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## STATE-OWNED ASSET AS AN UNDERLYING ASSET FOR INDONESIA GOVERNMENT ISLAMIC SECURITIES

**Iga Trisna Nurma Sari**

Master of Accounting Program, Faculty of Economics and Business, Universitas Indonesia

[igatrisna.ns@gmail.com](mailto:igatrisna.ns@gmail.com)

**Chaerul D. Djakman**

Master of Accounting Program, Faculty of Economics and Business, Universitas Indonesia

[cdjakman@gmail.com](mailto:cdjakman@gmail.com)

# STATE-OWNED ASSET AS AN UNDERLYING ASSET FOR INDONESIA GOVERNMENT ISLAMIC SECURITIES

*Iga Trisna Nurma Sari*<sup>1</sup>

*Chaerul D. Djakman*<sup>2</sup>

Master of Accounting Program, Faculty of Economics and Business,  
Universitas Indonesia

## ABSTRACT

This study aims to analyze and formulate a recommendation to improve the process of state-owned assets' use as underlying assets for Indonesia's government Islamic securities (Surat Berharga Syariah Negara/SBSN) issuance. This study uses theoretical frameworks for governance, risk, compliance theory, and public sector data management. This study uses soft system methodology (SSM). Data collection is done through document review and in-depth interviews. Results of the study formulate three roots definition in the problematic situations: government agencies' roles and performance management, identification and managing state-owned assets, and usage of state-owned assets management information system. Therefore, the recommendations to improve this process are defining performance indicators, improving all entity roles, defining the standard operational procedures, updating the data regularly, also developing and optimising state-owned asset management information system usage.

**Keywords:** SBSN, soft system methodology, state-owned assets, sukuk, the underlying asset

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<sup>1</sup> First author's email: [igatrisna.ns@gmail.com](mailto:igatrisna.ns@gmail.com)

<sup>2</sup> Second author's email: [cdjakman@gmail.com](mailto:cdjakman@gmail.com)

## 1. INTRODUCTION

Balibek (2017) revealed that several Muslim-majority and non-Muslim countries had issued sukuk. The government issues sukuk to meet financial needs, diversify investors, promote financial inclusion goals, and affirm the country's status as a financial center. In Indonesia, the government has started using Indonesian government Islamic securities or sovereign sukuk as one of the financing instruments in the State Budget since 2008, after issuing Law Number 19 of 2008 concerning 'Surat Berharga Syariah Negara' (SBSN). The Directorate of Sharia Financing (2010) explains that the issuance of SBSN requires the existence of an underlying asset. The function of the underlying assets is as the actual transaction basis for the issuance of SBSN. This is the central aspect that distinguishes sukuk from debt securities.

Laila (2019) explains that optimizing the role of the government is very important in identifying state assets that can be used as underlying assets for sukuk issuance. Caution is needed in identifying the state's assets so that they can be approved as underlying assets. Asyhari (2017) explained that state-owned assets have an essential role in the structure of the issuance of SBSN. The state-owned assets as the underlying asset are the subject of the transaction that provides the validity of the sharia aspect of the sukuk product. Regarding the importance of assets, Balibek (2017) stated that the limited assets that comply with the requirements and can be used as the basis for issuing sukuk will limit the number of sukuk issued. So, the government must carefully consider the availability of the number of its assets in the planning process for the issuance of sukuk. This importance of assets in the issuance of SBSN illustrates that the process of determining assets as the basis for issuing sukuk requires reliable asset data.

Total of SBSN underlying assets until February 2021 amounted to Rp1,673.77 trillion. From that number, the proportion of SBSN underlying assets consisted of state-owned assets by 46%, projects by 50%, and services by only 4%. This value indicates that the proportion of projects and state-owned assets are used significantly as underlying assets of SBSN.

The Ministry of Finance carries out SBSN issuance . The responsible unit that leads SBSN issuance is the Directorate General of Budget Financing and Risk Management (DGBFRM). For SBSN issuance with underlying assets in state-owned assets, DGBFRM coordinates with the Directorate General of State Assets

Management (DGSAM). Currently, DGSAM has the authority to manage state-owned assets, including the management of state-owned assets as the basis for issuing SBSN. The increasing value of state-owned assets shows that these can potentially meet the demand for underlying assets of SBSN, which is projected to increase continually in the future (Puspitarini, 2017).

Furthermore, the results of Puspitarini's research (2017) show that using assets administration data as the basis for determining underlying assets is the right strategy, as long as DGSAM can pay attention to the factors of weakness and threats. Although data on the administration of state-owned assets shows that the potential values of state-owned assets as the underlying asset of SBSN are high, attention needs to be taken when choosing the state-owned assets to be used as the underlying asset because the approval is carried out by the House of Representatives. Furthermore, there are various concerns with the management of assets as SBSN assets that need to be addressed and explored so that the process of using the assets can run effectively and efficiently.

Audit reports of the Financial Reports of Central Government Financial Statements and State General Treasurer Financial Statements from 2017 to 2020, which are generated by the Supreme Audit Institutions, showed several problems, such as the process of determining the underlying assets for the issuance of SBSN did not use the latest data and values of state-owned assets, there is no regulation on the mechanism for updating the fair value of SBSN assets, there is no regulation about the value of assets which will be used as SBSN assets if there is a difference in value between the state-owned assets management information system and assets identity card so that the determination of assets as the basis for the issuance of SBSN is considered not entirely adequate. Moreover, the results of legal due diligence of the 2020 SBSN issuance show that there are no state-owned assets categorized into group I, the assets group that can be directly used as the underlying assets for SBSN issuance. However, most proposed assets are categorized into group II, which has to be completed with supporting documents. The rest assets are categorized into group III, the assets group that does not meet the requirements so that it cannot be used as an underlying asset for the issuance of SBSN.

Various studies have been carried out to analyze state-owned assets and SBSN issuance. Sudrajat (2011) stated that the more government sukuk issued, the better the governance of state-owned assets. Rosyidah (2015) describes that the issuance of SBSN has influenced the state-owned assets, which are used as the underlying

assets. The government is trying to maximize the recording of the assets and manage the asset database that is still abandoned and has no ownership documents. The results of Puspitarini's research (2017) show that the strategy of using state-owned assets administration data as the basis for determining underlying assets will be the right strategy, as long as DGSAM can pay attention to factors of weakness and threats.

This research gives perspective differently. This study analyzes the process of using state-owned assets as the underlying asset for SBSN after the government decided to use administration data of assets. So that the problem regarding the administration data in the process of using state-owned assets for SBSN issuance is analyzed in more detail. This research focuses on answering the question "How to improve the use of state-owned assets as an underlying asset for the SBSN issuance?". The goal is to improve the process and ensure that there will be enough assets that meet the SBSN underlying assets requirements in the future.

This research was conducted using a soft systems methodology (SSM) because the problems in using state-owned assets as the underlying asset for the issuance of SBSN are complex. In addition, the process involves various parties or actors who are interconnected and influence each other. Checkland and Poulter (2006) in Hardjosoekarto (2012) suggest using a modified SSM cycle, which consists of four stages: the finding out stage, the modeling stage, the using model to structure debate stage, and the defining/taking action stage. Using a modified SSM cycle, this research is expected to provide an overview of the problems and provide input in the planning process for using the state-owned assets as SBSN underlying assets. Furthermore, the data quality of the proposed assets, which will be utilized as the underlying asset for SBSN, is expected to improve in the future and be produced through a more effective and efficient procedure.

Following this introduction, a brief literature review of governance, risk, compliance, public sector data management, sukuk, and state-owned assets is given in this research. The third and fourth sections provide the research method and the organization profile. In the fifth section, the improvement process of using state-owned assets as an underlying asset for the issuance of SBSN is discussed. Next, the research concludes with the conceptual models, which are considered to improve the process of using state-owned assets as the underlying asset of SBSN.

## 2. LITERATURE REVIEW

### 2.1. GOVERNANCE, RISK, AND COMPLIANCE

Each entity needs to consider the principles of governance, risk, and compliance (GRC). Figure 1 explains the frame of reference for integrated GRC. In the GRC concept, internal policies are the main factors that support governance. While external rules will encourage the principle of compliance, the entity's risk appetite is the main element of risk management. The core subjects of GRC are governance, risk management, and compliance. GRC has four primary components, namely strategy, process, technology, and human resources. Racz et al. (2010) define GRC as an integrated, holistic approach to organization-wide governance, risk and compliance, ensuring that an organization acts ethically correctly and follows its risk appetite, internal policies and external regulations through the alignment of strategy, processes, technology and people, thereby improving efficiency and effectiveness.

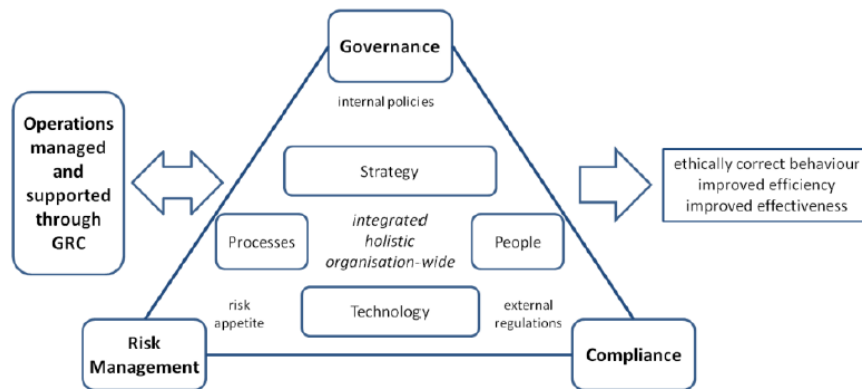


Figure 1 GRC Concept

Source: Racz et al. (2010)

GRC Forum Indonesia (2020) has compiled a Guide to Achieving the GRC Excellence Model as a guideline for improving GRC implementation. In addition to the private sector, the GRC advantage model is also intended for the public sector. The ideal conditions to be achieved in this excellence model are learning, adaptive, innovation, and continuity. This ideal condition is reflected in the components of excellence, namely process, people, and tools, with the criteria shown in table 1 below.

**Table 1 Criteria of GRC Excellence Model**

Components	Criteria
Process (process and capabilities)	<ol style="list-style-type: none"> <li>1. Dissemination of information and communication in a transparent, relevant, reliable, and timely manner.</li> <li>2. Superior and sustainable learning and innovation.</li> <li>3. Effective governance with adequate structure and task definitions.</li> <li>4. Effective risk management and considered in a sustainable business strategy.</li> </ol>
People (human resources and competencies)	<ol style="list-style-type: none"> <li>1. Development of reliable and integrity human resources.</li> <li>2. Continuous knowledge improvement and effective performance measurement.</li> <li>3. Appropriate award for performance and remuneration.</li> </ol>
Tools (methodology and information systems)	<ol style="list-style-type: none"> <li>1. Information systems support the decision-making process effectively.</li> <li>2. An effective monitoring system to monitor objective deviations and new threats.</li> </ol>

Source: GRC Forum Indonesia (2020)

Vicente & Mira Da Silva (2011) explain that governance determines the organization's performance, while the focus is to ensure that the policies are adequate, implemented, and followed. Risk management enables organizations to predict and avoid risk by reducing the likelihood of events that are not expected to occur. Furthermore, Vicente & Mira Da Silva (2011) describe the influence between governance integration and risk management:

- a. The stated goals and objectives should be considered in risk identification, adopting a top-down approach, and avoiding an expensive and ineffective bottom-up approach.
- b. Reporting and dashboards enable real-time consolidation of critical information. These can increase stakeholder trust.
- c. The level of risk appetite must be determined collaboratively so that the decisions regarding performance and governance will consider risk aspects.

The relation between the three GRC subjects (governance, compliance, and risk) according to Vicente & Mira Da Silva (2011) are: risk categorization is used to develop audit schedules and priorities; and policies are reviewed and revised to conform to and consider external regulations, standards, and audits, which affect policy management.

## 2.2. PUBLIC SECTOR MANAGEMENT

Milner (2000) in Heeks (2006) argue that data in e-government systems is fundamental for the public sector to function correctly. However, e-government systems still have problems with data quality, which can even weaken the overall functioning of government. Data errors can occur at various stages in the information cycle, whether processing, storing, producing, or transmitting data.

Such errors will result in inaccurate or unreliable data output. This will result in weak decision-making and action.

Heeks (2006) explains that the causes of data quality problems are hard problems and soft problems. Information technology problems are classified as complicated problems. Overcoming the complex problems in data quality is usually done with general controls that affect the entire system in the organization and application controls relating to individual systems. Meanwhile, human problems are classified as soft problems. To overcome the soft problems and improve data quality, the key is to enhance all actors' perceptions and motivations to achieve the organisation's goals and objectives.

### **2.3. SUKUK**

The Accounting and Auditing Organization for Islamic Financial Institutions in Laila (2019) defines sukuk as "a certificate of equal value representing an undivided share in the ownership of the tangible asset, usufruct and services or (in the ownership of) the assets of particular projects or special investment activity". Latham & Watkins LLP (2020) explained that the main principles in the sukuk structure must comply with sharia principles, as follows: charging or receiving interest (*riba*) is prohibited; the sukuk assets underlying must be sharia-compliant; uncertainty (*gharar*), speculation (*maysir*) and exploitation of ignorance (*jahl*) are things that are not allowed in sukuk. Laila (2019) shows that sukuk is considered a safe financial instrument because it requires having real underlying assets. In Indonesia, Islamic government securities are called 'Surat Berharga Syariah Negara' (SBSN). Law Number 19 of 2008 concerning SBSN, SBSN is defined as state securities issued based on sharia principles, as evidence of the share of participation in SBSN assets in rupiah and foreign currencies.

SBSN is securities issued by the government based on sharia principles, so there are supporting transactions that make a certain number of assets as the basis for issuance, called the underlying asset or SBSN asset. Asyhari (2017) explains that state-owned assets as the underlying asset is the subject of the transaction that provides the validity of the sharia aspect of the sukuk product. Laila (2019) explains that optimizing the role of the government is very important in identifying state-owned assets in the sukuk issuance process. Indonesia has many assets that can be used as sukuk underlying assets. However, to use these assets, it is necessary to obtain approval from the House of Representatives, so caution is needed in



identifying these assets. It represents that the approval of the use of state-owned assets as an underlying asset is an essential factor in the issuance of SBSN.

In relation between sukuk and governance, Hasan (2009) explains that effective governance within the Islamic framework is a concern in the Islamic finance business, which protects the interests of all interested parties. In line with this, the nature of sukuk that must comply with sharia and a higher level of risk and return makes sharia governance necessary to improve management efficiency (Sary & Nanggolan, 2020). Management has an additional task of directing and supervising the suitability of Islamic financial targets and instruments, including sukuk. In sharia governance, internal controls must be implemented correctly to ensure that the organization's objectives are complied with the Islamic perspective and increase the long-term profitability of all interested parties.

#### **2.4. STATE-OWNED ASSETS**

In accordance with Government Regulation Number 27 of 2014, as amended by Government Regulation Number 28 of 2020, state-owned assets are all assets purchased or obtained at the expense of the State Budget or derived from other legitimate acquisitions. The state-owned assets management is based on functional principles, legal certainty, transparency, efficiency, accountability, and value certainty. State-owned assets management consisted of planning and budgeting; procurement; use; utilization; security and maintenance; valuation; transfer; extermination; disposal; administration; development, supervision, and control.

The use of state-owned assets as an SBSN asset is closely related to the administrative activities of state-owned assets. The state-owned assets administration is a series of activities that include bookkeeping, identifying, and reporting, aiming to create orderly administration and management. State-owned assets administration objects are classified into current assets, fixed assets, other partnership assets with third parties, intangible assets, and fixed assets discontinued from use.

In state-owned assets reporting activities, ministries/government agencies consolidate the state assets reports from their working units. They are starting from work units to the ministry level. The state assets reports are submitted semiannually and annually. The ministries/government agencies submit the state assets reports to the state assets manager (DGSAM) to be consolidated into state assets reports for the central government level.

## **2.5. THE USE OF STATE-OWNED ASSETS AS SBSN UNDERLYING ASSET**

Grubisic (2009) reveals that the absence of reliable information on public assets can hinder determining asset values, budgeting asset management activities, and evaluating the performance of public asset portfolios. So assets are managed only on a reactive basis. In the issuance of government sukuk, the asset database is vital because assets are used as underlying. So the process of identifying and determining complied assets, as underlying, requires reliable asset data. The use of state-owned assets as the underlying asset for SBSN is regulated in Law Number 19 of 2018 concerning SBSN and Minister of Finance Regulation Number 205/PMK.08/2017 concerning the Use of State Property as a Basis for SBSN Issuance.

The state-owned assets that can be used as the basis for issuing SBSN are assets in the form of land and/or buildings, other than land and/or buildings. The state-owned assets that have been determined as the basis for SBSN issuance are referred to as SBSN assets. Even though a state-owned asset has been designated as an SBSN asset and used as the underlying SBSN, the state-owned assets can still be used by ministries/government agencies. Comply with Minister of Finance Regulation Number 205/PMK.08/2017, state-owned assets which are being used as the underlying asset for SBSN cannot be transferred and/or written off. The transfer or the disposal of assets can only be carried out if there is an obligation under the laws and regulations or severe damage or obsolescent, including due to force majeure conditions. If there is a transfer or disposal of assets determined as SBSN assets, it must be replaced with other assets that meet the criteria. The replacement state-owned assets must have value at least the same as the assets being transferred and/or written off.

A state-owned asset can be used as an underlying asset for SBSN if it at least meets the requirements: has economic value; is in proper condition; is not the primary tool of the weapon system; is not in dispute, and is not being used as an SBSN asset. In addition, to meet these requirements, state-owned assets can be used as an SBSN asset if the asset has never been submitted as an SBSN asset before; and/or it has completed its use as an SBSN asset in the previous period. The number of SBSN underlying assets must be at least (minimum) the same as the number of SBSN to be issued. If the SBSN assets are less than the number of SBSN issuances, then the SBSN sharia principles are considered to have not been fulfilled.

### 3. RESEARCH METHODS

This study uses soft systems methodology. Checkland and Poulter (2006) in Hardjosoekarto (2012) define the soft systems method as:

"SSM is an action-oriented process of finding out problematic situations from real everyday life. SSM users carry out learning that starts from identifying situations to formulating and taking action to remedy the problematic situation. The learning process occurs through an organized process in which real situations are explored, using intellectual tools that allow for directed discussion, called many purposeful activity models built on a number of pure worldviews."

This study is an SSM with a variant of SSM (c) to deal with problem-solving interests (Mckay & Marshall, 2001), specifically problems in the process of using state-owned assets as the basis for issuing SBSN. The four stages of SSM in this research framework are as follows (shown in figure 2):

1. The first step: finding out

The analysis is carried out using the components of governance, risk, compliance, and data quality issues. In this stage, data and information are obtained through document studies and interviews with the person in charge of the use of state-owned assets as the underlying asset for SBSN at DGSAM, DGBFRM, and government agencies. Then intervention analysis, social analysis, and political analysis were carried out. These analyses are used to understand problematic situations in the real world. So that further, a rich picture is prepared and describes the complex situation in the process of using state-owned assets as the underlying asset for SBSN issuance.

2. The second step: modelling

The next step is defining the root definition (relevant system to the problem) and testing the selected root definition. Then, for each root definition, a conceptual model is arranged. Each conceptual model consists of activities that are connected to formulate problem-solving.

3. The third step: using a model to structure debate

In this stage, a comparison between the conceptual model and the real-world situation is made. The comparison is used as a material for discussion with the problem owner to improve the problem-solving formulation. Discussion or interview is conducted with representatives of DGSAM. It discusses the root definition and its conceptual model. The discussion is performed to determine

whether the proposed activities are systematically desirable and culturally feasible.

4. The fourth step: defining or taking action

After obtaining more views, the recommendations can be improved either by deleting, adding, or adjusting the proposed activities in the conceptual model in each RD. But the recommendation implementation phase is carried out by the problem owner.

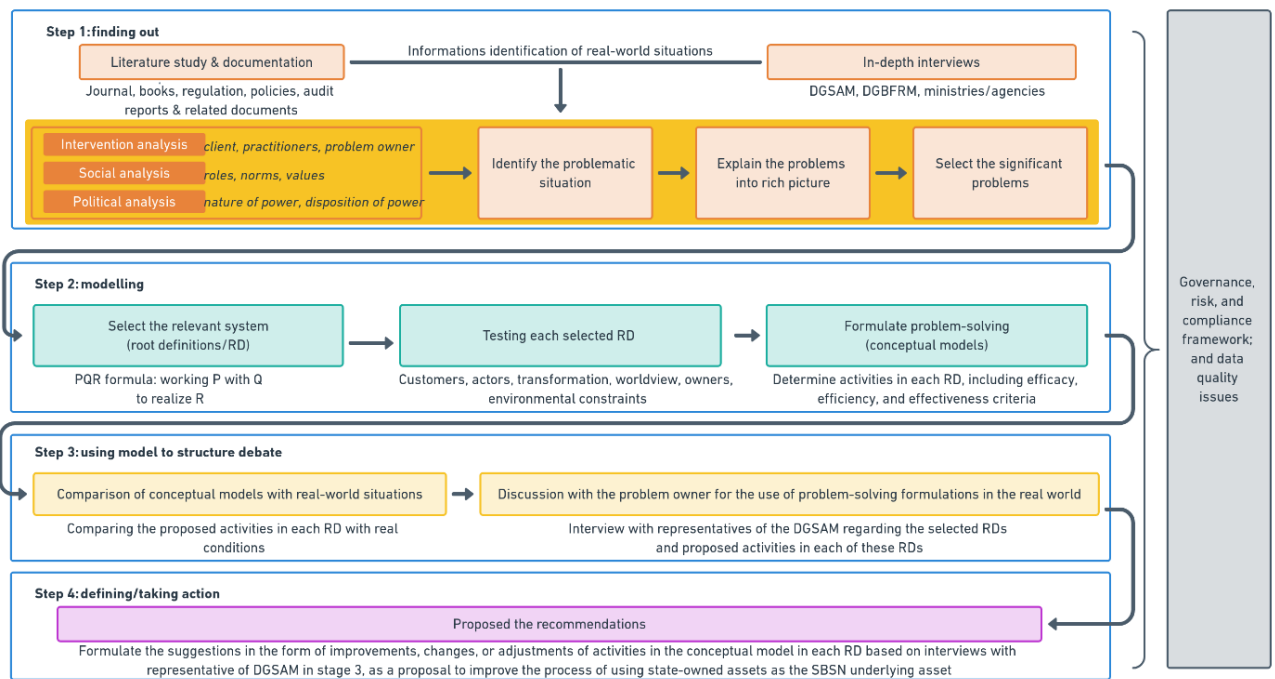


Figure 2 Research method

Source: Hardjosoekarto (2012), reprocessed

Afrizal (2019) stated that data are more valid if obtained by more than one data collection method. Afrizal (2019) revealed that incorporating data collection techniques allowed researchers to get an accurate picture of reality and became a way to verify findings. So, data collection to obtain primary data and secondary data in this study was carried out through the following techniques:

1. Literature study and documentation obtained through a study of literature related to the research, such as journals, supporting books, academic works, regulations, policies, and related documents.
2. In-depth interviews with stakeholder officials and employees relevant to using state-owned assets as SBSN assets, namely Directorate State-Owned

Asset DGSAM, Directorate State Assets Management and Information System DGSAM, Directorate of Sharia Financing DGBFRM, and ministries/government agencies. Interview respondents in each of these units are needed because it represents the data perception and problems ranging from formulating business processes and regulations to technical aspects of implementing these business processes. The interviews are described in the table 2.

**Table 2 Interviews description**

Interviewee's Organization	Number of interviewees	Interviewee's position	Interviewee's Code	Duration of the each interview	Mode of interview	Interview topics
Modified SSM step 1: Finding out						
Directorate State-Owned Asset DGSAM	2	Staff	SOA 2 SOA 3	90 minutes	Online	Procedures, policies, and issues of using state-owned assets for SBSN underlying assets.
Directorate State Assets Management and Information System DGSAM	1	Staff	IS 1	50 minutes	Online	State-owned assets management information system and SBSN issuance information system related.
Directorate of Sharia Financing DGBFRM	1	Section head	SF 1	60 minutes	Online	SBSN issuance process, issues, and information system.
Ministries/ government agencies	3	Section head	MGA 1 MGA 2 MGA 3	40 minutes	Online	Explore the ministries' understanding of the process of using state-owned assets for SBSN issuance.
Modified SSM step 3: Using model to structure debate						
Directorate State-Owned Asset DGSAM	1	Section head	SOA 1	90 minutes	Face to face	Discussed the root definitions and activities of each conceptual model proposed.

#### **4. ORGANIZATION PROFILE**

The Ministry of Finance has the task of carrying out government affairs in state finance and state assets to assist the president in administering the state government. Law Number 17 of 2003 concerning State Finances, the Ministry of Finance is given the power to manage fiscal affairs and represent the government in the ownership of separated state assets. Furthermore, based on Law Number 1 of 2004 concerning the State Treasury, the Ministry of Finance, as the State General

Treasurer, is authorized to stipulate policies and guidelines for the management of state property. The Ministry of Finance is given the authority to become the manager of state assets, which is responsible for formulating, determining, and implementing policies in state assets. The implementation of this function is given to the Directorate General of State Assets Management (DGSAM). Regarding using state-owned assets as the underlying assets for SBSN issuance, DGSAM coordinates with the Directorate General of Budget Financing and Risk Management (DGBFRM). DGBFRM is the Ministry of Finance unit that has the task of carrying out the formulation and implementation of policies in managing loans, grants, financial risks, and state securities, including SBSN.

## **5. RESULT AND DISCUSSION**

The first stage in the soft systems methodology in this research is the finding out stage, identifying the problem situation. A document review and in-depth interviews with related parties are carried out to understand the problematic situation. After that, analysis one (intervention analysis), analysis two (social analysis), analysis three (role analysis), identification of difficult situations, preparation of a rich picture, and selection of significant problems were carried out based on the GRC excellence model. In the finding out stage, after the problematic situation can be understood, the problem is formulated into a rich picture. Based on three analyses, descriptions of problems, views of problem owners, and a rich picture of problematic situations in the use of state-owned assets as an underlying asset for the issuance of SBSN can be presented in figure 3.

The second stage in the modified SSM is modeling, which is making a model of a purposeful system of activities. The first thing to do is select the root definitions of relevant systems, also known as root definitions (RD). RD is a structured description of a human activity system or activity system that has a purpose relevant to the problem situation being considered in SSM research (Hardjosoekarto, 2012). The root definition is presented with the PQR formula, working P with Q to create R, to answer what, how, and why.

In this stage, identification of the source of the problem is carried out by tracing the causes associated with their impacts, components of the GRC excellence model, and public sector data management issues. The process of using state-owned assets as the basis for issuing SBSN is closely related to asset data management. So the problematic situation of using state-owned assets as the basis for issuing SBSN is

also related to data quality problems caused by hard problems (technology) and soft problems (humans) (Heeks, 2006). The relationship of the problem to the components of the GRC advantage model can be seen in figure 4.

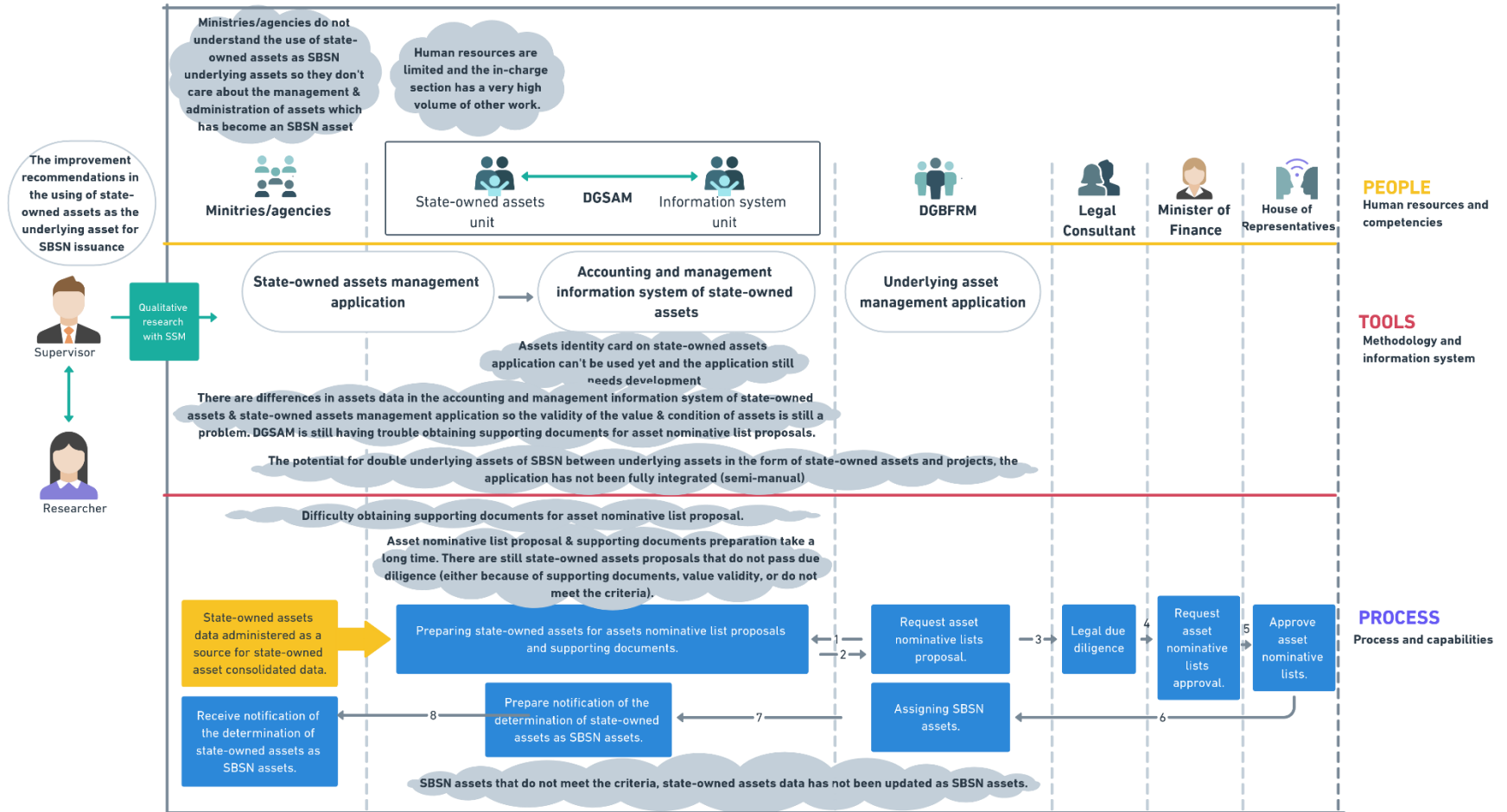


Figure 3 Rich picture based on the problematic situations

Source: Hardjosoekarto (2012), reprocessed



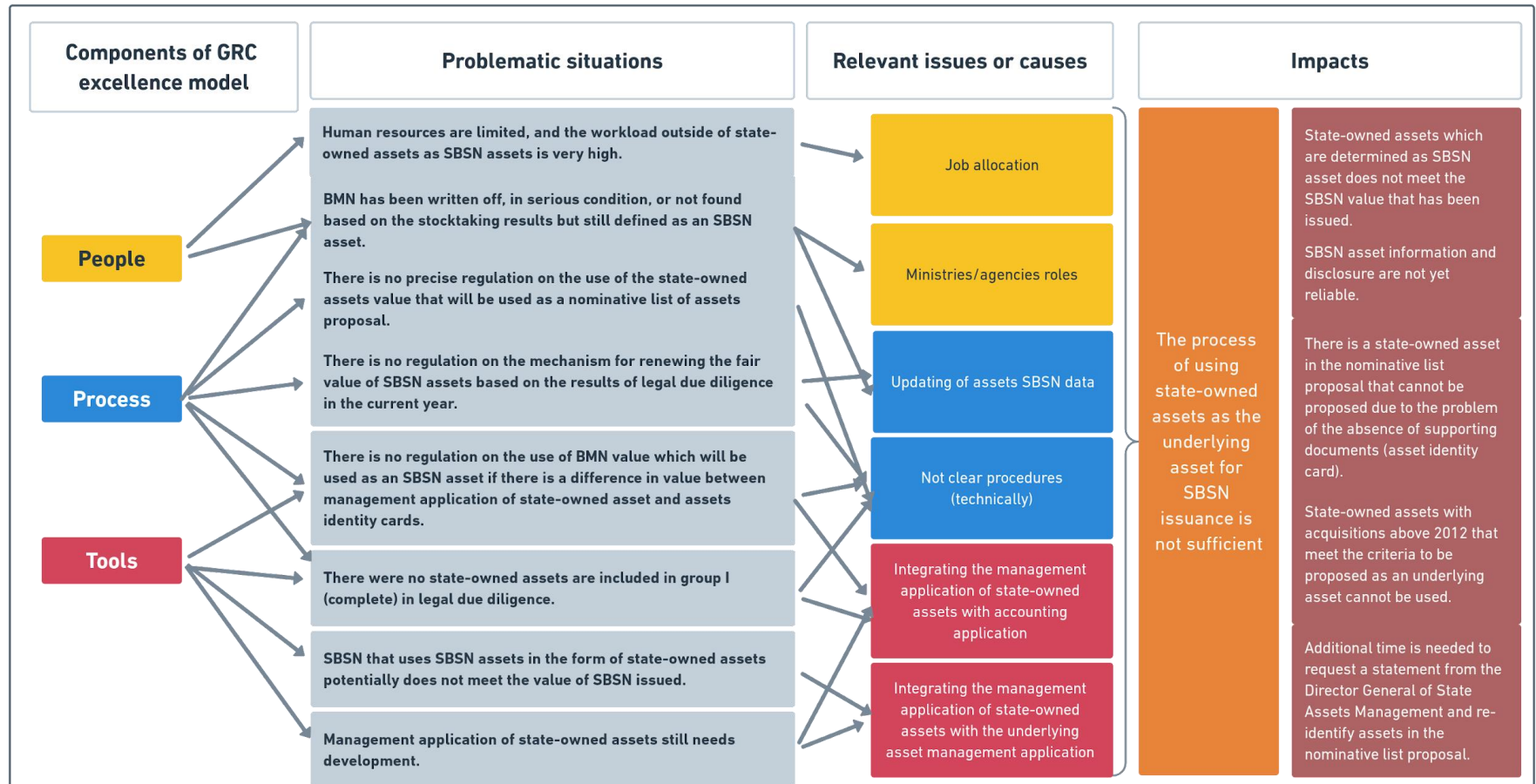


Figure 4 Selection of root definition based on problematic situations

Source: Audit Reports of the Financial Reports of Central Government Financial Statements and State General Treasurer Financial Statements (2017 to 2020), reprocessed

The system selection that is considered relevant to improve the process of using state-owned assets as the basis for issuing SBSN can be arranged based on the three components of the GRC excellence model, namely people, process, and tools. Based on the problem identification, rich picture, and referring to the theoretical framework and activities of using assets as an SBSN asset, the focus of determining the chosen root definition is named with the following PQR formula:

- a. RD 1: Improvement of ministries/agencies' roles and performances for using state-owned assets as the underlying asset for SBSN (P) by increasing the roles of ministries/agencies and performance management in the related unit (Q) to produce an efficient and effective process (R).
- b. RD 2: Preparation and management of state-owned assets as the underlying asset for SBSN (P), with improved procedures, creating internal guidelines, and regular updating (Q), to produce underlying assets in the form of state-owned assets whose value and condition are in accordance with the criteria (R).
- c. RD 3: Optimal use of state-owned assets management information system (P), by developing and integrating state-owned assets management information system (Q), to provide complete and accurate state-owned assets data and supporting documents (R).

Still, in the second stage (modeling), a conceptual model for each RD consists of the activities that need to be carried out. In formulating the conceptual model for RD 1, the people component of the GRC excellence model is used with the following criteria:

- a. Development of reliable and integrity human resources  
In this criteria, people need to understand the regulations and related processes, as well as have sufficient experience and competence. In the process of using state-owned assets as the underlying asset for SBSN, representatives of ministries/agencies revealed that they did not understand the procedure, role, and impact of these activities on the state-owned assets they used, even though their assets had been defined as SBSN assets .
- b. Continuous knowledge improvement and effective performance measurement  
In the people component, continuous knowledge improvement and effective performance measurement must be carried out. The use of state-owned assets as the underlying asset for SBSN is a routine and continuous activity. However, there are no performance indicators in the related directorate performance contract. Whereas governance should distribute power as measured by key performance indicators to produce risk-aware and targeted decisions (Vicente and da Silva, 2011).

This study formulates the activities that need to be considered. So the improvement of the role of ministries/agencies and performance can result in an efficient and effective process of using state-owned assets as an underlying asset for SBSN (RD 1), as shown in figure 5 below.

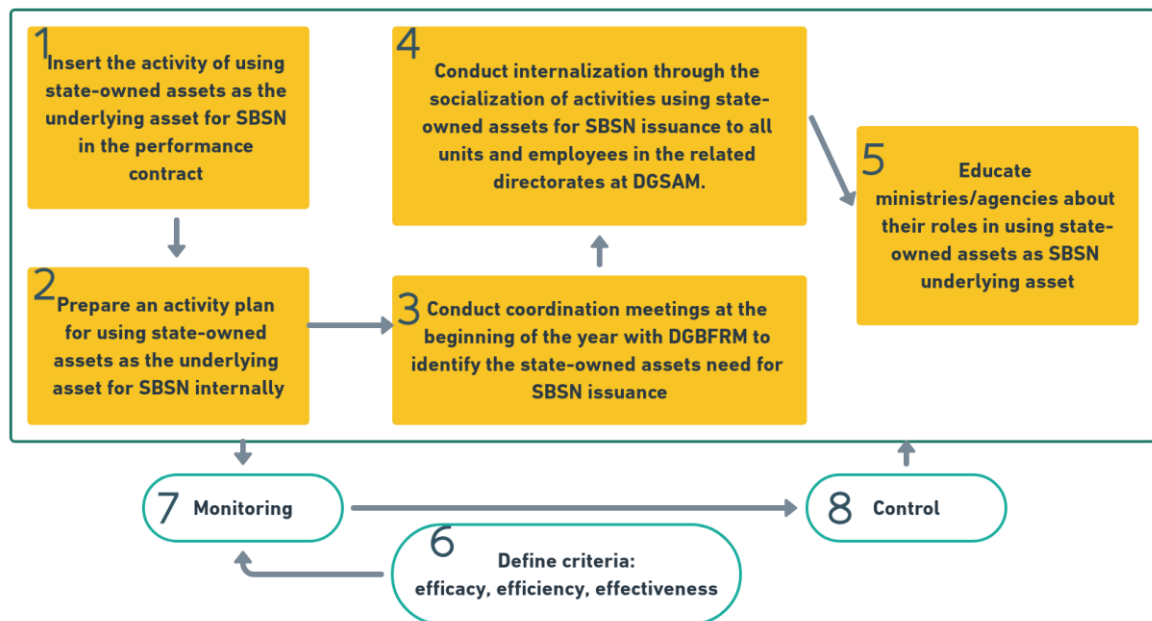


Figure 5 The conceptual model for improvement of the ministries/agencies' role and performance related to the use of state-owned assets as SBSN underlying asset

Source: Hardjosoekarto (2012), reprocessed

In formulating the conceptual model for RD 2, an analysis based on the process component criteria in the relevant GRC excellence model is used as follows:

- a. Effective governance with adequate structure and task definitions  
Organizations need to have structure and governance, which includes functions, clarity of duties and responsibilities, and policies, guidelines, and mechanisms (Vicente & Mira Da Silva, 2011). The relevant Minister of Finance Regulation has regulated the process, stages, and requirements regarding the use of state-owned assets as an SBSN asset, but no SOP that regulates technical matters.
- b. Superior and sustainable learning and innovation  
Organizations must be able to understand the current situation and identify potential changes they face on an ongoing basis. In the process of using state-

owned assets as the underlying asset for SBSN, the identification/preparation stage of state-owned assets that will be proposed as assets nominative list is an important step. The issuance of SBSN is highly dependent on the availability of state-owned assets data. State-owned assets data is big, and the complexity of the application used to provide supporting documents increases the risk of this stage.

- c. Effective risk management and considered in a sustainable business strategy  
In the process component, organizations need to monitor ongoing risks in applying governance principles to achieve goals and increase values. Organizations also need to have an early warning system for any conditions that require attention.

Thus, this study formulates the activities that need to be carried out so that the procedures for preparing and managing state-owned assets as SBSN assets can produce underlying assets in the form of state-owned assets whose value and condition follow the criteria (RD 2), as shown in figure 6 below.

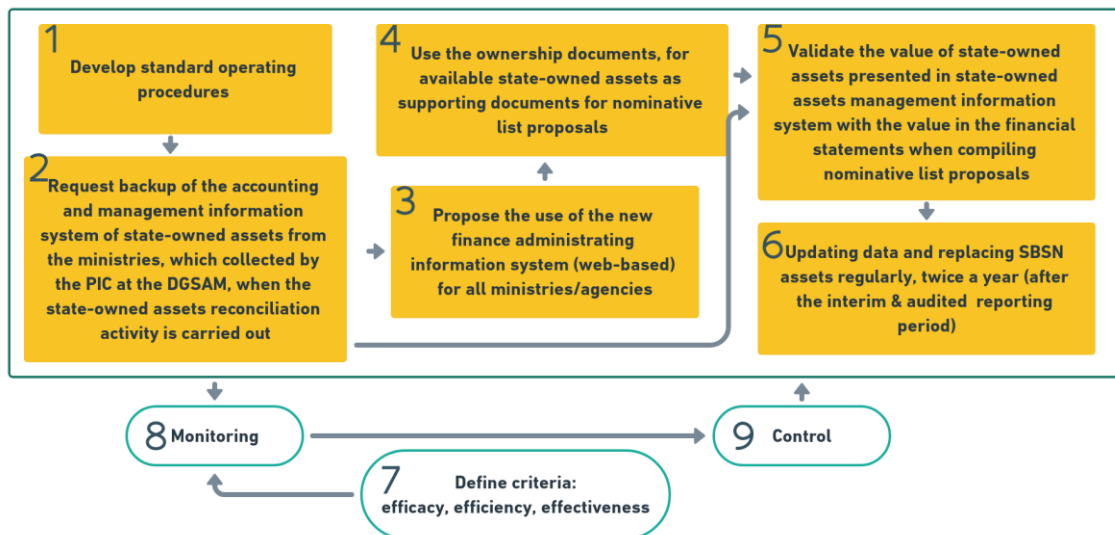


Figure 6 Conceptual model of state-owned assets preparation & management as SBSN underlying asset  
Source: Hardjosoekarto (2012), reprocessed

In formulating a conceptual model for RD 3, the components of the tools in the GRC excellence model are used to answer problems with the relevant criteria, namely as follows:

- a. Information systems support the decision-making process effectively  
The public sector faces barriers caused by skills or technology, depending on the amount of data managed, which increases the risk of data quality problems (Heeks, 2006). DGSAM needs to have an information system that is designed

to assist the decision-making process accurately and quickly. So that it will improve governance and risk management. The information system is also needed to monitor the risk of changes in the condition of state-owned assets.

- b. An effective monitoring system to monitor objective deviations and new threats

Vicente and da Silva (2011) explain that the reporting function and information consolidation dashboard will increase the efficiency of risk management because it is used to identify risks, mitigate risks in the context of corporate strategy and performance. Currently, the application has not been able to produce information that can directly identify and mitigate risks related to the use of state-owned assets as an SBSN asset. Especially related to the suitability of assets with sharia criteria and principles as long as they are SBSN assets. So the development of assets management information system in the process of using state-owned assets as SBSN assets needs to continue to be developed .

This research formulates the activities that need to be considered so that the information system can produce complete and accurate state-owned assets data and supporting documents (RD 3), as shown in figure 7 below.

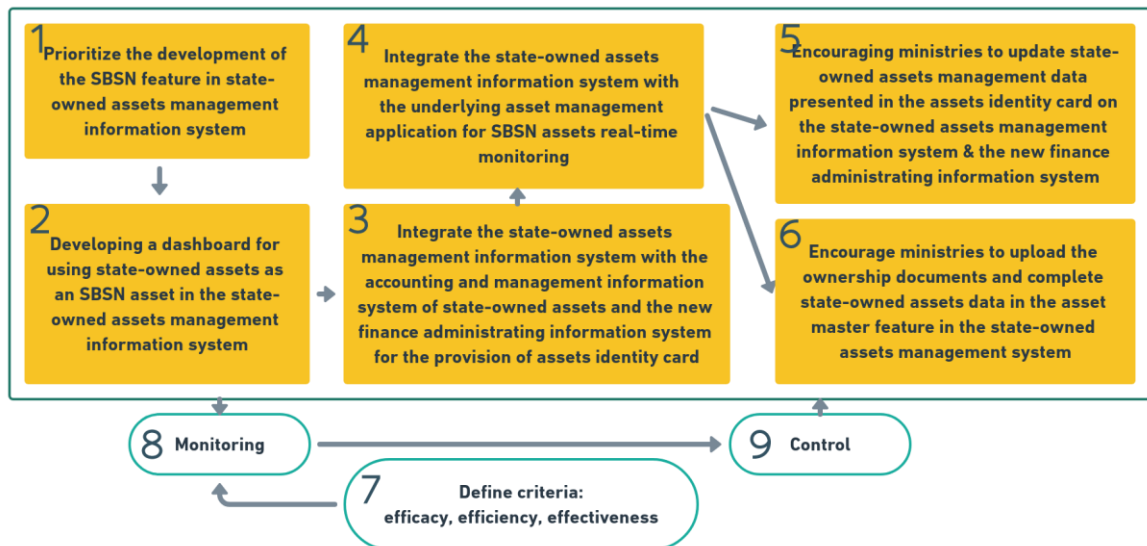


Figure 7 The conceptual model of information system development and use

Source: Hardjosoekarto (2012), reprocessed

**Table 3 Comparison of the conceptual model in root definition with real world**

Root Definition	No	Activities	Yes/No	Real World
RD 1: Improvement of ministries/agencies' roles dan performances for using state-owned assets as the underlying asset for SBSN (P) by increasing the roles of ministries/agencies and performance management in the related unit (Q) to produce an efficient and effective process (R).	1	Insert the activity of using state-owned assets as the underlying asset for SBSN in the performance contract.	No	The activity of using state-owned assets as SBSN underlying assets is a routine activity, but it is not used as the key performance index of DGSAM.
	2	Prepare an activity plan for using state-owned assets as the underlying asset for SBSN internally (the need for state-owned assets, time and human resources allocation, and information system evaluation).		The job allocation related to the use of state-owned assets for SBSN issuance at the relevant directorate in DGSAM is carried out reactively. It is considered when there is a request for assets nominative list proposals or when there are things that need to be discussed, such as follow-up to audit findings.
	3	Conduct coordination meetings at the beginning of the year with DGBFRM to identify the state-owned assets' need for SBSN issuance		Coordination at the beginning of the year is carried out informally, there is no regular annual coordination meeting scheduled.
	4	Conduct internalization through the socialization of activities using state-owned assets for SBSN issuance to all units and employees in the related directorates at DGSAM.		Never.
	5	Educate ministries/agencies about their roles in using state-owned assets as SBSN underlying assets	Yes	Information dissemination on the use of state-owned assets for SBSN to ministries was done by DGSAM only at the event related to the assets' revaluation. However, the audience of this event is ministries' top management. There has never been technical level socialization discussing the use of state-owned assets in the SBSN issuance.
RD 2: Preparation and management of state-owned assets as the underlying asset for SBSN (P), with improved procedures, creating internal guidelines, and regular updating (Q), to produce underlying assets in the form of state-owned assets whose value and condition are in accordance with the criteria (R).	1	Develop standard operating procedures.	No	There is no SOP in the related directorate at DGSAM.
	2	Request backup of the accounting and management information system of state-owned assets from the ministries, collected by the PIC at the DGSAM when the state-owned assets reconciliation activity is carried out.	No	The staff in the in charged section requests a backup of the accounting and management information system of state-owned assets to all PIC when there is a request for an assets nominative list proposal.
	3	Propose the use of the new finance administrating information system (web-based) for all ministries/agencies.	Yes	Only some ministries/agencies have used the integrated accounting state-owned assets application for assets administration.
	4	Use the ownership documents for available state-owned assets as supporting documents for nominative list proposals	No	The state-owned assets management information system has provided a menu for uploading ownership documents. However, those documents have not been used as the main

Root Definition	No	Activities	Yes/No	Real World
				document for the nominative list proposal because further coordination between DGSAM and DGBFRM is still needed.
	5	Validate the value of state-owned assets presented in the state-owned assets management information system with the value in the financial statements when compiling nominative list proposals.	Yes	Value validation is carried out only when there is an indication of the value differences.
	6	Updating data and replacing SBSN assets regularly, twice a year (after the interim & audited reporting period).	No	Data updating and replacing SBSN assets are carried out once a year after the audited report is published.
RD 3: Optimal use of state-owned assets management information system (P), by developing and integrating state-owned assets management information system (Q), to provide complete and accurate state-owned assets data and supporting documents (R).	1	Prioritize the development of the SBSN feature in the state-owned assets management information system.	No	<ul style="list-style-type: none"> <li>▪ Currently, a new version of the state-owned assets management information system is being developed, which aims to improve all features and business processes in the application, including the SBSN feature.</li> <li>▪ The accounting and management information system of state-owned assets will be replaced by the new integrated finance administration system, but its implementation is still in several ministries/agencies.</li> <li>▪ DGSAM has encouraged ministries/agencies to complete assets data in the related application. For example, requiring such completeness for several processes for submitting assets management approval.</li> </ul>
	2	Developing a dashboard for using state-owned assets as an SBSN asset in the state-owned assets management information system.	No	
	3	Integrate the state-owned assets management information system with the accounting and management information system of state-owned assets and the new finance administrating information system for the provision of assets identity cards .	Yes	
	4	Integrate the state-owned assets management information system with the underlying asset management application for SBSN assets real-time monitoring.	No	
	5	Encouraging ministries to update state-owned assets management data presented in the assets identity card on the state-owned assets management information system & the new finance administrating information system.	Yes	
	6	Encourage ministries to upload the ownership documents and complete state-owned assets data in the asset master feature in the state-owned assets management system.	Yes	

The third stage analysis in the modified SSM cycle is the using model to structure the debate stage. This stage compares the conceptual model (problem-solving formulation) made with the real world, as in table 3 above. In this stage, the problem-solving formulations in the previous stage (root definitions and activities) are used as a discussion tool to discuss real-world problematic situations together with the problem owner.

In this analysis stage, the discussion was held with the respondent from Directorate State-Owned Asset DGSAM (SOA 1). For recommended activities in root definition 1, SOA 1 agrees that the activity of using state-owned assets as the underlying asset for SBSN needs to be included in the performance contract.

“Those things are quite heavy because currently, the application is not yet fully integrated. The activities are quite heavy, routine, and numerous but not included in the performance appraisal. So, to include this activity into a performance contract, we agreed very much.”

The SBSN issuance decision and the need for the number of state-owned assets is the authority of the Directorate of Sharia Financing DGBFRM. So that in the process of planning activities, the Directorate State-Owned Asset DGSAM is more concerned with preparing the state-owned assets database so that it is ready at any time and any request from DGBFRM. Activities in the form of routine planning activities can still be carried out, but the quality of state-owned assets data must also be prioritized, as explained by SOA 1 below.

“So, from the total assets, which are disputed and heavily damaged have been removed, including which ones are being used. So that we can be ready. So, if, for example, based on the calculation and planning of the DGBFRM next year, it will take much number. That is usually at the beginning, but maybe in some cases, if it turns out that the budget does not match the predictions, and suddenly there is a huge demand, we must prepare it immediately. So, like it or not, in the end, we have to push right away. If, for example, the planning is ideally legible and well-programmed, but because the decision is on the other side, the Directorate State-Owned Asset DGSAM must always be ready.”

SOA 1 explains that the main point for recommended activities in root definition 2, besides developing policies and procedures, is the use of the new finance administrating information system (web-based) for all ministries/agencies. By encouraging the use of this application in the future, there should be no difference in values in several applications that are used because the data will be automatically synchronized, as explained below.



“Now the communication of the accounting and management information system of state-owned assets and state-owned assets management information system is by sending manually. The application is still a desktop for the accounting and management information system of state-owned assets. So there is a possibility of data upload errors. In the future design, the new finance administrative information system will be an integrated and online application so that the risks of using incorrect data can be minimized. The data communication system between the new finance administrative information system and the state-owned assets management information system is online, so it automatically updates every day.”

For recommended activities in root definition 3, SOA 1 agrees with the development of the SBSN feature and its dashboard in the state-owned assets management information system, and also integrates the state-owned assets management information system with the accounting and management information system of state-owned assets and the new finance administering information system for the provision of assets identity card. Because until the present, the assets identity card in the state-owned assets management information system has not been validated, so it cannot be used.

“A rather classic problem is that the development of the state-owned asset management information system is done by a third party and on a limited budget. Yesterday there was invalid data, especially for the asset master manager with the asset identity card in that application. There is a concern we will use the asset identity card in that application because we have not stated that the master asset in the state-owned asset management information system can be used. We don't dare to make it as a source document.”

Directorate State-Owned Asset DGSAM agrees the recommended activity integrates the state-owned assets management information system with the underlying asset management application for SBSN assets real-time monitoring. But for, encouraging ministries to upload the ownership documents and complete state-owned assets data in the asset master feature in the state-owned assets management system is not considered realistic. It considers the risks that will arise, such as misuse of documents and slow application performance, as explained below.

"Continuing the previous one, it's indeed, we've already prepared it at the state-owned asset management information system. But considering what is needed and the risk, I prefer not to use it yet."

The fourth or final analysis stage in the modified SSM cycle, namely the defining/taking action stage. Based on the views through discussions with the problem owner in the previous stage, at this stage, suggestions for action are formulated to improve the process of using state-owned assets as the underlying asset for SBSN issuance. Based on the results of the discussion of the conceptual model on all root definitions, several activities have been changed and improved.

So that the activities that are arguably desirable and culturally feasible for RD 1 are:

- a. Insert the activity of using state-owned assets as the underlying asset for SBSN included in the performance contract and become one of the main performance indicators (KPI). With the existence of the KPI, the activity of using state-owned assets for the issuance of SBSN will be considered in the employee performance appraisal. Those KPIs need to be included in the performance contract for all managerial levels, namely the director, head of sub-directorate, section head, and staff.
- b. Prepare an activity plan for using state-owned assets as the underlying asset for SBSN internally, from the aspect of an information system evaluation, timeline, and human resources.
- c. Conduct internalization through the socialization of activities using state-owned assets for SBSN issuance to all units and employees in the related directorates at DGSAM.
- d. Educate ministries/agencies, both at the top-level management and at the technical level, regarding the use of state-owned assets as the underlying asset for SBSN. The things that need to be educated are financing, the substance of underlying assets, the mechanism of using state-owned assets for SBSN underlying assets, and the importance of the assets database in the assets management information system.

Suggestions activities for RD 2 related to the preparation and management of state-owned assets as the underlying asset for SBSN are:

- a. Develop standard operating procedures related to the use of state-owned assets as the underlying asset for SBSN.
- b. Encouraging the new finance administrating information system (web/internet-based application) for all ministries/agencies. With this system, state-owned assets data related to financial reports, such as values, will be automatically updated in the assets management information system. So that the risk of value

differences with the assets management information system can be minimized, and there is no need to request a backup file from the ministries/agencies.

- c. Updating data and replacing SBSN assets regularly, once a year (after the audited annual reporting period).

Possible activities for the RD 3 conceptual model related to the use of state-owned assets management information system for providing asset databases are:

- a. Monitoring the development of the new version of the state-owned assets management information system, especially the SBSN feature. This feature should accommodate one cycle of using state-owned assets as an SBSN asset, starting from the nominative list of assets proposals until determining assets as an SBSN asset.
- b. Create a dashboard related to the use of state-owned assets as an SBSN asset in the assets management information system. The dashboard is expected to provide information including total state-owned assets, total assets available that suit the assets SBSN criteria, entire nominative list of assets, mapping of SBSN assets based on the SBSN issuance series, and the time of use or due.
- c. Integrating the state-owned assets management information system with the underlying asset management application for monitoring SBSN assets in real-time, one cycle of using state-owned assets as an SBSN asset can be done entirely in the state-owned assets management information system.
- d. Ensuring and evaluating the data integration of the new finance administrating information system and state-owned assets management information system so that the data in the asset master feature is more valid and reliable. Then, those data can be used optimally. With the use of state-owned assets data in the asset master, the assets identity card in the management application of state-owned assets will be used as a source document.
- e. Encouraging ministries/government agencies to update state-owned assets management data on the state-owned assets management information system presented in the assets identity card.

## **6. CONCLUSION AND DISCUSSION**

Based on the stages of the soft systems methodology (SSM), this study formulates three *root definitions* and three conceptual models to improve the

process of using state-owned assets as the underlying asset of SBSN. The conceptual models have been discussed with the problem owner from DGSAM, with the following conclusions:

- a. It is necessary to increase the role of ministries/agencies and improve performance management related to the process of using state-owned assets as the underlying asset for SBSN so that the process is more effective and efficient. Human resource development and performance measurement begin by incorporating these activities into performance appraisals, making activity plans, internalizing, and educating ministries/agencies.
- b. The preparation and management of state-owned assets are vital to maximizing the potential of assets that meet the criteria. It also aims to maintain the value of assets that have been defined as SBSN assets that meet the issued SBSN values. However, in this process, the use of ownership certificates as supporting documents in the future still needs to be agreed upon between DGSAM and DGBFRM.
- c. The use of management application of state-owned assets to provide asset databases is also agreed to be increased. The existence of an integrated application is expected to provide a more valid and reliable state-owned assets database. Also, it can be used to monitor the use of state-owned assets as SBSN assets in real-time.

This study has limitations because the focus group discussions are not carried out with all problem owners. Therefore, asset ownership documents as supporting documents cannot be agreed upon further. For future research, analysis related to potential asset groups and supporting documents for each asset group can be conducted. This research can increase the use of potential state-owned assets, which will be used as the underlying asset for SBSN issuance.

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