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The Evaluation of Asset Management Practices in Public Sector: Study on a Government Institution in Central Kalimantan Province, Indonesia

Rephy Ekawatie
Master of Management Candidate, Padjajaran University, Indonesia
Yudi Azis
Lecturer, Department of Management and Business, Padjajaran University, Indonesia
Layyinaturrobaniyah
Lecturer, Department of Management and Business, Padjajaran University, Indonesia

Abstract:
Efficiency and effectiveness of asset use are important in public sector organizations in developing countries today. However, research conducted related to the evaluation of asset management performance in the public sector is still limited. This research examines the effect of asset life cycle management and asset management information system implementation on asset management performance at one of government institution in Central Kalimantan Province. The methodology used in this research is quantitative. The data used in this research is primary data supported by secondary data. The data test is done by using Partial Least Square Structural Equation Modeling (PLS-SEM) procedure. The study involved a small number of populations that were all became samples (saturated samples). The results show that positive asset life cycle management significantly affects asset management performance. Implementation of asset management information system has a positive affects the performance of asset management in an unreal manner.

Keywords*: Asset management performance, life-cycle asset management, asset management information system, public sector*

1. Introduction

1.1. Background of the Study

The Supreme Audit Agency (BPK) under the Indonesian Laws has the authority to examine the management and financial responsibilities of the state independently. BPK has the authority to give opinions related to the work performed. BPK's opinion on the ministry/agency financial report (LKKL) is a benchmark to see the losses and potential losses of the state(BPKRI, 2016b).

The results of BPK's examination of 85 LKKL in 2015 (including Institute of the State General Treasurer-LKBUN, which is examined by the Public Accounting Firm and the firm obtained unqualified opinion) indicate that 55 ministries/Institutions (KL) obtain unqualified opinion (WTP). Qualified opinion (WDP) is obtained from 26 KL, and no opinion (TMP) is obtained from 4 KL. According to the same source, the unqualified opinion in 2014 (71%), compared to unqualified opinion in 2015 (65%), was decreased by 6%.The results of the audit revealed that if the down fall of opinion from WTP to WDP is partly due to drawback in the management and presentation of financial statements, and one of them is related to government assets. The Central Bureau of Statistics (BPS) is one of the non-ministerial government institutions that received WDP opinion in 2015 (IHPS BPK RI, 2016). The decreased opinion of BPK on BPS Financial Report from WTP to WDP by 2015 is making BPS necessary to make improvements in internal governance, particularly in improving governance and presenting the financial statements of government assets.

The result of asset recapitulation of BPS work unit in Central Kalimantan Province from 2014 until 2016 shows that the condition of goods which are increasing number of lightly damaged and heavily damaged goods. The decrease in the number of goods that is in excellent conditions in 2015 and 2016, as well as the increase in the number of goods that suffered minor damage and severely damaged in 2015 and 2016 show the potential of goods/assets which will enter the final stages in the life-cycle asset management in the next few years on the unit BPS work in Central Kalimantan Province.

The heavily damaged assets in State Property-BMN that have been discontinued in 2016 by the majority of BPS working units in Central Kalimantan Province are mostly assets whose technical age exceeds the economic life of the goods. Data of

2016 indicates that the majority of BPS working unit in Central Kalimantan Province in the report of stops using BMN shows the existence of goods whose technological age is far beyond the industrial age. These items are still recorded in the Management Accounting Information System and State Property Finance-SIMAK BMN application as goods that are discontinued in their use as well as entering the status of heavily damaged goods but not yet removed. It reinforces the problemrelated to life-cycle asset management in BPS working units in Central Kalimantan Province(Appendix A).

The indications of asset management problem in the Central Bureau of Statistics in Central Kalimantan Province was also obtained from the preliminary survey conducted in December 2016. The results of the data recapitulation show that if the asset management problem in most of BPS working units in Central Kalimantan Province is not only related with life-cycle asset management but also related to asset management information systems. The issue of the asset management information systems, as mentioned by the respondent through an open questionnaire, relates to the application and human resources that operate the application (Appendix B).

Empirical research related to the implementation of asset management conducted by previous researchers became the basis of a systematic comparison to reinforce indications of an asset management problem faced by the BPS in Central Kalimantan Province. The research related to asset management has been studied previously by Erizul & Yuliani(2014). The results from both studies indicate that the implementation of fixed assets is still not optimal. Factors affecting the implementation of fixed asset management are human resource and commitment factors.

In line with Erizul and Yuliani's research, the research conducted by Aira(2014)concludes the problem of life-cycle asset management (procurement to deletion) is a problem that should be considered in asset management. (Kolinug, et al., 2015) states that in his research, the Regional Revenue and Financial Asset Management Department (DPPKAD) in Tomohon implemented six stages in the cycle of fixed asset management according to Regulation of the Minister of Home Affairs No. 17 in 2007. However, from the six stages of the cycle, it is not known precisely which stages contributed the most to the success of asset management in DPPKAD in Tomohon.

Hanis et al., (2011) concluded that there are challenges in adopting a public asset management framework. These challenges include the lack of institutional and legal frameworks to support the implementation of asset management. The principles of non-profit public assets and some jurisdictions involved in public asset management processes. The complexity of local government objectives is also a constraint, in addition to the unavailability of data to manage the public property and limited human resources.

Alhazmi(2017)also concludes that asset management practices in the Saudi public sector in some ministries are still below expectations. Other problems that are found in his research include performance indicators that are unrealistic and not comprehensive. Civil servants are less aware of asset management practices. The majority of the public sector is facing professional standards. In this sector, the policies are also inconsistent that resulting in excessive dependence on the experience of civil servants.

Azhar et al.(2013)states that the quality of regional apparatus does not affect asset management. Two other independent variables, regulatory and information systems have a significant effect on asset management. Rahardiyanti and Abdulrachman(2012), in line with Azhar et al. (2013) mention that only three of the six factors studied in their research that influences the effectiveness of SIMAK BMN. All three factors are ease, usability, and system quality.

1.2. Statement of the Problem

The existence of indications of problems in BPS working units in Central Kalimantan Province related to the life-cycle asset management and the asset management information systems become a matter that needs to be investigated. The previously described data and discussion of empirical research phenomena related to asset management issues are the basis for the focus of this research. This research aims to examine the effect of life-cycle asset management and asset management information systems on asset management performance at BPS work units in Central Kalimantan Province.

The research questions are described in a form of questions as follows:

- How does the life-cycle asset management affect the asset management performance at BPS working units in Central Kalimantan Province?
- How does the asset management information systems affect the asset management performance at BPS working units in Central Kalimantan Province?

1.3. Objectives of the Study

The purposes of this research are:

- Analyzing the effect of life-cycle asset management on asset management performance at BPS working units in Central Kalimantan Province;
- Analyzing the effect of the asset management information systems on asset management performance at BPS working units in Central Kalimantan Province.

1.4. Significance of the Study

The research related to asset management, especially in the Public Sector is still limited. This study tries to complete and gives an insight on the evaluation of an asset management related to the utilization and efficiency at Public Sector. The

research specifically highlights the asset management performance on a Government Institution in Central Kalimantan Province, Indonesia.

1.5. Scope of the Study

Thestudy was limited to the evaluation of asset management practices related to the influence of life-cycle asset management and asset management information system on asset management performance. The evaluation has made on a Government Institution in Central Kalimantan Province, Indonesia.

2. Review of Related Literature

2.1. Definition of Asset Management Performance, Life-cycle Asset Management, and Asset Management Information System

2.1.1. Asset Management Performance

Hastings(2010)mentions that asset management performance is how well management manages assets related to technical assessment, financial, and management practices based on the principles of efficiency and effectiveness in achieving the desired goals through fixed assets. Hastings(2010) also outlines the definition of effectiveness as an action or a targeted action, not deviating from the goals which are set by the organization/institution concerned with the functions required to support asset management. Hastings(2010) also deciphers an understanding of efficiency as appropriate action to achieve goals that are set by the organization/institution by its function, through the utilization of minimal resources to obtain optimal results. Further, Hastings(2010)mentions that the performance indicators used to measure the achievement of the performance of the system, in this case, the asset management. Performance indicators serve as benchmarks for knowing how well assets and systems meet their goals.

Ngwira, et al.(2012) in their research, used generating capital receipts to describe efficiency dimensions. Other indicators include; rationalizing property holdings, reducing the required level of maintenance, reducing annual operating costs, and improving the sustainability of asset holdings (enhancing the sustainability of property holdings) to obtain results in the form of improvements in service delivery. Increasing useful space utilization is used as an indicator to describe the effectiveness dimension. Other indicators are used to describe effectiveness, such as; introducing new working practices, improving facilities for service delivery, improving cross service work, increasing co-operative and partnership working, increasing the use of increased compliance with statutes, improving the accessibility of services, and increasing the usage of services.

2.1.2. Life-Cycle Asset Management

Campbell et al. (2011)mentioned that the life-cycle asset management is the process of managing the primary assets and their components from the beginning to the disposal. Campbell et al. (2011) also mentioned the life stages of assets consists of eight stages, which include; asset strategy, planning, evaluation/design, create/procure, operate, maintain, modify, and disposal. Still, according to the same source, the translation of each stage is as follows:

2.1.2.1. Asset Strategy

Asset strategy stage is an activity to set sensible strategies for asset classes and company business needs. Asset strategy activities include; assessment of asset management practices, development of comprehensive asset management strategies, and development of program measurement with key performance indicators (KPIs). This stage is the stage of determining whether the primary asset needs to be owned, choosing to access it on demand or take a hybrid approach.

2.1.2.2. Planning

The planning stage is the stage of targeting assets, standards, policies, and procedures that focus on delivering asset management strategies. At this stage, the development of policies, standards, and portfolio of asset management planning can be conducted.

2.1.2.3. Evaluation/Design

The evaluation/design is the stage of evaluation of an asset if an asset is decided to be purchased or the design of an asset needs to be made if an asset must be created or constructed. Activities in this phase include the construction of a model of capital program assessment that informs the decision to purchase.

2.1.2.4. Creation/Procurement

The creation/procurement is a stage that involving the action of creating, constructing or procuring pre-planned assets. This stage is the stage where the impact of the action is visible because money was first spent in the management of assets significantly.

2.1.2.5. Operate

Operating is a stage of asset operation per strategy, using standards, policies, and procedures based on life-cycle asset management. Stages of operation are the stage where performance is most affected. This stage deals with the focus to see what value an asset can give to the company.

2.1.2.6. Maintain

The maintenance stage is the stage of maintaining assets in support of the strategies and targets by using standards, policies, and procedures to support life-cycle asset management. The cost of maintenance and raw resources may change the total cost of ownership to the repair termination cost. Improvement estimates based on the asset improvement history report that become an essential reference in this phase.

2.1.2.7. Modify

The modification stage is a stage to maintain the value and extend the life of the asset, where the changing needs and options proliferate. Modifications are reflected in strategies, policies, and procedures. Stages of modification involve life cycle costs and performance improvement analysis.

2.1.2.8. Disposal

This stage involves the process of resignation, replacement, renewal, and transfer of assets in accordance with strategies, policies, and procedures. Disposal can have significant financial implications beyond the substitute as some assets have environmental or regulatory costs to consider, such as increased focus on environmental care practices and operations. Disposal focuses on repairing parts of equipment that can be used or sold so that it can minimize the disposal costs.

This stage also involves sustainable asset management practices, proper asset disposal, as well as reductions in asset-caused carbon emissions. The first consideration to be considered at this stage is how assets will be disposed. Paying attention to the impact of actions which are taken on assets for the environment is one of the necessary considerations in this phase.

2.1.3. Asset Management Information System

Siregar(2004)mentions, the asset management information systems are an information system that supporting management which is related to inventory, legal audit, asset valuation, and optimization of asset utilization. An asset management information system acts as a guarantor of work transparency in asset management. An asset management information system also provides a solution to concerns about weak supervision and control over asset management.

Siregar(2004)states that the asset management information systems are a support system to achieve good asset management performance within an organization. The role of an asset management information systems becomes very important in supporting decision-making system. The enormous amount of assets and the increasing complexity of asset management from year to year make managing assets manually become not possible.

Siregar(2004)also mentions that in the development of asset management information systems, the role of applications in supporting the asset management information systems are essential. Nevertheless, according to the same source, the application in the asset management information systems are a part of the system which consisting of the client application, application server, utility, back office, and database, where the application is a computer program written in a programming language by the initial design and purpose it manufactured.

Siregar(2004)also states that human resources that act as managers of asset management information systems in an organization/institution is the operator who is using the system (user) and technician/system administrators (technical) who is responsible for running asset management functions through the asset management information systems. Human resources that act as managers of asset management information systems have a significant role in determining the successful implementation of asset management information systems. The successful implementation of the asset management information systems affects the substantial improvement of asset management performance within an organization.

2.2. Previous Empirical Research

The research by El-Thalji & Liyanage (2012)was built with a qualitative approach which helps to illustrate the implementation of life-cycle asset management. Their research defines significant problems in operation and maintenance. El-Thalji & Liyanage discloses if significant problems in operations and maintenance related to unexpected circumstances, reliability challenges and asset damage, analysis, forecasting, and application of information and communication technologies. The application of information and communication technology is involved because it is useful in designing models for optimization of maintenance.

Ibendahl et al. (2014)has done a research the same sphere, operation, and maintenance. The results of Ibendahl's research concluded the terms of operations and maintenance that supporting assets sometimes have an impact on decisions for asset replacement. The newer supporting assets can affect the delay in the replacement decision. Older supporting assets also affect the speed of decision to make asset replacements. Supporting previous research, Abdullah et al. (2011)has built

the qualitative research by extracting data through interviewing the methods of government employees when performing real estate management functions within ministries.

The study of Abdullah et al. is related to the life-cycle asset management with a focus on maintaining management functions. The results concluded in the implementation of maintenance; the required expert staff is less in quantity and quality. Another thing that also becomes a problem is the lack of information system and performance measurement. In line with Abdullah's research, associated with operation and maintenance, the study of Ngwira et al.(2012)concluded that in life-cycle asset management, particularly in operation and maintenance, the efficient and practical use of assets is still a constraint.

Research related to internal life-cycle asset management by Aira(2014)was developed with qualitative research method. Aira concludes that the government in managing local assets should pay attention and consider several things such as planning of needs and budgeting, procurement, receipt, storage and distribution, use, administration, utilization, security and maintenance, appraisal, removal, and transfer of hands. Tukunang(2016) also did research on the same topic, which is the life-cycle asset management.

Through the qualitative descriptive research by doing a case study, Tukunang concluded the removal of local assets from the list of government assets could be done if the assets have no economic value, severely damaged or lost. Asset deletion can be executed in two ways, which are extermination and transfer of hands. Extermination is executed because it is not sold, damaged, expired, endanger the public interest, or due to the provisions of laws and regulations that required being destroyed.

The other studies related to the life-cycle asset management were carried out by Kolinug et al., (2015)which developed the descriptive qualitative methods through interviews and review of source documents. It concluded that the results of the study based on the life-cycle asset management are regulated by the Regulation of Minister of Home Affairs No.17 of 2007. The results of Kolinug's research revealed that the Regional Revenue and Financial Asset Management Department (DPPKAD) of Tomohon, as a managing assistant, has implemented six life-cycle in fixed asset management, which in its application is still not entirely appropriate.

The research done by Pekei & Hadiwidjojo(2014), which was developed by quantitative methods, concludes that the implementation of asset management on the effectiveness of local asset management is positively related. Human resources positively affect the implementation of asset management. Human resources also influence the monitoring and evaluation process. The other problems found are service constraints, and service goals through assets that are still not optimal. Tumuhairwe & Ahimbisibwe (2016)developed a study based on problem identification in the life-cycle management of assets related to planning and procurement.

The quantitative methods were developed by Tumuhairwe & Ahimbisibwe (2016) to examine problems related to constraints in record-keeping performance. The results conclude that there is a definite relationship between the compliance of records in the procurement process and the effectiveness of risk management on the performance of record management. It affirms that in life-cycle asset management, especially in the procurement stage, it is necessary to have an integrated and easily accessible information recording administration to facilitate decision making and evaluation.

Siregar(2004) also mentions the management information system to be one solution that can be offered to overcome this. Rahardiyanti andAbdulrachman(2012)through their research examine six factors that affect the effectiveness of SIMAK BMN. These factors include SIMAK BMN quality, SIMAK BMN information quality, SIMAK BMN usage, ease of SIMAK BMN, and education level and duration of SIMAK BMN usage. The results concluded that the most influential factor is the ease, usability, and quality of the system.

The research done by Azhar et al. (2013) was conducted to test the three variables that affect asset management, which are the quality of regional apparatus, regulations, and information system. The result of the research showed that the quality of regional apparatus, regulation, and information system simultaneously affect asset management. The partial test showed that the quality of regional apparatus has no significant effect on asset management, while the other two independent variables, regulation and information system have a significant effect on asset management. The research conducted by Erizul & Yuliani's(2014)also reveal that human resource and commitment factors affect the non-optimal implementation of fixed asset management in the region.

Another study to test similar things was done by Arlini et. al. (2014). Arlini et. al. developed a research model with quantitative methods related to the topic of asset management. The result of Arlini's research shows that competence of human resources, information system, regulation and compensation influence simultaneously and partially to asset management.(Siregar, 2015)developed quantitative research to examine causal relationships in support of successful implementation of SIMAK BMN.

The research done by Siregar was developed to examine the effect of leadership commitment, quality of human resources, the quantity of human resources, and excellent supporting facilities in influencing the successful implementation of SIMAK BMN. The results showed that leadership commitment and excellent supporting facilities have a positive influence in supporting the successful implementation of SIMAK BMN. The quantity of human resources does not affect in supporting the successful implementation of SIMAK BMN.

(Hanis et al., 2011)concludes that the local government in Indonesia need to manage significant challenges when adopting a public asset management framework. These challenges include the lack of institutional and legal frameworks to

support the implementation of asset management, non-public profit asset principles, some legal rules involved in public asset management processes, as well as the complexities of local government objectives. Unavailability of data to manage public assets and limited human resources are also an obstacle in adopting public asset management framework.

Schraven et al. (2011) concludes the conclusion which is consistent with the results of Hanis' research. Schraven's research, which was built on a qualitative approach, stated that the primary challenge to achieving the efficient infrastructure asset management is by establishing alignment between infrastructure objectives, situations, and interventions, the formulation of infrastructure goals and the management of multiple factors with different interests. The results that showed similar findingsarealso described by Alhazmi(2017).

To verify problems through structured interviews, the research was developed using the qualitative method. Alhazmi illustrates that asset management practices in some ministries in Saudi Arabia are still below expectations. The performance indicators used are not realistic and comprehensive. Civil servants lack awareness of asset management practices. The majority of the public sector is facing the existence of inconsistent professional and policy standards in this sector. Most civil servants still do not have sufficient experience in managing assets.

Supporting the results of previous research, Khan et al. (2014)concludes that a performance-oriented system is needed to measure improvements in assets conditions as an expected from the asset server to the community. The study of El-Akruti & Dwight(2013) identifies the role of an asset management system as a control element is not well understood. Asset management is still not getting enough attention. Issues related to asset management are still not becoming a focus and asset management is still not fundamentally integrated into the overall organizational management system.

2.3. Conceptual Framework

Hastings(2010)mentions the life-cycle asset management is related to the cost management required by assets in its life-cycle. Life-cycle asset management, in this case, is life-cycle asset management whose meaning is mentioned by Campbell et al.(2011)consisting of eight stages, including asset strategy, planning, evaluation/design, creating/procurement, operation, maintenance, modification, and disposal. Managing each of the stages of the life-cycle asset will determine the success of the overall life-cycle asset management. The cost management in the process significantly affects asset management performance. The performance of asset management, in this case, is to minimize the cost per unit of time and routine expenses incurred to support the optimization of the function and age of the assets in its life time.

Hastings(2010)also states that in support of the asset management success, regarding achieving excellent asset management performance, asset management information systems plays a crucial role in providing detailed information related to a list of significant assets within an organization. The information includes necessary specifications of the asset, location, estimated life time of the remaining assets, replacement cost, asset history, final reshuffle, fixed date, knowing the asset problem, and knowing the plan related to the asset. The existence of an asset management information systems supports asset management performance in realizing the effectiveness and efficiency in achieving the objective of asset existence for the organization.The indicators in the research of Ngwira et al.(2012)were used to explain efficiency and effectiveness.

The indicators used to explain the dimensions of computer applications which supporting asset management information systems are from empirical research results by Rahardiyanti and Abdulrachman(2012). The indicators are, SIMAK BMN quality, SIMAK BMN information quality, SIMAK BMN usability, SIMAK BMN ease, and the result of Siregar(2015) research in the form of an excellent supporting facility. Then, the indicators used to explain the resources of system manager in this research are using the results of research by Pekei et al. (2014); Arlini et al. (2014); Rahardiyanti and Abdulrachman(2012); andSiregar(2015). The indicators include the level of human resource education, duration of SIMAK BMN use, training, the quantity of human resources, regulation, and compensation.

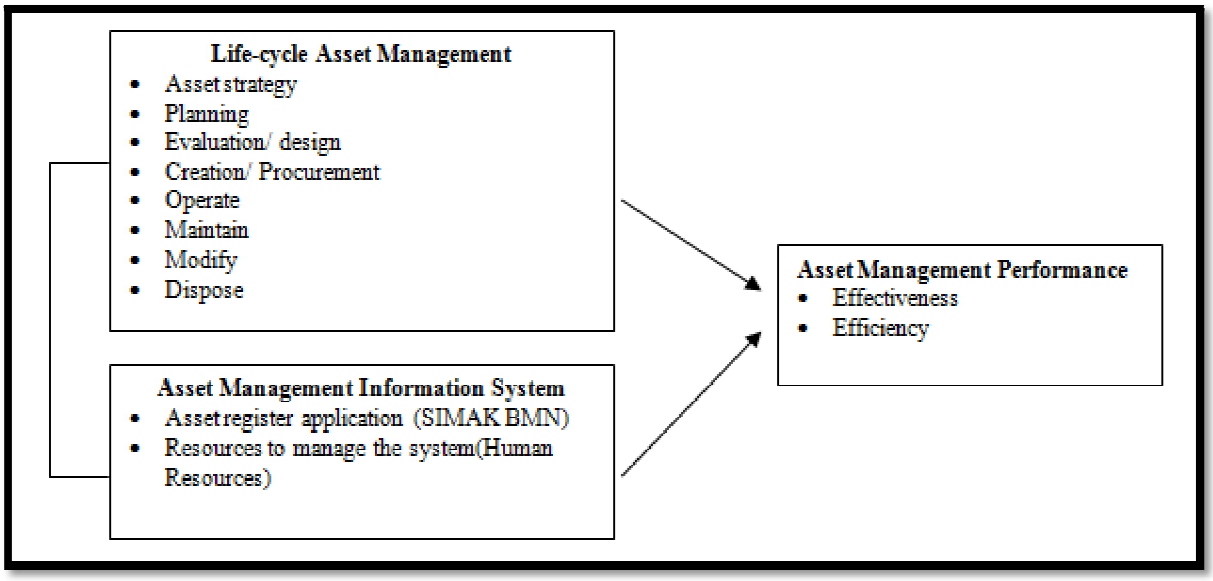

Figure 1: Chart of Framework

The framework developed is based on empirical phenomenon related to the concept of a literature review that has been built with the support of previous studies, can be seen briefly in Figure 1.

2.4. Hypotheses

The research hypotheses, which are built to answer the research questions, are as follows:

- H1: The life-cycle asset management significantly affects asset management performance at the BPS working units in Central Kalimantan Province.
- H2: The asset management information systems significantly affect asset management performance at the BPS working units in Central Kalimantan Province.

3. Methodology

3.1. Research Design

The method used in this research was a quantitative method. Sugiyono (2013) states that quantitative methods are called scientific methods because they have met the scientific principles, which include; concrete/empirical, objective, measurable, rational, and systematic. This method is also called as the method of proof because this method is suitable for verification. Then, this method is called quantitative method because of the research data is in the form of numbers and the analysis is using statistics.

Ferdinand(2006)mentions based on the method of explanation of science in the building theory developed, the type of research used in this research, is a type of research that aims to test the hypothesis by replicating the extension. Extension replication research is a research in which the researcher extends the hypothesis developed by other researchers to produce a new model that is more complete, comprehensive, and more focused on some hypothesis. If the research model is viewed as a small feature of the present phenomenon, the researcher used a hypothesis that has been developed by another researcher or reduced the hypothesis developed by other researchers and added or extended the new hypothesis that was newly developed by the researcher.

Ferdinand(2006)states that the type of scientific explanation that will be produced by this research is causal research that seeks an explanation in the form of cause-effect between several concepts, some variables or some strategies developed in management. Kuntjojo(2009) also states the classification of research used in this research is quantitative and verificative research with the aim of proving the truth of theory at a particular time and place.

3.2. Target Population, Sample and Sampling Technique

The research was conducted on all working units of Central Bureau of Statistics (BPS) of a regency/city in Central Kalimantan Province in 2017.The unit of analysis studied in this research was the goods and financial manager of all BPS working units in regency/city located in Central Kalimantan Province.Sugiyono(2017)mentions that the population is a generalization of a region consisting of objects/subjects that have specific qualities and characteristics set by the researcher to be studied and then drawn conclusions.

Num.	Employee position	Number of employee
1	The operators of SIMAK BMN of work unit of BPS in Central Kalimantan	15
2	The operators of SAIBA of work unit of BPS in Central Kalimantan	15
3	The operators of SIMAK BMN of area of BPS in Central Kalimantan	1
4	The operators of SAIBA of area of BPS in Central Kalimantan	1
Total		32

Table 1: Population and Sample Mapping
Source: Central Bureau of Statistics of Central Kalimantan Province

The population in this research was 32-unit managers consisting of the operator of Management Accounting Information System of State Property (SIMAK-BMN) and operator of Accounting System of Accrual Based Institution (SAIBA) in all BPS working units of regency/city in Central Kalimantan Province.

Sugiyono(2013)states the sample a part of numbers and characteristics which are possessed by the population. The sample used in this research was saturated sample. Sugiyono(2017)also adds that the saturated sampling is a technique of determining the sample when all members of the population used as a sample. The sample in this research was a total population of 32-unit managers.

3.3. Source and Methods of Data Collection

The sources of data used in this research were primary sources and secondary sources. Sugiyono(2017) calls the primary source a source of data that directly provides data to data collectors and secondary sources are sources that do not directly provide data to data collectors, for example through documents or others. The data collection technique used in this research is a questionnaire. Sugiyono(2013)mentions that the questionnaire is a data collection technique where participants/respondents fill questions or statements from the researcher.

3.4. Method of Data Processing Analysis

Ghozali(2011)explains measurement is the process where numbers and symbols are attached to the characteristics or properties of stimuli in accordance with established procedures. Stevens in Ghozali(2011)also adds that the ordinal scale is one of four measurement scales. However, according to the same source, the ordinal scale is not only categorized the variables into groups but also ranked the categories.

Ghozali(2011)declares that the appropriate statistical test for the ordinal scale is a nonparametric statistical test. The variables measured on a nominal and ordinal scale are called nonparametric or non-metric variables. Sugiyono(2013) states that Likert scale is a scale used to measure attitudes, opinions, and perceptions of a person or a group of social phenomena. Nevertheless, according to the same source, the variables measured by Likert scale are translated into variable indicators. The indicator is then used as a starting point to arrange the items of instruments that can be questions or statements. The answers of each instrument measured by Likert scale have ranged from strongly agree to strongly disagree (positive to negative). Sugiyono(2017)mentions the instrument of research is a tool used to measure the natural or social phenomenon observed, and the specific phenomenon observed is called the research variable. Sugiyono(2013)adds the research instrument used in this research is a questionnaire which is prepared based on indicators of research variables that is developed into items of research questions. Creswell(2017)mentions the underlying theory that constructed the instrument in this research is derived from the results of empirical research and practical sources adapted in research to answer research questions.

Creswell(2017)explains the excellent instrument is an instrument that is appropriate to be used in survey research. Sugiyono(2017)adds the questionnaire is an efficient data collection technique for researchers who exactly know what variables will be measured and what is expected from the respondents. The research questionnaire was distributed to the respondents by using the google forms application sent via email, whereSekaran(2003)calls the email serves as a substitution medium for sending physical questionnaires in the post which has the advantage including surveys for large geographical areas.Sugiyono(2017); Sugiyono(2013)states that the accuracy of the use of instruments affect the quality of research data, where the quality of research data is related to the validity and reliability of data to be obtained.Sugiyono(2013)also adds an explanation to a valid instrument means the instrument can be used to measure what should be measured, while a reliable instrument means if the instrument is used multiple times to measure the same object, the result will be the same.Ghozali and Latan(2015)mention the evaluation of measurement models to assess validity and reliability with outer models.

Measurement of validity is divided into two, which are the validity of convergent and discriminant validity. The convergent validity has a meaning, a set of indicators representing one latent variable, and underlying the latent variable. The validity of discriminant has a meaning that two concepts must show an adequate distinction.

The convergent validity is known by looking at the value of the loading factor and the Average Variance Extracted (AVE) value.Ghozali and Latan(2015)mention that the loading factor value for confirmatory research should be > 0.7. The Average Variance Extracted (AVE) score is at least 0.5 for both confirmatory and exploratory research. The measurement of

discriminant validity is done by looking at the value of cross loading. Wiyono(2011)mentioned that the value of correlation cross-loading with latent variables must be higher than the correlation to other latent variables.

Sarwono and Narimawati(2015)state that the measurement of reliability in a reflective outer model is using Cronbach's Alpha or composite reliability. The value of composite reliability is interpreted the same as Cronbach's Alpha value. This value becomes an illustration of the reliability of all indicators in the model. The minimum value of Cronbach's Alpha or composite reliability is > 0.7.

The testing of research questionnaires on a similar unit of analysis was conducted in BPS working units in West Java Province. The process of testing the questionnaires was conducted to support the validity and reliability of the instrument associated with the object under study. Testing the questionnaire on the unit of analysis with the same characteristics of the respondent has a purpose of making the questionnaire as a research instrument used, can measure what should be measured. Although the questionnaire was used multiple times to measure the same object, the result would notbe the same. This is in line with the statement mentioned previously by Sugiyono(2013) previously.

Sugiyono (2017)explains data analysis in quantitative research is an activity that is conducted after data from all respondents or other data sources collected. Sugiyono(2013)adds the collected data are grouped by variable and type of respondent. Further, Sugiyono (2017); Sugiyono(2013)state the tabulation of data are based on the variables of all respondents, presenting data of each variable studied, performing calculations to answer the research questions, and performing calculations to test the hypothesis that has been proposed by using statistical analysis.

The model that was built in the research is the association model of causality by using ordinal measurement scale to test the sample data of 32 respondents. Latan(2013)mentions SEM as an appropriate analytical tool used to analyze unobserved variables. Sarwono and Narimawati(2015)mentions that Partial Least Square SEM (PLS-SEM) is an appropriate analytical tool used to test statistical modeling with test requirements of small sample size because PLS SEM gives leeway to users to use measurement scale other than interval, which is not permitted in SEM on a known covariance basis.

Wiyono(2011)calls PLS-SEM is a statistical analysis tool developed as an alternative to test research with the use of weak fundamental theory. Sarwono and Narimawati(2015); Ghozali and Latan(2015)call the Smart PLS software version 3.0 is a software that is good enough to analyze data. Smart PLS software version 3.0 is one of the software that can be used to analyze data by using PLS-SEM procedure.

Ghozali and Latan(2015)states internal model testing was done to predict the relationship between latent variables. Wiyono(2011)mentions the similarities of the inner model are as follows:

$$\eta = \xi 1 + \xi 2 + \zeta$$

Information:

η is an endogenous vector construct

ξ is a vector of exogenous constructs

ζ is a residual variable vector (unexplained variance)

Wiyono(2011)states that internal model testing is done by looking at the calculation of R-square result of endogenous latent variable, parameter coefficient, and t-statistic, where the bootstrapping procedure obtains the value. Ghozali and Latan(2015)call the inner model evaluated by looking at the percentage of variance described by looking at the percentage of R-square for endogenous latent constructs. Sarwono and Narimawati(2015)mentions the calculation of R-square endogenous latent variables in which the value of $0.67 \leq R2 \leq 0.7$ indicates the "substantial" model, the value of $0.33 \leq R2 \leq 0.66$ indicate the "moderate" model, and the value of $0.19 \leq R2 \leq 0.32$ indicate the model is "weak". The value of $0.7 < R2$ is categorized as "strong."

Wiyono(2011); Ghozali and Latan(2015)states that the parameter coefficients and t-statistics performed to see the estimated value of the path relations in the structural model which must be signed with the bootstrapping test procedure.Sarwono and Narimawati(2015)mentions the coefficient parameter is the coefficient of individual paths on the structural model.Ghozali and Latan(2015)also mentions the bootstrap method to test significance by comparing t-counts with t-tables at each significance level (10%, 5%, and 1%).

The statistical testing of the hypothesis was conducted to answer the second research question. The first statistical hypothesis was built to answer the second research question. The hypothesis is:

The hypothesis of the life-cycle asset management on the asset management performance in all BPS working units in Central Kalimantan Province.

- Ho: The life-cycle asset management has no significant effect on asset management performance in BPS working units in Central Kalimantan Province.
- H1: The life-cycle asset management has a significant effect on asset management performance in BPS working units in Central Kalimantan Province.

The testing was executed by comparing t-arithmetic and t-table of the variable (X1), where the significance of t-table 5% and DF = 30 (n-2) is equal to 2.0423. The result of statistical t-test results from Smart PLS 3.0 software (student version) through the bootstrapping procedure is used to answer the second research question.

The testing of statistical hypothesis was done to answer the third research question. The second statistical hypothesis was built to answer the third research question. The hypothesis is:

The hypothesis of the asset management information systems on the asset management performance in all BPS working units in Central Kalimantan Province.

- Ho: The asset management information systems have no significant effect on asset management performance at BPS working units in Central Kalimantan Province.
- H1: The asset management information systems have a significant effect on asset management performance at BPS working units in Central Kalimantan Province.

The testing was done by comparing t-arithmetic and t-table variable (X2), where significance t-table 5% and DF = 30 (n-2) is equal to 2.0423. The result of statistical t-test results from Smart PLS 3.0 software (student version) through the bootstrapping procedure was used to answer the third research question.

4. Data Analysis and Interpretation

4.1. Respondents' Characteristics

The characteristics of respondents is a general description of respondents who became the objects in the study, including gender, the age of respondents, marital status, the entire employment of respondents, overall employment status in the current position, and last education.

4.1.1. Gender of the Respondents

The respondents in this research were mostly female. The numbers of female respondents are 24 peoples, and male respondents are eight peoples.

4.1.2. Respondents' Age

The age range of respondents who became the object in this research spaced between the ages of 21 until 30 years old; 31 until 40 years old; and 41 until 50 years old. The number of respondents who are in the age distance of 21 until 30 years old is as many as 16 respondents or by 50 percent; the respondents who are in the age distance of 31 until 40 years old is as many as 14 respondents or amounted to 43.75 percent; and the respondents who are in the age distance of 41 until 50 years old is as many as two respondents or by 6.25 percent.

4.1.3. The Marital Status of Respondents

The proposition of marital status of respondents who became an object in this research with single status is ten respondents or in the percentage of 31.25 percent. The respondents with marital status are 22 people or 68.75 percent.

4.1.4. The Working Period of the Respondents

The entire working period of the respondents were divided into four time spans. The time spans are 2 to 5 years; 6 to 10 years; 11 to 20 years; and 21 to 30 years. The number of respondents who have an overall working period between 2 to 5 years was 12 respondents or 38 percent. The same amount and percentage apply to the respondents who have an overall working period of 6 to10 years. The respondents with total service life ranged between 11 to 20 years were six respondents or 19 percent. The respondents who have an overall working period of 21 to 30 years were two respondents or six percent.

4.1.5. Respondents' Overall Employment in Current Position

The duration of respondents who are working in the current position was divided into four time spans, which are; <1 year, <5 years, <10 years, and 11 to 20 years. The number of respondents who have been working for <1 year in the current position was many as 15 respondents or by 47 percent. The number of respondents who have been working for <5 years was nine respondents or 28 percent. The respondents who have been working for <10 years was as many as seven respondents or by 22 percent. The respondents who have been working for 11 to 20 years was one respondent or by 3 percent.

4.1.6. Respondents' Last Education

The last education of most respondents are Diploma IV/Bachelor degree (S1), and the amount were 22 respondents or around 69 percent. The respondents with senior high school/equivalent education were sevenrespondents or around 22 percent. The rest of the respondents' last education is Diploma III degree, which were amounted to two respondents or around 6 percent,and the respondents with thelevel of education of Master degree (S2) was one respondent or in thepercentage of 3 percent.

4.2. The Test of Validity and Reliability of the Instrument

The testing of validity and reliability of the instruments in this chapter was doneby the coherence and explanation as described in the previous explanation.

4.2.1. The Testing of Outer Model for the Asset Management Performance Variable

The testing of outer model testing for the variable of asset management performance as presented in Figure 4.7 showed that there are several indicators in each of the asset management performance dimensions that have outer loading values which are amounted to <0.7.

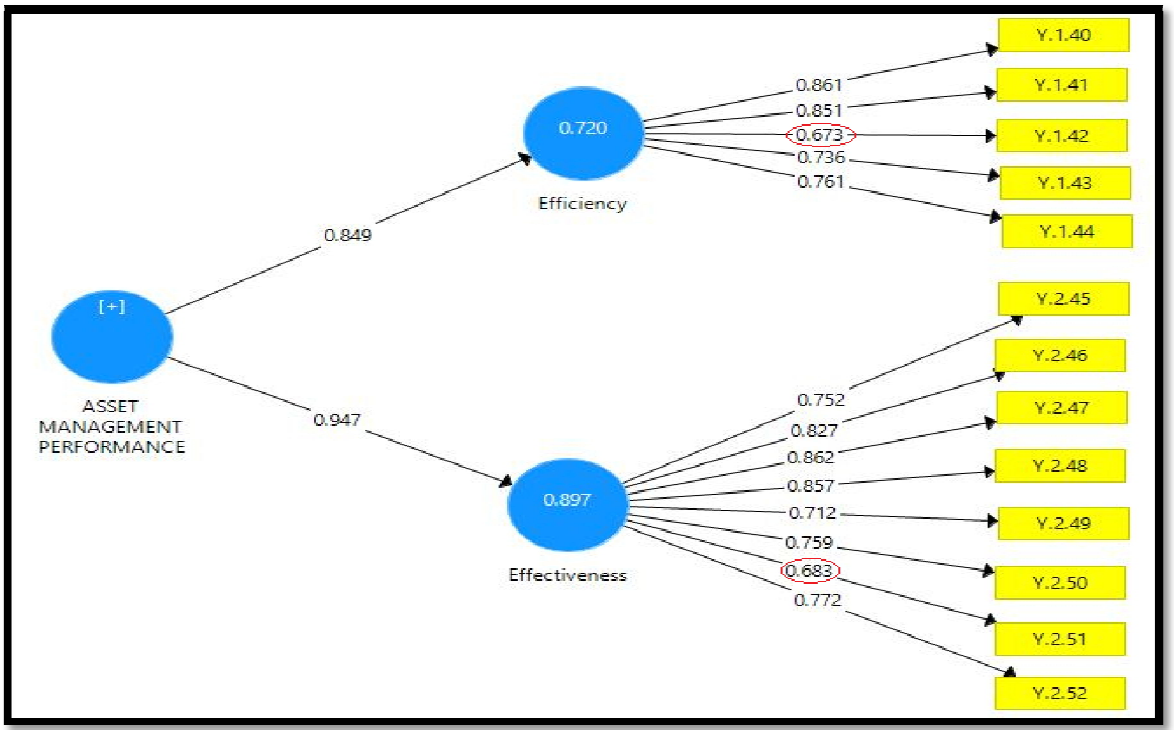

Figure 2: The First Testing of the Outer Loading for the Variable of Asset Management Performance
Source: Primary Data Processed by Author, 2017

The indicators of Y.1.42 and Y.2.51 which have an outer loading valueof <0.7 then excluded from the model. The testing of the outer model for the asset management performance variable that has been perfected and it can be seen in Figure 4.8.

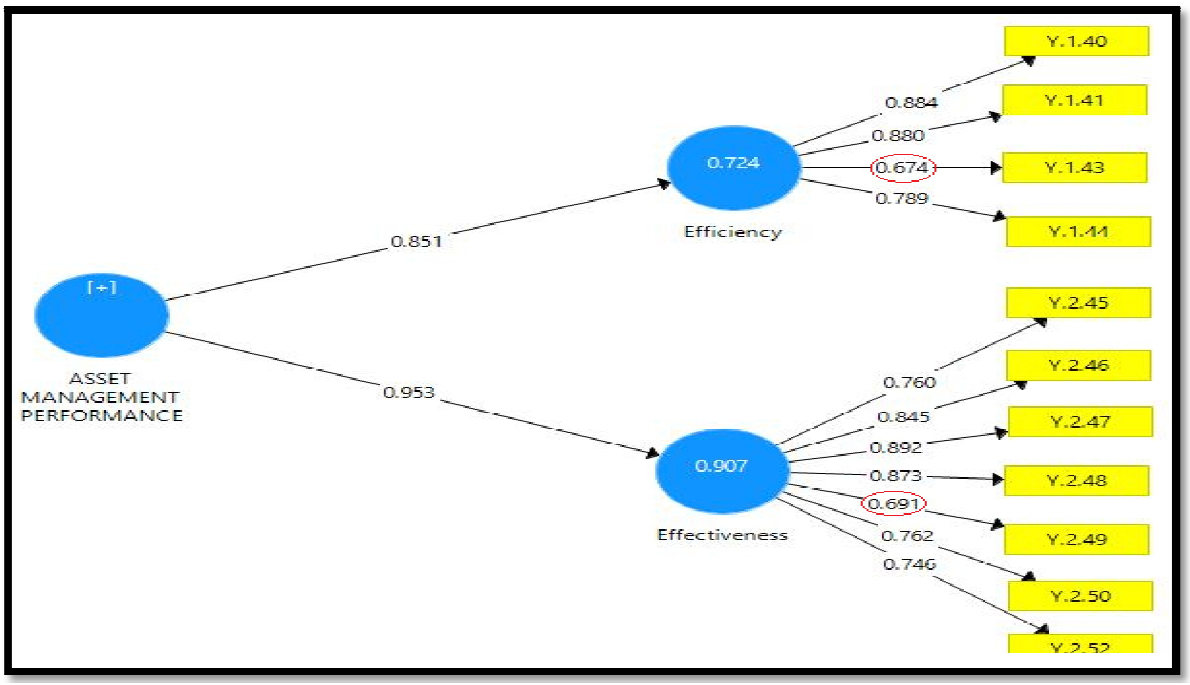

Figure 3: The Second Testing of the Outer Loading for the Variable of Asset Management Performance
Source: Primary Data Processed by Author, 2017

Theresults of theouter model test in Figure 4.8 show that there are indicators with outer loading value of <0.7. Ghozali & Latan (2015) mentions the loading factor valueto show the validity of convergent at confirmatory research is > 0.7. Referring to Ghozali &Latan, then elimination is again performed on indicators that have outer loading value of <0.7 on theouter latent variable model of asset management performance. The result of the loading factor after the elimination of Y.1.43 and Y.2.49 indicators on the outer test of thesecondmodel can be seen in Figure 4.9.

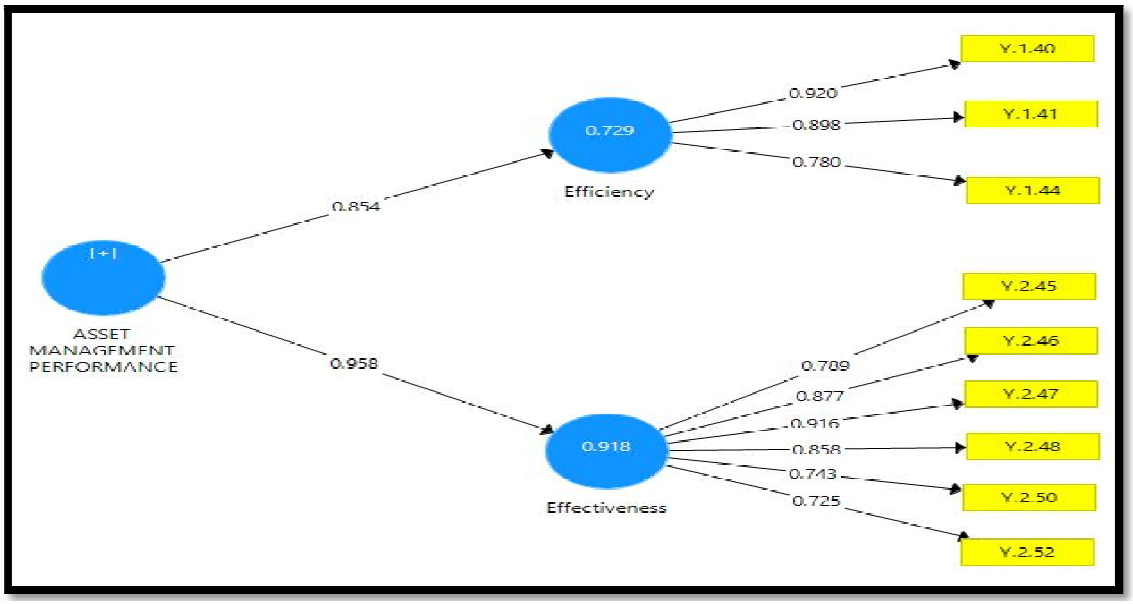

Figure 4: The Third Testing of Outer Loading for the Variable of Asset Management Performance
Source: Primary Data Processed by Author, 2017

The testing of the outer model of asset management performance variable conducted through PLS Algorithm procedure. The third test result shows that the overall value of the outer loading value for asset management performance indicators is > 0.7. The recapitulation of the convergent validity test results through the loading factor parameters for the outer model of asset management performance variable can be seen in Table 2.

Impacts	Values	Information
Y.1.40 --> Efficiency (Y.1)	0.920	Valid
Y.1.41 --> Efficiency (Y.1)	0.898	Valid
Y.1.44 --> Efficiency (Y.1)	0.780	Valid
Y.2.45 --> Effectiveness (Y.2)	0.789	Valid
Y.2.46 --> Effectiveness (Y.2)	0.877	Valid
Y.2.47 --> Effectiveness (Y.2)	0.916	Valid
Y.2.48 --> Effectiveness (Y.2)	0.858	Valid
Y.2.50 --> Effectiveness (Y.2)	0.743	Valid
Y.2.52 --> Effectiveness (Y.2)	0.725	Valid

Table 2: The Final Value of the Outer Loading for the Asset Management Performance
Source: Primary Data Processed by Author, 2017

The Average Variance Extracted (AVE) is one of the parameters to see the validity of convergent other than the value of outer loading. Sarwono & Narimawati (2015) mention that the value of AVE which is > 0.5 used to determine the validity of the convergent.

Impacts	Value	Information
Asset management performance (Y)	0.594	Valid
Efficiency	0.754	Valid
Effectiveness	0.674	Valid

Table 3: The Value of Average Variance Extracted (AVE) for the Asset Management Performance
Source: Primary Data Processed by Author, 2017

The value of AVE for all dimensions which is > 0.5 are shown in Table 3 Referring to the statement of Sarwono and Narimawati (2015), based on the AVE values that are shown in Table 3, the indicators were used to describe the asset management performance dimension through the validity parameter of the convergent is valid.

The cross-loading value was used to see the validity of discriminant of the research instruments. Ghozali & Latan (2015) mentions that the cross-loading value should be > 0.7 for each variable. Wiyono (2011) adds that the cross-loading value correlation with latent variables must be greater than the correlation with other latent variables. Referring to that opinion, in Table 4.3, it is known that the cross-loading value of each dimension indicators for asset management performance is dominant to its dimension when it is compared with the cross-loading value of the other dimension. The cross-loading value of each indicator is > 0.7.

Indicators	Dimensions		Information
	Efficiency	Effectiveness	
Y.1.40	0.920	0.615	Dominant
Y.1.41	0.898	0.670	Dominant
Y.1.44	0.780	0.428	Dominant
Y.2.45	0.603	0.789	Dominant
Y.2.46	0.580	0.877	Dominant
Y.2.47	0.632	0.916	Dominant
Y.2.48	0.439	0.858	Dominant
Y.2.50	0.450	0.743	Dominant
Y.2.52	0.573	0.725	Dominant

Table 4: The Final Value of the Cross Loading for the Variable of Asset Management Performance
Source: Primary Data Processed by Author, 2017

Theresult of the testing of the validity parameters, both from the validity of convergent and discriminant shows the overall statistics test results on the indicators that were used by the last model in explaining the dimension of the asset management performance variable are valid.

Thereliability measurement was using the parameters of the composite reliability or the Cronbach's Alpha. Ghozali & Latan (2015) mentions the value of the composite reliability and the Cronbach's Alpha for confirmatory research are > 0.7.

Reliability Measurement	Impacts	Values	Information
Composite Reliability	Asset management performance (Y)	0.929	Reliable
	Efficiency	0.902	Reliable
	Effectiveness	0.925	Reliable
	Impacts	Values	Information
Cronbanch's Alpha	Asset management performance (Y)	0.913	Reliable
	Efficiency	0.836	Reliable
	Effectiveness	0.901	Reliable

Table5: The Value of Composite Reliability and Cronbach's Alpha of Asset Management Performance
Source: Primary Data Processed by Author, 2017

Theresults of the reliability measurement for the dimensions of asset management performance by using either composite reliability or Cronbach's Alpha parameters show that all indicators used to measure the dimensions,and latent variables of asset management performance are all reliable.

4.2.2. The Testing of Outer Model for the Life-cycle Asset Management Variable

The results of the outer model testing for the life-cycle asset management can be seen in Figure 5 The loading factor value is represented by the outer loading value for each dimension indicator, as previously stated, should be > 0.7.

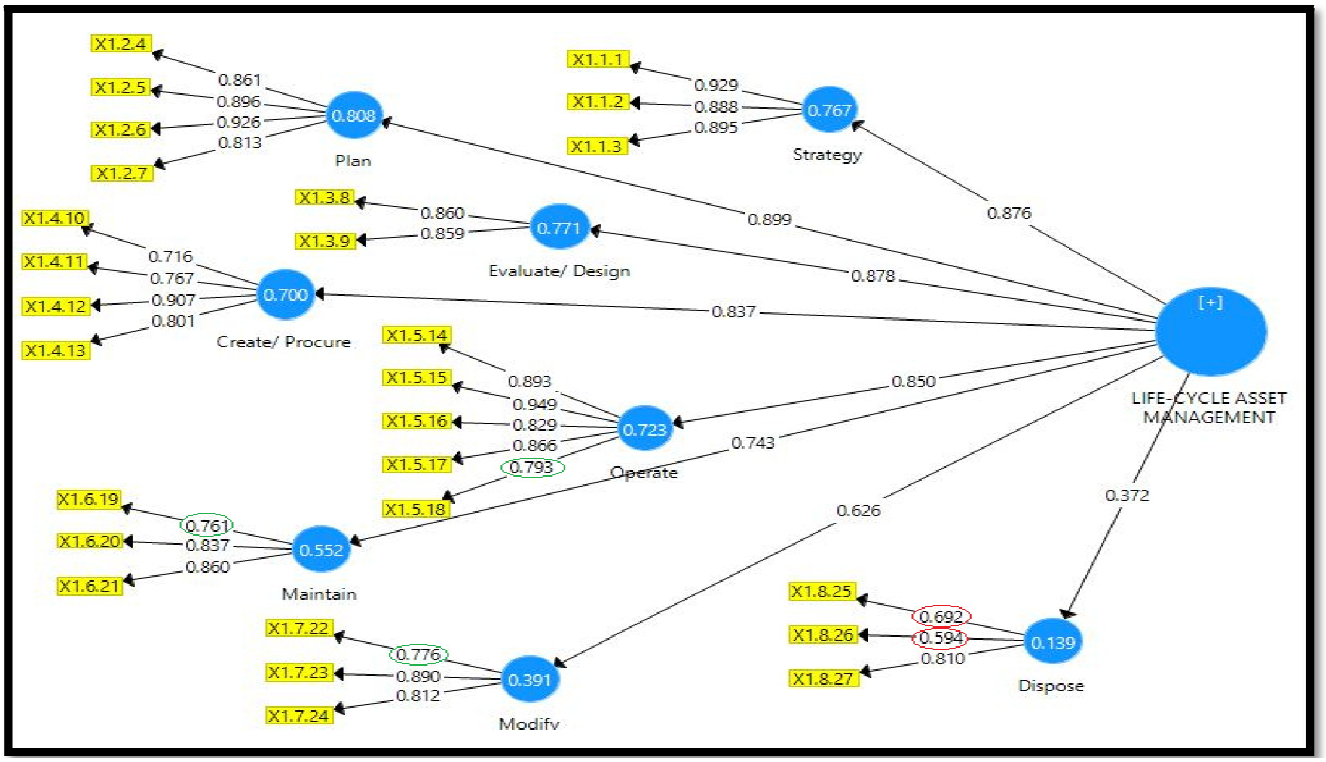

Figure 5: The First Testing of the Outer Loading for the Variable of Life-Cycle Asset Management
Source: Primary Data Processed by Author, 2017

The elimination was performed on indicators with an outer loading value of <0.7 in Figure 5 The indicators of X1.8.25 and X1.8.26 had an actual outer loading value of <0.7. As already mentioned by Ghozali & Latan (2015), the validity of the convergent is not only seen from the loadingfactor parameter, but also from the Average Variance Extracted (AVE). The values of AVE which complied (AVE> 0.5) for the variable of life-cycle asset management that were obtained by eliminating threeadditional indicators with an outer loading valueof <0.8 were; X1.5.18, X1.6.19, and X1.7.22. The final results of theouter model for the life-cycle asset management can be seen in Figure 6.

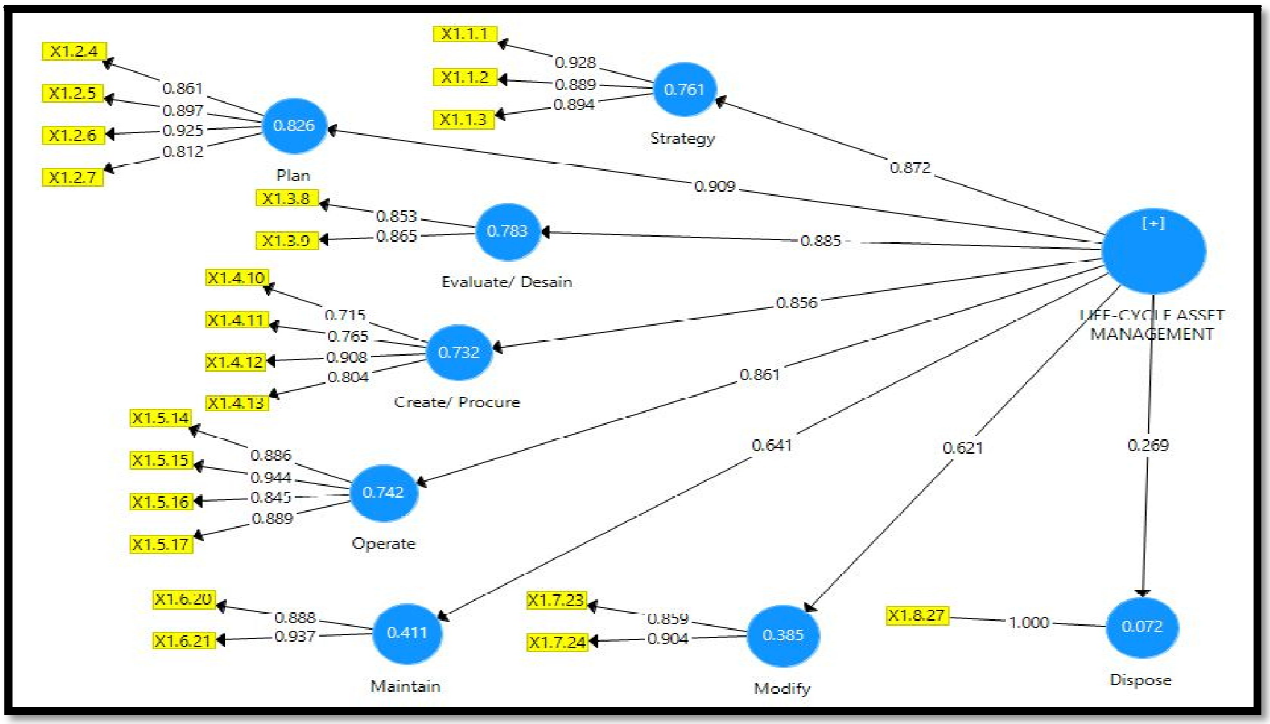

Figure 6: The Second Testing of the Outer Loading for the Variable of a Life-Cycle Asset Management
Source: Primary Data Processed by Author, 2017

The recapitulation of the outer loading value of the parameter of loading factor from the last testing results of the outer model for the latent variable of the life-cycle asset management can be seen in Table 6.

Impacts	Values	Information
X1.1.1 --> Strategy (X1.1)	0.928	Valid
X1.1.2 --> Strategy (X1.1)	0.889	Valid
X1.1.3 --> Strategy (X1.1)	0.894	Valid
X1.2.4 --> Planning (X1.2)	0.861	Valid
X1.2.5 --> Planning (X1.2)	0.897	Valid
X1.2.6 --> Planning (X1.2)	0.925	Valid
X1.2.7 --> Planning (X1.2)	0.812	Valid
X1.3.8 --> Evaluate/ Design (X1.3)	0.853	Valid
X1.3.9 --> Evaluate/ Design (X1.3)	0.865	Valid
X1.4.10 --> Create/ Procure (X1.4)	0.715	Valid
X1.4.11 --> Create/ Procure (X1.4)	0.765	Valid
X1.4.12 --> Create/ Procure (X1.4)	0.908	Valid
X1.4.13 --> Create/ Procure (X1.4)	0.804	Valid
X1.5.14 --> Operate (X1.5)	0.886	Valid
X1.5.15 --> Operate (X1.5)	0.944	Valid
X1.5.16 --> Operate (X1.5)	0.845	Valid
X1.5.17 --> Operate (X1.5)	0.889	Valid
X1.6.20 --> Maintain (X1.6)	0.888	Valid
X1.6.21 --> Maintain (X1.6)	0.937	Valid
X1.7.23 --> Modify (X1.7)	0.859	Valid
X1.7.24 --> Modify (X1.7)	0.904	Valid
X1.8.27 --> Disposal (X1.8)	1.000	Valid

Table 6: The Final Values of the Outer Loading for the Life-Cycle Asset Management
Source: Primary Data Processed by Author, 2017

The outer loading value for all indicators of each dimension of the life-cycle asset management variable was > 0.7. The value of convergent validity for the latent variable of the life-cycle asset management was based on the parameter of AVE, and it was AVE = 0.504 > 0.5. The same rule applied to all dimensions of the life-cycle asset management variable, in which the results of the statistical test for AVE parameters indicated the indicators which were used to measure each dimension of the life-cycle asset management was AVE > 0.5. The data of the statistical test results related to it can be seen in Table 7.

Impacts	Values	Information
Life-cycle asset management (X1)	0.504	Valid
Strategy	0.817	Valid
Plan	0.765	Valid
Evaluate/ Design	0.738	Valid
Create/ Procure	0.642	Valid
Operate	0.795	Valid
Maintain	0.833	Valid
Modify	0.778	Valid
Dispose	1.000	Valid

Table 7: The Average Variance Extracted (AVE) Values of the Life-Cycle Asset Management
Source: Primary Data Processed by Author, 2017

Table 7presents the AVE values for the final model by eliminating twoindicators that had an outer loading value of < 0.7 and three indicators that had a dominant effect on the convergent validity through the AVE value with an outer loading value of < 0.8. The statistical test results of the model showed that the entire AVE value for all dimensions of the life-cycle asset management variable was valid. This confirms the test of the convergent validity parameter by using both parameters of loading factor and AVE showed the same result, in which the last model for life-cycle asset management is valid.

The discriminant validity is known through the cross-loading parameter. The cross-loading value of each indicator of the dimensions for the life-cycle asset management variable was used as a benchmark to see how far each indicator of the

dimension had a difference with the size of the other dimensions that could be compared with that indicator. The cross-loading value is presented in Table 8.

Indicator	Dimensi								Information
	Strategy	Planning	Evaluat/Design	Create/Procure	Operate	Maintain	Modify	Disposal	
X1.1.1	0.928	0.680	0.724	0.592	0.695	0.563	0.467	0.338	Dominan
X1.1.2	0.889	0.622	0.658	0.695	0.553	0.639	0.414	0.231	Dominan
X1.1.3	0.894	0.650	0.686	0.636	0.478	0.516	0.450	0.371	Dominan
X1.2.4	0.632	0.861	0.792	0.567	0.569	0.558	0.395	0.125	Dominan
X1.2.5	0.639	0.897	0.750	0.587	0.591	0.458	0.529	0.130	Dominan
X1.2.6	0.694	0.925	0.779	0.661	0.680	0.513	0.506	0.268	Dominan
X1.2.7	0.548	0.812	0.627	0.649	0.735	0.237	0.532	0.258	Dominan
X1.3.8	0.686	0.729	0.853	0.553	0.525	0.615	0.209	0.493	Dominan
X1.3.9	0.627	0.720	0.865	0.736	0.659	0.422	0.312	0.030	Dominan
X1.4.10	0.663	0.561	0.561	0.715	0.575	0.252	0.375	0.325	Dominan
X1.4.11	0.633	0.549	0.625	0.765	0.588	0.375	0.327	0.090	Dominan
X1.4.12	0.531	0.564	0.627	0.908	0.619	0.294	0.319	0.139	Dominan
X1.4.13	0.429	0.577	0.587	0.804	0.556	0.362	0.341	0.115	Dominan
X1.5.14	0.430	0.618	0.467	0.521	0.886	0.180	0.488	0.162	Dominan
X1.5.15	0.619	0.664	0.662	0.655	0.944	0.391	0.466	0.182	Dominan
X1.5.16	0.470	0.646	0.499	0.652	0.845	0.223	0.481	0.016	Dominan
X1.5.17	0.717	0.688	0.785	0.757	0.889	0.550	0.496	0.111	Dominan
X1.6.20	0.503	0.390	0.527	0.306	0.237	0.888	0.308	0.183	Dominan
X1.6.21	0.639	0.521	0.568	0.414	0.453	0.937	0.556	0.017	Dominan
X1.7.23	0.317	0.397	0.236	0.384	0.479	0.401	0.859	0.096	Dominan
X1.7.24	0.532	0.578	0.296	0.370	0.477	0.461	0.904	-0.077	Dominan
X1.8.27	0.346	0.224	0.299	0.209	0.133	0.096	0.002	1.000	Dominan

Table 8: The Final Values of Cross Loading for the Life-Cycle Asset Management Variable
Source: Primary Data Processed by Author, 2017

The cross-loading value in Table 8 showed an indicator of each dimension that had dominant value to its dimension compared with another dimension. Ghozali & Latan (2015) mention, testing the discriminant validity with thereflexive indicator by seeing the cross-loading value for each variable must be > 0.7. Referring to Ghozali &Latan, the cross-loading value of each indicator for the dimensions that were explaining the latent variables of life-cycle asset management as presented in Table 8 are cross-loading values of each indicator which is > 0.7. This also confirms that the indicators explain the dimensions of the life-cycle asset management variable through discriminant parameter are valid.

Reliability Measurement	Impacts	Values	Information
Composite Reliability	Life-cycle asset management (X1)	0.956	Reliable
	Strategy	0.931	Reliable
	Plan	0.929	Reliable
	Evaluate/ Design	0.849	Reliable
	Create/ Procure	0.877	Reliable
	Operate	0.939	Reliable
	Maintain	0.909	Reliable
	Modify	0.875	Reliable
	Dispose	1.000	Reliable
Cronbanch's Alpha	Life-cycle asset management (X1)	0.950	Reliable
	Strategy	0.888	Reliable
	Plan	0.897	Reliable
	Evaluate/ Design	0.646	Not Reliable
	Create/ Procure	0.810	Reliable
	Operate	0.914	Reliable
	Maintain	0.803	Reliable
	Modify	0.716	Reliable
	Dispose	1.000	Reliable

Table 9: The Value of Composite Reliability & Cronbach's Alpha for the Life-Cycle Asset Management
Source: Primary Data Processed by Author, 2017

Themeasurement of reliability for the life-cycle asset management can be seen in Table 9 Chin (1998), in Ghozali & Latan (2015) mentions that Cronbach's Alpha tends to underestimate the reliability measurement, while composite reliability is a closer approximation with the assumption that the parameter estimation is accurate. Ghozali & Latan (2015) statement provided the basis for justifying the difference in values between composite reliability and Cronbach's Alpha presented in Table 9.

Ghozali &Latan's (2015) research became the basis for adjusting the differences of the value between composite reliability and Cronbach's Alpha for evaluation/design dimensions. Cronbach's Alpha value for evaluation/design dimension is 0.646, which is <0.7. The value is considered unreliable so it can not be used to explain the reliability parameters for the evaluation/design dimensions due to the underestimation.

The value of composite reliability (0.849 > 0.7) was used as a reliability parameter. This was because the value of composite reliability is considered to be closer to describe the dimensional reliability of the evaluation/design in explaining the life-cycle asset management variable. It also confirms if the overall indicator to measure reliability for the life-cycle asset management variable is reliable.

4.2.3. The Testing of Outer Model for the Asset Management Information System Variable

The testing of theouter model was performed on the latent variable of the asset management information systems to see the validity and reliability of the indicators that were used to measure each dimension to describe the variable of asset management information systems. The loading factor, AVE, and cross-loading, were used as parameters for the validity test. The composite reliability and Cronbach's Alpha were used as parameters for the reliability test. The result of the outer model test for the asset management information system svariableis presented in Figure 4.12.

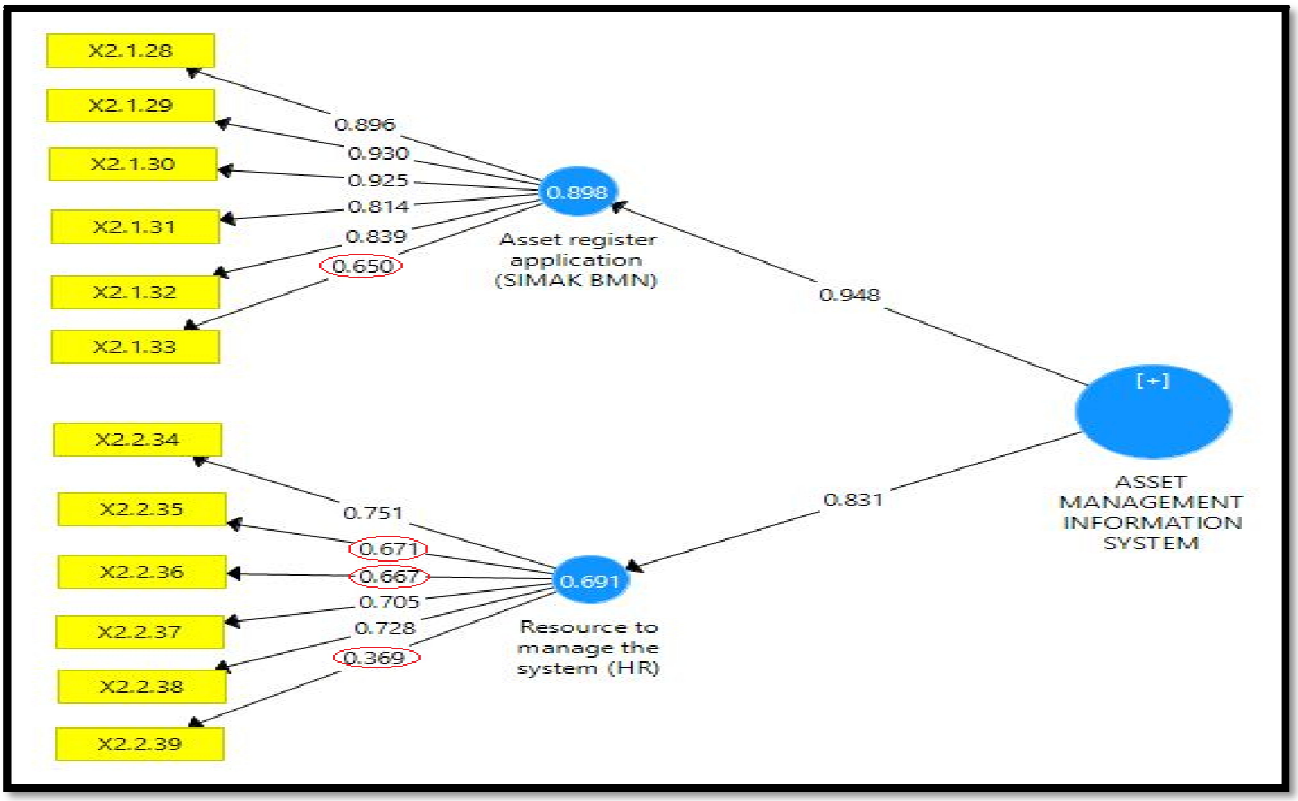

Figure 7: The First Testing of the Outer Loading for the Asset Management Information System Variable
Source: Primary Data Processed by Author, 2017

The statistical test of Figure 7 showed that the existence of four-dimensional indicators, as shown in the figure, are having an outer loading value of < 0.7. Each of these indicatorsis; X2.1.33, X2.2.35, X2.2.36, and X2.2.39. The result of re-testing of the model that has been passed the process of eliminating the indicator with the outer loading value of < 0.7 can be seen in Figure 8.

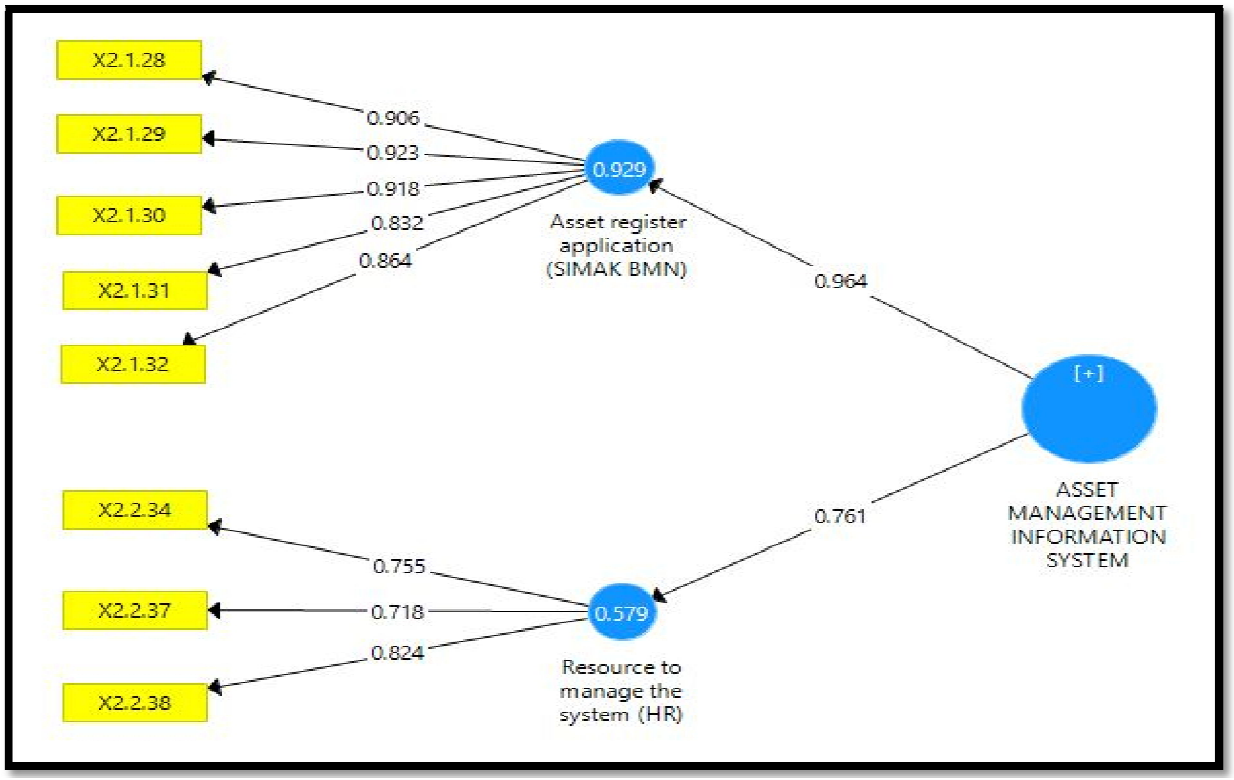

Figure 8: The Second Testing of the Outer Loading for the Asset Management Information System Variable
Source: Primary Data Processed by Author, 2017

Figure 8 showed the outer loading value of each indicator that explained the dimension of the model, with the overall outer loading value of > 0.7. The recapitulation of the statistical test results for the loading factor parameter on the model shown in Figure 8 can be seen in Table 10.

Impacts	Values	Information
X2.1.28 -->Asset register application-SIMAK BMN(X2.1)	0.906	Valid
X2.1.29 -->Asset register application-SIMAK BMN(X2.1)	0.923	Valid
X2.1.30 -->Asset register application-SIMAK BMN(X2.1)	0.918	Valid
X2.1.31 -->Asset register application-SIMAK BMN(X2.1)	0.832	Valid
X2.1.32 -->Asset register application-SIMAK BMN(X2.1)	0.864	Valid
X2.2.34 -->Resource to manage the asset-HR (X2.2)	0.755	Valid
X2.2.37 -->Resource to manage the asset-HR (X2.2)	0.718	Valid
X2.2.38 -->Resource to manage the asset-HR (X2.2)	0.824	Valid

Table 10: The Final Value of an Outer Loading for the Asset Management Information System
Source: Primary Data Processed by Author, 2017

Table10 showed that the overall value of outer loading for an asset management information systems had met the requirements of > 0.7 as required for confirmatory research. The AVE value was used as another parameter to view the validity of convergent. The results of statistical tests through AVE parameters for the asset management information systems variablecan be seen in Table 4.10.

Impacts	Values	Information
Asset management information system (X2)	0.576	Valid
Asset register application-SIMAK BMN	0.791	Valid
Resource to manage the system-HR	0.588	Valid

Table 11: The Value of Average Variance Extracted (AVE) for the Asset Management Information System
Source: Primary Data Processed by Author, 2017

The result of thestatistical test through AVE parameter for the asset management information systems variable was AVE = 0.576 > 0.5. The same rule was appliedto the dimensions that were explaining the variable of the asset management information systems. As presented in Table 11, each of these dimensions has an AVE value of > 0.5.
Thecross-loading parameters were used to complement the previous validity test results to the latent variable of the asset management information systems. The results of discriminant validity test through cross-loading parameter can be seen in Table 12.

Indicator	Dimension		Information
	Asset register application-SIMAK BMN	Resource to manage the system-HR	
X2.1.28	0.906	0.479	Dominant
X2.1.29	0.923	0.552	Dominant
X2.1.30	0.918	0.550	Dominant
X2.1.31	0.832	0.305	Dominant
X2.1.32	0.864	0.583	Dominant
X2.2.34	0.205	0.755	Dominant
X2.2.37	0.187	0.718	Dominant
X2.2.38	0.682	0.824	Dominant

Table12: The Final Value of Cross Loading for the Asset Management Information System Variable
Source: Primary Data Processed by Author, 2017

Table 12showed the cross-loading value indicator for each dimension of asset management information systems was more dominant to its dimension compared with another dimension. It also confirms that the last model of the asset management information systems variable as shown in Figure 8 had met the required validity criteria. The result of the validity (convergent and discriminant) parameter test for the last model of the asset management information systems confirms the overall dimension indicator of the latent variable of the asset management information systems are valid.

The results of the reliability test on the model were done by looking at the composite reliability and Cronbach's Alpha parameters with the adjustment of the result value as previously stated. The value of composite reliability and Cronbach's Alpha for the last model of an asset management information systems variable can be seen in Table 13.

Reliability Measurement	Impacts	Values	Information
Composite Reliability	Asset management information system (X2)	0.910	Reliable
	Asset register application-SIMAK BMN	0.950	Reliable
	Resource to manage the system-HR	0.810	Reliable
Cronbanch's Alpha	Impacts	Values	Information
	Asset management information system (X2)	0.880	Reliable
	Asset register application-SIMAK BMN	0.933	Reliable
	Resource to manage the system-HR	0.695	Not Reliable

Table 13: The Value of Composite Reliability & Cronbach Alpha for the Asset Management Information System
Source: Primary Data Processed by Author, 2017

Theresults of thestatistical test for the reliability parameters were presented in Table 13 There is a difference in value between the composite reliability (0.810> 0.7/reliable) and Cronbach's Alpha (0.695 <0.7/unreliable) parameters in explaining the reliability test for the human resource dimension of managing the system (HR). Adjustment to the difference in value was executed by referring to Ghozali & Latan (2015).

Ghozali and Latan mentions that if there is a significant difference between them (composite reliability and Cronbach's Alpha), then the value of composite reliability is used as a closer approximation. It also supports the affirmation of the reliability test for the variable of asset management information systems, in which the overall indicators that explain the dimensions of the asset management information systems are reliable.

4.3. Hypothesis Testing and Discussions

The processing and analysis of data were done on the primary data and the result of the research questionnaire that was distributed to 32-unit managers (SIMAK BMN operators and SAIBA operators) in all BPS working units of Central Kalimantan Province. The distribution and data collection through questionnaires conducted on September 12, 2017, until

October 12, 2017. The questionnaires distributed were 32 questionnaires, and the questionnaires returned were 32 and had been filled by respondents.

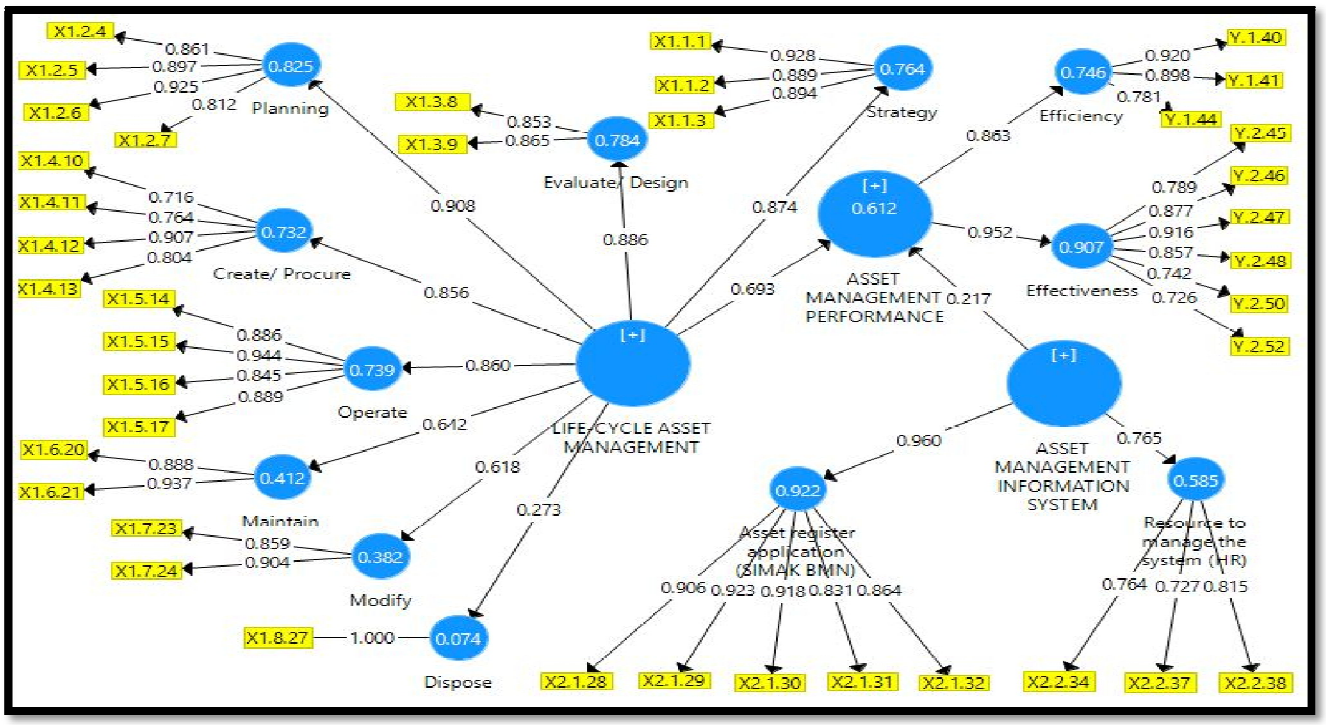

Figure 9: The Test Result of Inner Model through PLS Algorithm Procedure
Source: Primary Data Processed by Author, 2017

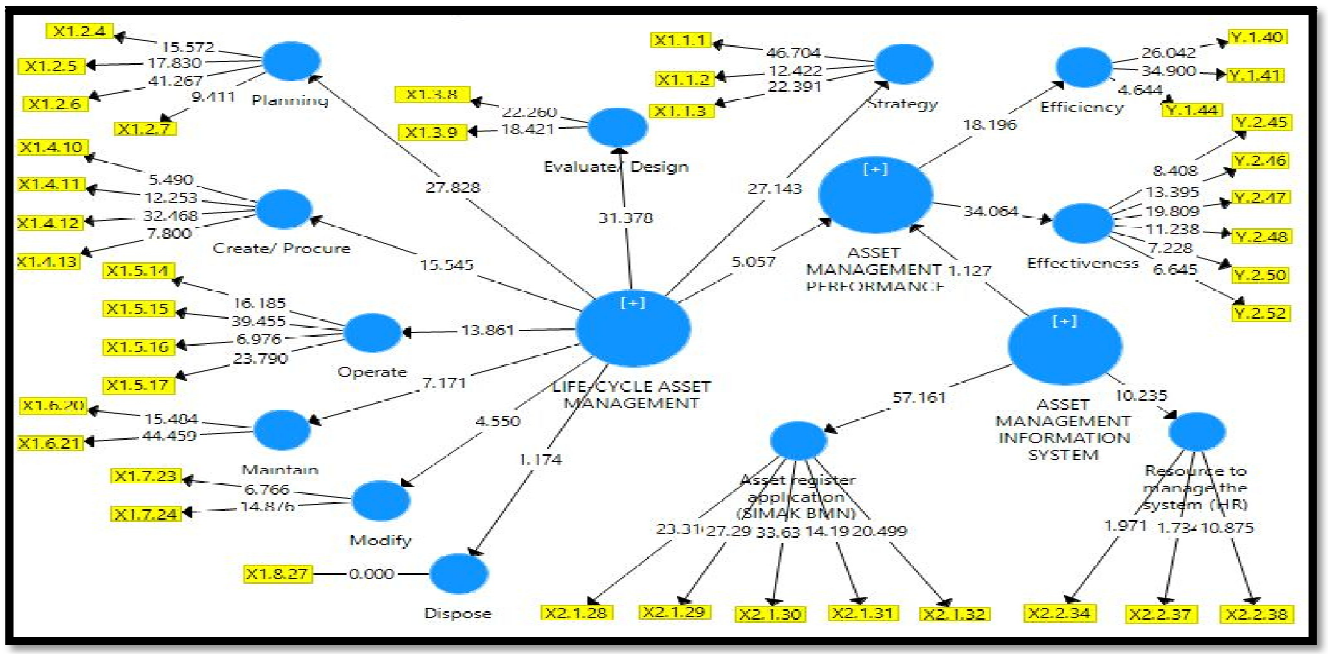

Figure 10: The Test Result of Inner Model through Bootstrapping Procedure
Source: Primary Data Processed By Author, 2017

Theresults of the primary data collection were tabulated for statistical tests. The statistical test was done by using SmartPLS 3.0 software (student version) with Microsoft Excel 2007 support. Microsoft Excel 2007 was used to support SmartPLS 3.0 software (student version) in performing parameter test which was needed to answer the research questions. The model descriptions (variables, dimensions, and indicators) examined in the researchcan be seen in Figures 9 and 10.

The hypothesis testing was executed to answer the second and third research questions in accordance with the systematics that hasbeen prepared in the previous chapter.The recapitulation of the statistical test results to answer the statistical hypothesis as stated in the previous chapter is presented in Table 14.

Variable		Parameter coefficient	T-stat	Significance
Life-cycle asset management (X1)	Asset management performance (Y)	0.693	5.143	Significant
Asset management information system (X2)	Asset management performance (Y)	0.217	1.264	Not Significant

Table 14: The Recapitulation of the Statistic Test Result to Answer Hypothesis
Source: Primary Data Processed by Author, 2017

The form of inner model formulation based on the parameter coefficient as shown in Table 4.13 is as follows:

$$\eta = 0.693\xi1 + 0.217\xi2$$

The statistical output for R-Square is 0.612. It means that if the life-cycle asset management and the asset management information systems can explain the performance of asset management by 61.2%. The rest of the 38.8% is explained by other variables outside the model. Sarwono & Narimawati (2015: 23) mentioned the R-Square criteria were; $0.67 \leq R2 \leq 0.7$, which shows the "substantial" model, $0.33 \leq R2 \leq 0.66$ that indicates the "moderate" model, and $0.19 \leq R2$ 0.32 that shows the "weak" model. Referring to the criteria mentioned by Sarwono & Narimawati, the research model was categorized as "moderate." The entry model in the "moderate" category means that the model is good enough in predicting the proposed research model.

Theoutput data of statistical test result in Table 14was used to give adecision on each hypothesis. The test results of each hypothesis are described as follows:

4.3.1. The Results of the First Hypothesis Testing

Thefirst statistical hypothesis test was performed by comparing t-arithmetic and t-table for thevariable (X1) with thesignificance of 5% t-table and DF = 30 (n-2) of 2.0423. The statistical test results in Table 4.27 were used to provide a decision on the statistical hypothesis built to answer the second research question. The decision on the statistical hypothesis is:

- Ho: The life-cycle asset management has no significant effect on asset management performance at BPS working units in Central Kalimantan Province.
- H1: The life-cycle asset management has a significant effect on asset management performance at BPS working units in Central Kalimantan Province.

The t-test statistic for the effect of the life-cycle asset management (X1) on asset management performance (Y) was t-arithmetic of $5.143 >$ t table (α = 5%; DB = 30) of 2.042. Then, it means that Ho is rejected. So, the conclusion was the life-cycle asset management (X1) had a positive effect on management performance (Y) significantly with 95% confidence level.

Thelife-cycle asset management affects the asset management performance at BPS working units in Central Kalimantan Province significantly. It is proved by testing the first hypothesis. The value of t-arithmetic is greater than t-table (5.143 > 2.0423) and parameter coefficient of 0.693 indicates that the life-cycle asset management has a positive and significant influence on 95% confidence level on the asset management performance at BPS working units in Central Kalimantan Province. The positive effect of the life-cycle asset management on the asset management performance means that the increase/implementation improvement of the life-cycle asset management will improve the asset management performance. The value of the parameter coefficient of 0.693 means that if the life-cycle asset management increased by one unit, then the asset management performance will rise by 0.693.

The results of research on BPS working units in Central Kalimantan Province related to the life-cycle asset management showed that the implementation of stages of the life-cycle asset management which is strongly related to the asset management performance is the stage of strategy, planning, evaluation/design, and creation/procurement. The results showed that the stages of operation, maintenance, and disposal have relationships in the "moderate" category. Then, the modification stages relationship with asset management performance is in the "low" category (Appendix C).

The results of the research are related to the life-cycle asset management in accordance with the conditions revealed in the phenomenon, although the disposal stage, in its implementation, has a relationship in the 'moderate' category with the asset management performance at BPS working units in Central Kalimantan Province. The results showed that the relation of the modification stage in the life-cycle asset management with the asset management performance is in the category of 'low' relationship. The results of the research further reveal that the stages in the life-cycle asset management that havea strong relationship with asset management performance are the stage of strategy, planning, evaluation/design, and creation/procurement.

Theresults of the life-cycle asset management testing in its effect on asset management performance is in accordance with the opinion of Campbellet al. (2011). The implementation of the primary asset management process and its components from beginning to disposal has a significant impact on the asset management performance. Furthermore, the relationship between the life-cycle asset management stages in the public sector which is previously described in Kolinug et al. (2015) was not known which contributed the most to the successful ofan asset management that can be answered in this research, although only in the context of conditions of the BPS in Central Kalimantan Province. The results of this research also complement Aira's (2014) study to determine which steps of the life-cycle asset management (from beginning to end of cycle) that need attention in asset management.

4.3.2. The Results of the Second Hypothesis Testing

The second hypothesis testing was done by comparing t-arithmetic and t-table for the variable (X2) with the significance of 5% t-table and DF = 30 (n-2) of 2.0423. The decision on the statistical hypothesis built to test the formula is:

- Ho: The asset management information systems have no significant effect on asset management performance at BPS working units in Central Kalimantan Province.
- H1: The asset management information systems have a significant effect on asset management performance at BPS working units in Central Kalimantan Province.

Thet-test statistic for the effect of asset management information systems (X2) on asset management performance (Y) was t-arithmetic of 1.264 < t-table ($\alpha = 5\%; DB = 30$) of 2.0423. It means that it has no enough evidence to reject Ho. The asset management information systems (X2) had a positive effect on the management performance (Y),but it was not significant with 95% confidence level.

The asset management information systems affects the asset management performance at BPS working units in Central Kalimantan Province positively but not significantly. This is in accordance with the results of the second hypothesis test. The t-value of the statistical test result for the asset management information systems are smaller than the t-table value (1.264 <2.0423) and the parameter coefficient of 0.217 indicates that the asset management information systems has a positive but insignificant effect on the 95% confidence level on the asset management performance at the BPS working units in Central Kalimantan Province. The implementation of an asset management information systems has the effect of improving the asset management performance in BPS working units in Central Kalimantan Province but has no significant impact.

The results of the research related to the asset management information systems in its effect on the asset management performance at BPS working units in Central Kalimantan Province is hitting ananomaly. The anomaly of the research was due to the limited amount of data obtained to test the statistical hypothesis. The research data collected from 32 respondents are still not able to prove the existence of real asset management information systems effect on asset management performance at BPS working units in Central Kalimantan Province. The limitations of the research data are the cause of insufficient evidence to reject Ho.

The results of the research related to the asset management information systems are not entirelyin accordance with phenomenon condition which has been described. The data which became the source of the alleged problem comes from the annual report of BPK RI 2015 and apreliminary survey conducted on 14 application operators in 2016.The time span between initial data collection for problem identification (December 2016) and the collection of research data (October 2017) allows for a change of conditions in the research object.

The results showed that the problem of an asset management information systems related to the quality of the system (vulnerable to virus), ease to operate the system (SIMAK BMN application must adjust to SAIBA financial applications, where the system does not tolerate the month of purchase and the month of accountability), and the problems in the system applications (applications are continually changing, applications often get error while receiving the latest updates, and data on initial applications are not the same) are recognized by respondents can be handled well in the BPS working units in Central Kalimantan Province. The Bureaucratic Reforms that run on the State Wealth Service Office and Auction (KPKNL) also contribute to the change in the condition of research objects related to the asset register application (SIMAK BMN). The Directorate General of State Assets (DJKN) together with KPKNL continue to make improvements in terms of service and quality of an asset management information systems information through improved SIMAK BMN application update.

The results of the research revealed a fact that is not much different from the phenomenon description related to the resources of system manager (application operator) which have been described. The system management resources in the BPS working units in Central Kalimantan Province are still limited in quality and quantity. Although the Central Kalimantan Province and the Central Bureau of Central Java as the supervisor of all BPS working units in the Central Kalimantan Province have made optimal efforts to develop the resources of system managers, it is still not sufficient enough. The effectiveness of coaching is constrained by rapid application operator rotation in most of BPS working units in Central Kalimantan Province. The results showed that most of the application operators still have no experience in managing assets and come from disciplines that are not in accordance with the competence for the field of work. The research results also reveal, in addition to the burden of work in asset management that is felt quite heavy by the resources of system managers because of limited resources in quantity, the compensation received by the managerial resources is still considered not comparable to the workload. It also influences the motivation in the completion of the work.

The results of the asset management information systems testing in its effect on asset management performance for the conditions in BPS working units in Central Kalimantan Province is still not fully support Siregar's opinion (2004). An asset management information systems that should assist the management and the supply of information related to inventory, legal audit, asset valuation, and asset utilizationoptimization, as well as a role in supervising and controlling the asset management, for conditions in BPS working units in Central Kalimantan Province,is not entirely utilized. This is due to the factor of user/human resources. The results of this research are in accordance with the results of research Wijaya et al. (2014); Nasrudin(2015); and Muanas and Edison(2008).

4.4. The Implication of Research Results

The good research is a research that not only provides theoretical benefits and impacts but also can provide practical benefits. Providing theoretical benefits means helping to develop a particular theme or topic and fixing things that are less than perfect so that the theory is continuously built towards the perfection of the theory building. Providing practical benefits means helping to apply the results of research in real-life processes to solve and simplify the practical problems faced. A description of the theoretical implications and managerial implications is described below.

4.4.1. Theoretical Implications

The research on the impact of the life-cycle asset management and the asset management information systems on the asset management performance at BPS working units in Central Kalimantan Province was built through empirical study and conceptualizationrelated to the topic/theme raised. This research is expected to be an input to complete the reference related to the asset management, especially in the public sector. In terms ofscientific development, this research is also expected to be a participatory part in developing science through related topics/themes.

Thisresearch builds the first research hypothesis; the life-cycle asset management has a significant influence on the asset management performance at BPS working units in Central Kalimantan Province. The opinion from Campbellet al. (2011) is used as a basis for constructing hypotheses. Campbell et al.mentioned that the life-cycle asset management is the primary asset management process and its components from beginning to disposal which in its practice affecting asset management performance.

Theresults of statistical tests showed the value of t-arithmetic (5.143) > t-table (2.0423). Therefore, Ho is rejected. It means that the life-cycle asset managementsignificantly affects the asset management performance at 95% confidence level. The results of this researchare in accordance with the research conducted by Ibendahlet al. (2014); Aira (2014); Kolinuget al. (2015); and Tukunang (2016).

Siregar's (2004)opinion became the basis for building the second hypothesis. The asset management information systems has a significant effect on the asset management performance in BPS working units in Central Kalimantan Province. The results of statistical tests show the value of t-arithmetic (1.264) < t-table (2.0423). Therefore, there is not enough evidence to reject Ho. This means that the asset management information systems positively affects the asset management performance, but it is not significant at the 95% confidence level. The results of this research are in accordance with the research conducted by Muanas and Edison (2008); Wijayaet al. (2014); and Nasrudin (2015).

4.4.2. Practical Implication

This research is expected to provide practical benefits in addition to the theoretical benefits mentioned earlier. These benefits include; become consideration and input for BPS in Central Kalimantan Province in particular, and the Central Bureau of Statistics in general to improve the performance of BPS asset management. The practical use of the research also plays a role in balancing the development of knowledge, where knowledge not only enriches the theoretical/academic realm but can be implemented in a real/practical way to gain more benefit.

The results showed that the life-cycle asset management has a positive and significant impact on the asset management performance at BPS working units in Central Kalimantan Province. The implementation of good life-cycle asset management will have an impact on the improvement of the asset management performance in BPS working units in Central Kalimantan Province. The good implementation of the stages of the life-cycle asset management from the beginning to the end will support the improvement of efficiency and effectiveness of the asset management at BPS working units in Central Kalimantan Province. The focus to give equal attention to all stages of the life-cycle asset management in BPS working units in Central Kalimantan Province is an important thing to do. The Central Bureau of Statistics in Central Kalimantan Province is not only focused on overseeing the implementation of the preliminary stages (strategy, planning, evaluation/design, and creation/procurement) but also overseeing and disciplining implementation in stages (operation, maintenance, modification, and disposal).

The results revealed that the asset management information systems at BPS working units in Central Kalimantan Province affects the performance of asset management positively but not significantly. The asset management information systems, which consisting of the dimensions of the asset register application (SIMAK BMN) and the resource to manage the system has a positive but insignificant effect on asset management performance for working conditions at BPS working units in Central Kalimantan Province (it cannot be generalizedin general). Siregar's (2004) opinion regarding the asset

management information systems as described in the previous explanation cannot be proved significantly in the research because of the limited data obtained to reject Ho.

The SIMAK BMN application is used as an application to record and organize BMN, from purchases, inbound, and outgoing transfers to elimination and destruction of BMN which is an application that is still inputted manually. Nasrudin (2015) stated that the effectiveness of SIMAK BMN is highly dependent on the skills of the users (operators) to operate the application. The accuracy is needed in the process of administration and management of BMN, primarily related to the SIMAK BMN application. Wijayaet al. (2014) also mentioned that the user factors significantly affect the effectiveness of SIMAK BMN in terms of reliability of information presented by SIMAK BMN.

The results of the research from Nasrudin (2015) and Wijaya et al. (2014) helped to explain the anomalous conditions associated with the asset management information systems at BPS working units in Central Kalimantan Province. The results revealed that the majority of human resources system managers (application operators) have a good education background (S1),but most of the operators are also coming from the disciplines that are not suitable with the field of work (asset management). The operators are on average working hours in the current field of work, as application operators. They are still less than oneyear although the average length of service of the operators in the Central Bureau of Statistics is ranging from 2 to 5 years and 6 to 10 years.

Muan as an Edison (2008) mentioned that the mistakes on the operational techniques which are performed by the employees/operators are because of the saturation factor in the work, less understanding of the system and procedures, system violations due to pressure, and negligence of the employees themselves. The problems related to the lack of resources in quantity and quality to manage assets, as well as the switching of responsible human resources positions as operator of information system applications that is fast enough, became one of the triggers of the SIMAK BMN ineffectiveness in supporting the asset management performance at BPS working units in Central Kalimantan Province.

4.5. Limitations of the Research

The research that has been conducted related to the influence of the life-cycle asset management and the asset management information systems on the asset management performance is inseparable from the research limitation. The limitations of this research became the way for further research to make improvements to obtain more usefulness of the theoretical development and the practical implementation. The limitation of this research are:

- The number of population and sample in the research (32 respondents) involved only the goods and financial managers (SIMAK BMN and SAIBA operators) in the BPS working units in Central Kalimantan Province, and still small enough to generalize the results of the research. The data collected did not succeed to prove the significance of the effects of an asset management information system on an asset management performance in the BPS working units in Central Kalimantan Province. The limitations of the data make the research do not have enough evidence to reject Ho on the second hypothesis.

5. Conclusion and Suggestion

5.1. Conclusion

The conclusion of the study was as follows:

- The life-cycle asset management has a positive value (0.693) and significantly affected the asset management performance in BPS working units in Central Kalimantan Province (t-count = 5.143> t-table = 2.0423);
- The asset management information systems have a positive value (0.217), and it affects asset management performance at BPS working units in Central Kalimantan Province but was not significant (t-count = 1.264 <t-table = 2.0423).

5.2. Suggestions

The suggestions that can be given related to the research are suggestions for the development of further research and practical advice for the organization under the research.

5.2.1. Theoretical Suggestion

- The further research can undertake the development of qualitative research by expanding the population and increasing the number of samples to produce more accurate and generalizable research results;
- The further research development can be done by extending the scope of the research, examining one organization in several provinces in Indonesia or several government organizations in one province.

5.2.2. Practical Suggestion

The Central Bureau of Statistics (BPS) in Central Kalimantan Province, as a coach for the BPS in the regency/city in Central Kalimantan Province should pay more attention to the implementation of the stages in the life-cycle asset management, particularly strengthening the stages that have relationships in the 'moderate' category (operation, maintenance, and disposal).

5.2.2.1 Operation

The management in this stage can be more focused to oversee the use/operation of existing assets in the working unit in accordance with its designation. Overseeing the running standards of asset operation so that can be better to adhere. Adjusting policies are used in operating assets well to achieve organizational goals through assets.

5.2.2.2. Maintenance

On the maintenance stage, the management should be better in supervising and disciplining the maintenance of assets in accordance withthe schedule of maintenance that has been determined.

5.2.2.3. Dispose

The management in this phase should be more focused on improving the management of asset deletion administration and good coordination with the KPKNL, as the institution authorized in the elimination of assets. Each of BPS working units can accommodate the place/warehouse of assets, so that the assets that are wasted (unused) but not yet deleted can be stored properly and it would not pollute the environment. It is also useful to maintain the residual value of the physical asset to conduct an assessment by KPKNL for the auction of the assets, so that the asset value is not depreciated significantly and the non-tax revenue (PNBP) from the auction result of these assets can be more optimal.

Then, the organization can strengthen the stage that has 'low' category relationship (Modification) by:

- Paying more attention to the management of existing assets in the Central Bureau of Statistics (BPS) working units in Central Kalimantan Province, especially on existing assets under conditions of 'minor damage' and 'heavily damaged' status by innovating these assets so that it can be used together with other more recent assets to support the efficiency and effectiveness of assets in the achievement of organizational goals.
- Central Bureau of Statistics of Central Kalimantan Province, as a coach for BPS working units in Central Kalimantan Province, should pay more attention to human resource problem of asset/operator management in terms of competence, quantity, and quality of work. The rapid switching of operator application is expected to get solution soon to support the effectiveness of SIMAK BMN in each BPS working unit in Central Kalimantan Province. Regulatory adjustments, compensation adjustments, and asset management workloads are expected to reduce rapid application operator turnover in most BPS working units in Central Kalimantan Province. This is done to support the implementation of asset management information systems for the purpose of improving asset management performance at BPS working units in Central Kalimantan Province.

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Appendix A

BPS work unit	Good			Heavily damaged			Light Damage		
	2014	2015	2016	2014	2015	2016	2014	2015	2016
	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum	Sum
BPS Provinsi Kalimantan Tengah	6,264	6,535	6,264	347	6	8	4	4	3
BPS Kotawaringin Timur	1,330	1,365	1,330	140	153	152	5	0	0
BPS Kotawaringin Barat	1,354	1,514	1,354	2	2	3	27	27	27
BPS Kabupaten Kapuas	1,313	1,448	1,313	137	137	137	96	110	111
BPS Kota Palangka Raya	908	962	908	28	25	29	27	84	114
BPS Barito Timur	407	587	407	5	5	5	3	3	3
BPS Barito Utara	503	610	503	159	159	160	687	686	686
BPS Barito Selatan	854	944	854	141	157	200	150	161	144
BPS Pulang Pisau	662	830	662	47	47	47	32	33	33
BPS Gunung Mas	731	814	731	85	87	87	6	6	6
BPS Katingan	658	855	658	14	14	14	1	1	1
BPS Lamandau	391	494	391	24	24	24	8,971	10	10
BPS Sukamara	978	1,041	978	32	29	29	15	15	15
BPS Seruyan	548	621	548	10	10	9	10	10	10
BPS Murung Raya	769	885	769	30	30	26	-	0	0
Sum total	17,670	19,505	17,670	1,201	885	930	10,034	1,150	1,163

Table 15: Recapitulation of Goods Conditions at BPS Work Unit in Central Kalimantan Province, 2014 Till 2016
Source: Secondary Data Result of Software SIMAK BMN Output Processed by Author, 2016

Districts	Percentage of residual values of asset (%)		
	2014	2015	2016
BPS Provinsi Kalimantan Tengah	55.59%	54.13%	43.60%
BPS Kotawaringin Timur	67.71%	62.87%	62.87%
BPS Kotawaringin Barat	73.33%	71.06%	65.50%
BPS Kapuas	64.57%	61.30%	62.02%
BPS Palangka Raya	76.20%	72.07%	65.72%
BPS Barito Timur	77.79%	76.19%	68.65%
BPS Barito Utara	52.25%	79.60%	74.52%
BPS Barito Selatan	73.94%	70.09%	64.98%
BPS Pulang Pisau	55.16%	51.72%	51.72%
BPS Gunung Mas	62.77%	57.40%	52.29%
BPS Katingan	61.40%	62.28%	62.28%
BPS Lamandau	66.71%	64.69%	64.69%
BPS Sukamara	66.47%	65.63%	65.63%
BPS Seruyan	66.59%	63.28%	63.28%
BPS Murung Raya	59.42%	57.48%	55.42%

Table 16: Percentage of Residual Value of Asset after Depreciation in BPS Work Unit in Central Kalimantan, 2014 Till 2016
Source: Secondary Data Result of Software SIMAK BMN Output Processed by Author, 2016

Appendix B

Variables	Problems
Life-cycle asset management	• BMN removal takes a long time and often does not run smoothly (several times have to repeat processes and files); • Lack of coordination between asset users and BMN operators; • The recording of assets is less orderly.
Asset management information system	Application:
	• Applications are constantly changing; • BMN application is often error when receiving latest updates; • The data in the initial application is not the same; • Vulnerable to viruses; • The SIMAK BMN application must adapt to financial applications (SAIBA) where the system does not tolerate the difference in month of purchase with the financial accountability month (SP2D).
	Human Resources:
	• BMN management has not been supported by sufficient special human resources due to lack of adequate human resources in the region; • Lack of training on SIMAK BMN application in the form of simulation; • SIMAK BMN operators are rapidly changing; • Difficulty in finding human resources who are willing to be involved in the management of BMN; • Lack of correct understanding of BMN management; • The lacks understanding of good accounting knowledge to be a constraint in implementing the management of BMN and difficulties in understanding the definitions in the field.

Table 17: Recapitulation of Preliminary Survey Results on BMN Managers in BPS Work Unit in Central Kalimantan Province
Source: Preliminary Survey Processed by Author, 2016

Appendix C

Interval Coefficient	Relationship Levels
0.000 - 0.199	Very low
0.200 - 0.399	Low
0.400 - 0.599	Moderate
0.600 - 0.799	Strong
0.800 - 1.000	Very strong

Table 18: Guidelines for Consistency of Correlation Coefficients
Source: Mihidin, Dkk (2007)

Dimension the life-cycle asset management	Asset management performance	Information
Strategy	0.740	Strong
Plan	0.629	Strong
Evaluate/Design	0.688	Strong
Create/Procure	0.664	Strong
Operate	0.589	Moderate
Maintain	0.566	Moderate
Modify	0.345	Low
Dispose	0.419	Moderate

Table 19: Relationship of Dimension the Life-Cycle Asset Management with the Asset Management Performance at BPS Work Unit in Central Kalimantan Province Based on PLS-SEM Testing
Source: Primary Data Is Processed by Author, 2017