output is the goal of the studied system to see the success of the model being built. The Indonesian hajj financial management model's desired goal is to produce optimal yield while still

paying attention to controllable risks; yields will be used for subsidies for pilgrims (indirect costs), operational costs for the results of waiting for hajj pilgrims through virtual accounts and benefits programs.

2. Controlled input is a factor-driven model to optimize the desired output. Included in this variable are placements in Islamic banks and investments in the suitable instruments;
3. uncontrolled input, which is an input in the model that significantly affects the model's performance because it is difficult to control, so it needs to be considered in making it as an assumption in the model
4. Government/regulator regulatory input, as a limitation in the model, especially regulations related to the placement of hajj funds
5. Unwanted output, as an output that is not in line with expectations, such as the resulting yield is smaller than the value of the subsidy, so that the waiting list is used to subsidize the departing pilgrims. (6) Management evaluation in the management of Haj funds. Firmansyah

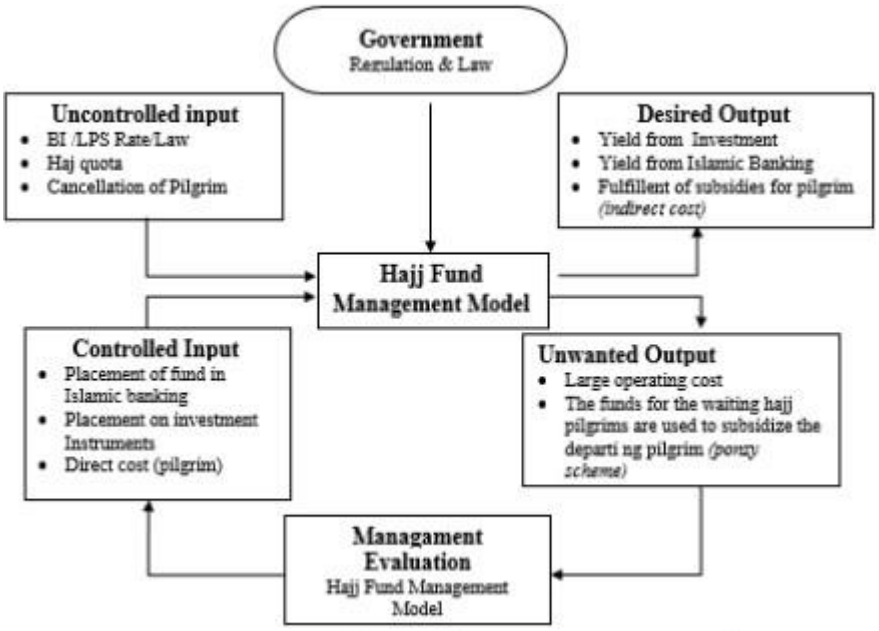

Figure 1. Variables Affecting System Dynamic Performance

The description of the Black Box on the variables that affect system dynamics performance can be described with a causal loop diagram to see the relationship between variables in the system. From the causal loop in Figure 2, it is known that in the dynamics system, yield is greatly influenced by the amount of hajj managed funds, the results of placements in Islamic banks, and the results of investments in investment instruments.[18]

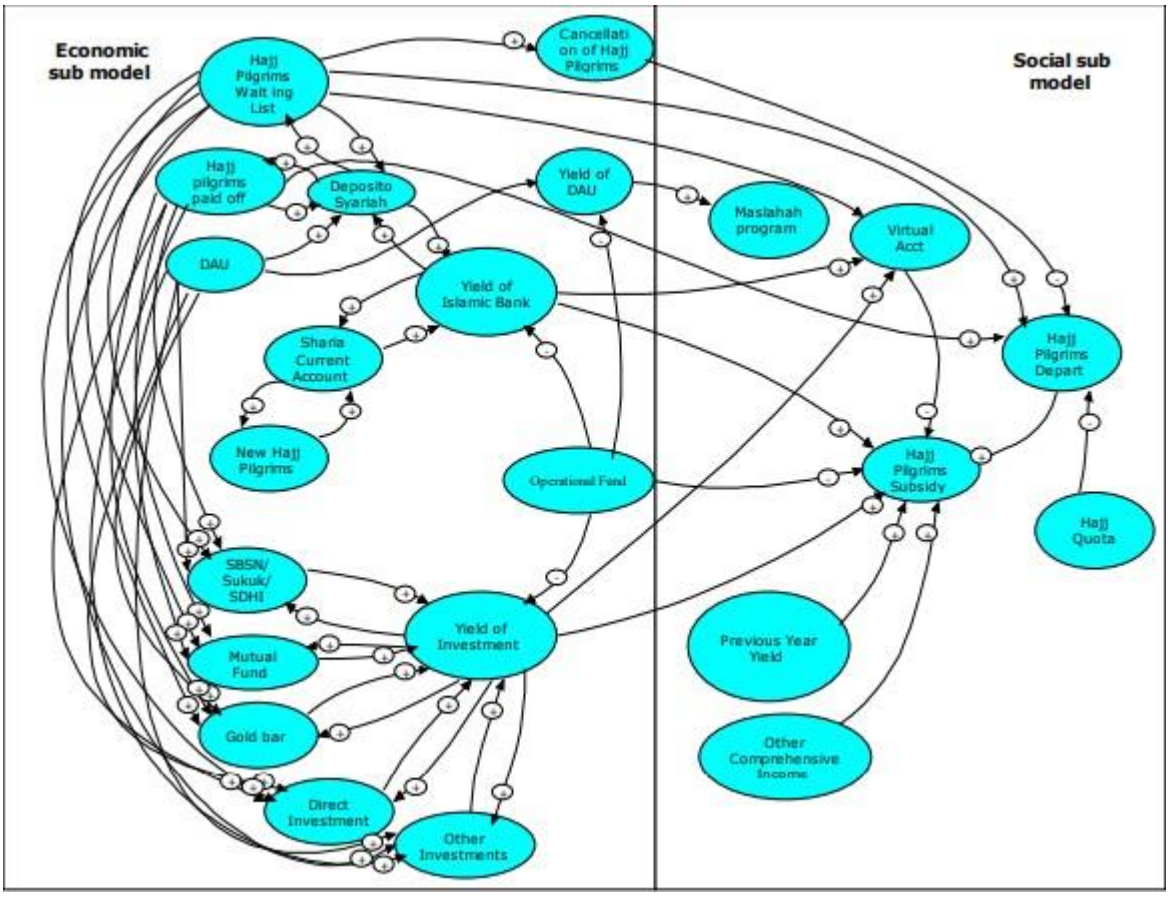

Figure 2. Causal Loop Diagram

Yield is strongly influenced by the profit-sharing of hajj funds placement in Sharia Banks through sharia deposit and giro products as well as the results of placement of hajj funds which are invested in instruments in the form of Sukuk / SBSN / SDHI, mutual funds, direct investment, indirect investment, and gold. Optimal yield is needed for subsidies for pilgrims (indirect costs) in addition to virtual account funds, operational costs, and benefit programs. In the simulation and modeling for the financial management of Indonesian hajj on yield using the system dynamics model, this will be divided into two sub-models, namely the economic submodel and the social sub-model. After deducting canceled and departing pilgrims, the economic sub-model includes the number of regular and pilgrims, both waiting and paid hajj pilgrims and new pilgrims, after deducting canceled and departing pilgrims. After the data on the number of pilgrims is entered in the Stock Flow Diagram system, then the initial deposit amount of Hajj funds and the payment fee is also entered in order to obtain the number of hajj funds that the government will manage (Ministry of Religion and BPKH) into various types of placement instruments both placement in Islamic Banks through Sharia Time Deposit and Sharia Giro products or in investment instruments such as SBSN / Sukuk / SDHI and Sharia Mutual Funds. From the data up to 2019, placements, indirect investment instruments, and other investments are not counted because there is no data on pilgrims' funds placed on these instruments. The amount of profit-sharing from each Islamic deposit product and the rate of investment instruments uses the current data rate. From the placement of the hajj funds, yields are generated in the form of profit-sharing from placements in Islamic Banks and yields from investment returns from placements in investment instruments. The calculation of the amount of yield is obtained from the sum of the yields of each product on the placement in Sharia Banks and the sum of the yields of investment instruments. The economic sub-model also calculates operational costs in collecting hajj funds, placing hajj funds, socialization costs, advertising, employee salaries.[19]

3.1 Validation Result of Social and Operational Sub Model

The AME validation value is 0,0018% from the social and operational sub-models, and the AVE is 0,005%. The simulation results show a good level of validation because both performance validations, both AME and AVE, are below 10%.

From the yield simulation, both from the economic sub-model as well as the social and operational sub-model using existing policies, in 2019, the proportion of hajj funds placement in Islamic banks was 43,7%, and investment was 56,3% so that when the simulation was carried out until 2030, it would use the same proportion. Whereas in its implementation, the placement of Hajj funds will use the proportions according to government regulation no 5/2018 wherein the government regulation it is stipulated that after 3 (three) years the BPKH is formed, the Hajj financial expenditures in the form of placement of Islamic banking products are at most 30% (thirty percent) of total placement of Hajj funds. Related to this, it is necessary to conduct a policy simulation in the form of a model scenario through controlled input so that the simulation results are closer to the truth.[20]

4. RESULTS AND DISCUSSION

4.1 Validity test

This research was conducted based on the aim of analyzing the financial management of Hajj in Indonesia on yield by using a dynamic system model to find out what variables are the stimulus factors in the model structure that can generate optimal yield returns. The purpose of this study is also to find out and simulate the yield obtained with expenses so that the hajj funds remain safe and there is no Ponzi scheme, namely the taking of the principal funds (in this case, the pilgrims' deposits) to subsidize the departing pilgrims. In addition, the purpose of this study is to provide input to the government (BPKH) in developing policy strategies in increasing the yield of Hajj financial management. Based on the analysis and results of data processing carried out, it can be concluded the following:

In research on the financial management of Hajj in Indonesia, the yield is carried out using a dynamic system model and analyzed using the Powersim Studio 10 data processing application. The structural formulation of the resulting model is described by a causal loop diagram and a stock-flow diagram. The results obtained were then simulated and validated using AME and AVE. In the dynamic system model of Hajj, financial management on yield is divided into 2 (two) sub-models, namely the economic sub-model and the social sub-model. The economic sub-model itself is divided into 3 (three), namely the value of the benefits of hajj financial management at Islamic banks, BPS/BPIH participating banks, and the value of the benefits of hajj financial management on investment instruments and the total yield obtained. While the social and operational sub-models are subsidies for the departure of pilgrims (indirect costs), profit sharing for pilgrims through virtual accounts owned by pilgrims. In the economic sub-model simulation, the total yield, Islamic banks, and yield from investment have good AME and AVE validation values because both AME and AVE performance validations are still below 10%. Based on the simulation on the social and operational sub-models, which are the distribution of the total yield derived from the financial management of Hajj in Indonesia, it also shows a good level of validation because both AME and AVE performance validations are below 10%. The change in the portfolio of Hajj fund placements from Islamic banks to investment is one of the stimulus factors in the model structure that has succeeded in increasing the total yield of Hajj funds. Changes in the reallocation of the Hajj fund placement portfolio following government regulation no 5/2018 is the right strategy to increase the yield of Hajj funds.

To find out and simulate the yield obtained with the expenditure so that the Hajj funds remain safe and there is no Ponzi scheme, a structural formulation of the Hajj financial management model for yields is made by changing the criteria with 3 (three) scenarios, namely the existing scenario, the moderate scenario, and the optimistic scenario. Scenario changes are made to placements in Islamic banks, placements in investment instruments, and hajj fees charged to pilgrims. The existing scenario is a condition with no change or policy intervention. Changes in the scenario or policy intervention on the placement of Hajj funds in Islamic banks with a moderate scenario where starting in 2020 the placement of Hajj funds in Islamic Banks is a maximum of 30%, and an optimistic scenario where starting from 2022, the placement of Hajj funds in Islamic Banks is 20% and an increase in deposit fees pilgrims from previously IDR 25 million to IDR 30 million. From the simulation of policy interventions that were carried out and then simulated, it can be seen that changes in the scenario of reducing the placement of Hajj funds in Islamic banks will cause the total yield from Islamic banks to show a minor trend.

Meanwhile, the policy changes for the placement of hajj funds in investment instruments with a moderate scenario where starting in 2020, the number of placements in investment instruments is 70%

(including additional allocations from Islamic banks). The Optimistic scenario where starting in 2022, the placement of funds in investment instruments is 80 % (including additional allocations from Islamic banks) shows that the change in the scenario of adding Hajj funds to investment instruments from moderate and optimistic simulations exceeds the total existing benefits, this proves that the allocation of funds with the current yield generated by investment instruments makes the total benefits increase. Policy changes to increase the initial deposit fee for Hajj pilgrims in an optimistic scenario wherein 2022 an increase in initial deposit from IDR 25 million to IDR 30 million and a fixed initial deposit in 2020 (moderate scenario) as well as carrying outplacement and Hajj scenarios in Islamic and Investment Banks by The changes in criteria that have been made and sensitivity tests have been carried out show a ratio value of 2,1 (greater than 2) which illustrates that an optimistic scenario can be an option in Hajj financial management to obtain optimal yields so that Hajj funds remain safe and there is no Ponzi scheme, namely the withdrawal of funds. The principal (in this case, the pilgrim deposit) subsidizes the departing pilgrims.

Regarding input to the government (BPKH) in the development of policy strategies in increasing the yield of Hajj financial management, from the simulation results, it can be seen that changing portfolio policies in the form of placements in Islamic banks with a maximum of 20% and 80% investment and increasing the initial deposit of pilgrims from IDR25 million to IDR30 million in 2022 which is an optimistic policy scenario, which is a government policy intervention that may be carried out in addition to increasing the accumulation of hajj funds that the government can manage (BPKH) as well as to maintain the concept of the category of capable pilgrims (istitho'ah) so that it is not completely dependent on from government subsidies. In addition, the initial deposit of Hajj pilgrims of IDR 25 million has also been enforced for quite a long time, namely following the Regulation of the Minister of Religion (PMA) no 6 / 2010.

5. Research Limitations

The limitation of this research lies in the limited benefit value expenditure data, considering that the Hajj Financial Management Agency (BPKH) was only established on July 26, 2017, so the publication of financial statements has only been carried out two times, namely 2018 and 2019. In addition, the limitations of the research are also limited. This only simulates the amount of placement allocation in Islamic Banks and Investment Instruments (according to PP no 5 of 2018) and increases the amount of Hajj fund management through an increase in the initial deposit. This study does not simulate other scenarios such as an increase or decrease in profit sharing/return or an increase in the cost of pilgrims who will depart (deposit in total). In addition, the model simulations carried out have not taken into account the decline in registered pilgrims and the delayed departure of pilgrims in 2020 and 2021 due to the COVID-19 pandemic.

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