THE SUCCESS OF APPLYING ACCRUAL-BASED ACCOUNTING INFORMATION SYSTEM

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Abstract

In 2015 accrual-based accounting system has been implemented in central government. To support this The Ministry of Finance developed an application called SAIBA. SAIBA is a financial software that is used for reporting purposes. This is used by government work unit that manages the state budget or APBN. As a new development software, SAIBA often reported has an error. The purpose of this study is to assess the success of the use of SAIBA. Successful on using that software is one of factor that supports the success of applying accrual-based accounting system in the government sector in Indonesia. The success of using SAIBA is judged by user satisfaction. It is observed from information quality, system quality, user competence, and management support. This study modifies information system success model from DeLone and McLean (1992) and also observes the affects of user competence and management support to user satisfaction. Data used in this study is primary data based on questionnaires distributed to the users of SAIBA who work at Government institutions. To examine 129 returned questionnaires, I use the Partial Least Square (PLS) as a data analysis technique. The results of this study show that information quality does not affect to user satisfaction. But, the other variables are system quality user competence and management support significantly affect user satisfaction. This study contributes to the stakeholders as study materials and evaluation of accounting policies of central government and also about the development of accounting software.

Keywords: User satisfaction, accrual-based accounting system, user competence, management support
1. Introduction

In accordance with Government Regulation No. 71 Year 2010 concerning the Government Accounting Standards, the Central Government is obliged to use the accrual basis in preparing and presenting financial statements in 2015. To support this, The Ministry of Finance then develop integrated applications that can process all transactions in State Ministries/ Agencies from planning to budget accountability. This application is called SAKTI or Accounting System Level Institutions. However, this application is still in the stage of completion so it can not be used in 2015 (Arianty, 2014). Thus, the Ministry of Finance through the Directorate General of Treasury then provides provisional application, namely Accrual Based Accounting System (SAIBA) which are still in use.

SAIBA reportedly still has many disadvantages. This app still has a separate database with other related applications, namely the inventory application and SIMAK-BMN (Management Information System -State Property Accounting). This has led to the occurrence of repetitive inputting process (data redundancy) which are very prone to error. It also makes the job is not effective in terms of time and resource usage. Disturbance in the system is also often experienced by SAIBA. This application is reported frequently impaired and require renewal / update to be able to function properly. One of them revealed that between the application SAIBA and SIMAK-BMN yet well connected because the updates of SIMAK BMN accrual was not available when reconciliation time has already begun (Saefulloh, 2015). In the other case, the various constraints related to the implementation of SAIBA one caused by differences in data when reconciliation of SIMAK-BMN application to SAIBA application (Tiara, 2015). This condition indicates that the application is currently still has many disadvantages in the system. The quality system is not primed can also potentially lead government financial statements can not be completed on time.

Problems on SAIBA also in quality of the resulting report. SAIBA reportedly produce a low quality of financial reporting. Financial statements BPS Bali Province as output of SAIBA produce unreliable information such as the negative values’ emersion of unregistered inventories accounts and no name account (NULL) on operational reports (LO) (Wirartha, 2016). This indicates that the quality of information
which is produced by SAIBA still in low quality because of their incompatibility with the SAP (Government Accounting System).

Besides the problems in the system and output, SAIBA also faced with the problems related to users. Supreme Audit Agency (BPK) in its findings stated that other constraints faced in the implementation of accrual-based financial statements is the problem of human resources (BPK, 2015). Further explained by BPK that there are many cases of human resources placement of financial management, assets, and information technology that is not in accordance with their competence. This indicates that most of the operators SAIBA are people who are not competent in their field. This certainly may adversely affect the performance of individuals in particular and the organization in general.

Various problems in the implementation of SAIBA, which are about system, output, and user as the input of course can affect the organization's performance. For that, we need also the role of management, particularly top management to minimize the adverse effects that may occur. This is because top management has the authority to determine the policies that can support or not support the successful use of SAIBA. So, kinds of management support also needs to be measured in this case to determine the extent of management's efforts in the successful implementation of SAIBA.

The problems as described above raises the question that is this SAIBA application still fit for use? To answer this we need an evaluation of its use. The evaluation results can also provide input to the development of SAKTI system in the future. In assessing the success of an information system, some researchers use user satisfaction as a measure of the assessment (Doll and Torkzadeh, 1988; Seddon and Kiew, 1996; Mahmood et al. 2000; Iivari, 2005; Adaileh, 2009; and Zaied, 2012).

To measure user satisfaction in the accounting application required an evaluation of the factors that influence it. Many previous researchers using several variables such as quality systems and quality information as a benchmark (Istianingsih, 2009; Oktaviana, 2013; Susanty, 2013; and Muharor, 2015). Measurement of the quality of information is made to assess the quality of the output generated by the application. Meanwhile, the assessment of the quality system represents the extent to which the processing of data through the application can be done well. This research is necessary to also consider other aspects
related to the workings of a system. Thus, besides assessing the outputs and processes, this research will also assess the inputs, which is judged from competence of the user. In addition, there are also external factors that should not go unnoticed because it may affect the passage of a system. Thus, external factors that will be seen its influence in this research is management support.

From this background, the purpose of this study was to investigate and obtain evidence that the quality of information, quality systems, user competence, and management support effect on user satisfaction of government’s accrual based accounting application.

2. Theoretical Framework and Hypothesis Development

Implementation of an accounting information system is closely related to Technology Acceptance Model (TAM) by Davis (1989). This theory discusses that a person will work with using certain technology is determined by the perceptions of the usefulness and ease of use of these technologies. So, someone using a particular technology when he felt that the technology is easy to use and helpful in completing tasks.

Perception of a user in the application he uses affects the level of satisfaction with the application. This refers to the theory disconfirmation by Oliver (1980), that satisfaction is a comparison between expectations and perceptions of users. Satisfaction can happen when perceptions of product performance exceeded the expectations of users (positive disconfirmation). Thus, a user will feel the satisfaction in using an application if the application has a very good performance exceeded its expectations.

Expectations of a user to an application of information systems he uses are often not in line with the reality of the information system. This has encouraged the development of the measurement of the satisfaction of users of information systems. Doll and Torkzadeh (1988) developed a model to evaluate End-User Computer Satisfaction (EUCS). EUCS measure the level of user satisfaction with the technological aspects by assessing the content, accuracy, format, timing, and ease of use of the system.

Successful implementation of information systems is expected by all users of the information system. These successes indicate that the information system used a positive impact on individuals in the completion of its work. Information systems success model developed by DeLone and McLean (1992), that the success
of an information system can be represented by the qualitative characteristics of system quality, quality of output in the form of the resulting information (information quality), consumption to output seen from the use, user response information system as seen from the user satisfaction, the effect of information systems on user habits views of the individual impact, and then the impact on the performance of the organization or organizational impact.

Several studies have been conducted to measure the success of an information system with the user satisfaction factors. Factors such as the quality of information and the quality of the system found to be related significantly to user satisfaction (Iivari, 2005; Adaileh, 2009; Istianingsih, 2009; Zaied, 2012; and Aviva, 2014.

Research by Koeswoyo, 2006; Jalil, 2008; Hidayat, 2012; and Wijaya, 2013 found a significant relationship between the level of knowledge to user satisfaction. Adaileh (2009) uses the term technical capabilities of users, while Nursudi (2013) uses the term human resources. Although the terms used diverse, it refers to the same purpose, namely the competence of the user.

Management support, is also an ever tested variables related to user satisfaction of information systems. It is devoted to the role of top management in the implementation of information systems. Sharma, 2003; Komara, 2005; Milaldi 2012 and Trisna, 2015 have found a significant relationship between top management support to the satisfaction of users of information systems.

From the brief elaboration, obtained the information that there is a relationship between the quality of information, quality systems, user competence, and management support to user satisfaction. In summary, the relationship of these variables in this study can be seen in the following conceptual framework.
2.1. The Effect of Information Quality to User Satisfaction

Technology Acceptance Model (TAM) stated that people will use a technology if the technology is perceived benefit to the completion of his duties. Likewise with SAIBA, which this program will continue to be used if it beneficial for the users. Benefits of Saiba is this application generates various reports related to financial conditions in an organization. These reports are certainly very important for our stakeholders. Thus, by nature a very important statement that the information contained in it must be qualified.

Information quality according Iivari (2005) shall consider elements such as completeness, precision, reliability, currency, and the format of the output. While the quality of information by Adaileh (2009) represented by ten characteristics, namely simplicity, relevancy, accuracy, verifiability, timely, security, completeness, reliability, accessibility, and flexibility.

Perceived quality of the information is an assessment of of the quality of information in the reports generated from SAIBA. If these reports have met the criteria of quality information, then the user is expected to feel the satisfaction of the application uses. Conversely, if the application does not generate unqualified information so it will reduce the user satisfaction to the application. Thus, from the description can be formulated from the following hypothesis.

\[ H_1 : \text{The information quality affects the user satisfaction} \]
2.2. The Effect of System Quality to User Satisfaction

One element of user satisfaction in Information Systems Success Model DeLone and McLean (1992) is a system quality. The system quality is expressed as the quality of the combination of hardware and software used in information systems (DeLone and McLean, 1992). In the event that operate SAIBA, this means that the quality of the hardware and software used when operating SAIBA. Meanwhile, according Iivari (2005) related systems of quality assessment of software quality or the software used. It must fulfill the six (6) criteria, which is flexible, capable of integrating, rapid response time, easily perform error correction, comfort access, and easy to understand language displayed system.

Perceived quality of the system shows the user assessment of the performance of applications that use information systems, in this case SAIBA. The good quality of a system, for example by the rapid time to access can lead to users’ job satisfaction. Conversely, if the system has a poor performance, such as the frequent failure, or other system constraints, it may cause a user to feel dissatisfied in use. Thus, the hypothesis is built on the translation of these are as follows.

\[ H_2 \ : \ The \ system \ quality \ affects \ the \ user \ satisfaction \]

2.3. The Effect of User Competence to User Satisfaction

Human Resources (HR) is closely related to the implementation of an application. Success or failure of an application is implemented is very dependent on who is using it. An application will be successfully executed if users have sufficient skill or competence in using it.

Koeswoyo (2006) states that the level of knowledge affects the user satisfaction. He further stated that the level of knowledge in question is the level of understanding that is owned by the user on accounting software and the number of guidance manuals and training provided to the vendor in order to improve the skills of the user. This is similar to Adaileh (2009) that the technical capabilities required in the operation of information systems.
Successful operation of an information system is closely related to its competences. If users are competent, then the application can operate properly. However, as good as any an application if it is run by people who do not have the competence, then the application will not be worth the benefits. The better the competence of users of the application, then it will be better the existing applications he uses, and he was able to feel satisfaction with the use of the application. From the description, the following hypotheses can be formulated.

\( H_3 \) : The user competence affects the user satisfaction

2.4. The Effect of Management Support to User Satisfaction

Management support is a form of consent and support of the implementation of an application. According to Sharma (2003) the support of actions not directly or symbolically by senior managers also contribute to the successful implementation of information systems with the motivation given. This makes the role of top management is important because it can motivate their subordinates in using an information system.

According Komara (2005) top management support is an understanding of the management of computer systems and the level of interest, support, and knowledge of the SI or computerized. Meanwhile, according Nursudi (2013) forms of support that can be provided by the management of the users of information systems among others by providing infrastructure facilities and adequate infrastructure, policies to develop the competence of their subordinates, as well as the provision of appropriate incentives.

Various support given by top management to operators SAIBA can affect job satisfaction of the users. The support can make satisfied users work using the information system. Conversely, the absence of support from top management can make the users are not satisfied or are not motivated to work with the application. Thus, from the above it can be formulated the following hypotheses.

\( H_4 \) : The management support affects the user satisfaction
3. Research Method

3.1. Population and Samples

Population in this study was SAIBA application operators at the working unit in the working area of KPPN Mataram, about 252 operators. The number of samples is determined by Slovin technique and proportional random sampling method in order to obtain a total sample of 155 people spread into several areas. In summary the total population and the sample can be seen in the following table.

Table 1. The Number of Population and Sample in Each Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Population</th>
<th>Number of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nusa Tenggara Barat Province</td>
<td>127</td>
<td>78</td>
</tr>
<tr>
<td>Mataram City</td>
<td>64</td>
<td>39</td>
</tr>
<tr>
<td>West Lombok Regency</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Central Lombok Regency</td>
<td>29</td>
<td>18</td>
</tr>
<tr>
<td>East Lombok Regency</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>252</strong></td>
<td><strong>155</strong></td>
</tr>
</tbody>
</table>

Source: Data processing

3.2. Variables and Measurement

The study consisted of four exogenous variables, namely the information quality, system quality, user competence, and management support, as well as an endogenous variable that is user satisfaction. The followings are the explanations.

1. Information quality

Information quality referred to this research is the user’s perception of the information quality that was generated by the accounting software used. Some of the characteristics used to assess it were completeness, precision, reability, currency, and format of output (Istianingsih, 2009).

2. System quality

System quality referred to this research is the user’s perception about the quality of the system that used in accounting application system. The indicators used were adopted from Iivari (2005), namely system flexibility, system integration, time to respon, error recovery, convinience of access, and language.
3. User Competence

User competency in this study related to the condition inside of user related with their ability to use accounting application. The components used to measure adoption of research Hertati (2015) with appropriate modifications to be relevant to this study are level of knowledge, educational background, and work experience.

4. Management Support

Management support in this research is the ongoing support of management and leadership during the implementation operational process accounting application system. Indicators used to measure these variables were developed from research Nursudi (2013), namely infrastructure facilities, competence development policy, and incentives.

5. User Satisfaction

User satisfaction in this study refers to the user's perception of the extent to which the application is used is able to meet their needs. Indicators to measure it developed from the study of Adaileh (2009), which are the fulfillment of the expectations and needs, achieving the purpose of the work, and the perception of satisfaction in using the application.

3.3. Data Analysis

Data analysis used in this research is Partial Least Square (PLS) which is run by Smart PLS version 3.0 programme. Structural model in this research is presented in the following figure 2.
The equation structural model of this study are as follows:

\[ \text{USAT} = \beta_1 \text{INQUA} + \beta_2 \text{SYSQUA} + \beta_3 \text{UCOMP} + \beta_4 \text{MS} + \zeta \]

Remarks:
- \text{USAT} = \text{User Satisfaction}
- \text{INQUA} = \text{Information Quality}
- \text{SYSQUA} = \text{System Quality}
- \text{UCOMP} = \text{User Competence}
- \text{MS} = \text{Management Support}
- \beta (Beta) = \text{Coefficients of endogenous variables influence to endogenous latent variables}
- \zeta (Zeta) = \text{Error of structural model}
4. Results

4.1. Data Analysis Result

1. Outer Model Evaluation

The evaluation was conducted to assess the validity and reliability of the model. Outer models with reflexive indicators evaluated through convergent validity, discriminant validity and reliability for the block composite indicator (Ghozali and Latan, 2012: 77).

The results of the evaluation of the first outer stage model for first order is one indicator otherwise does not meet the convergent validity, because it has a loading factor <0.6 and 19 indicators found to comply convergent validity because it has a loading factor > 0.6. Indicators that do not meet the convergent validity is SYSQUA2 indicator (0.373). The indicator is removed from the model, and then re-tested. Results of the phase II evaluation of outer models show that all the loading factor for the first order and second order meet the convergent reliability.

In addition to meeting the required loading factor values, the value of AVE entire construct also meet the requirements of convergent validity AVE value is > 0.5. PLS algorithm, the report also shows that all constructs dimension has good reliability because it has a reliability of composite value > 0.7. In summary, these data can be seen in the following table.

Table 2. AVE Values and Composite Reliability

<table>
<thead>
<tr>
<th>Construct</th>
<th>AVE</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Quality (INQUA)</td>
<td>0.646</td>
<td>0.901</td>
</tr>
<tr>
<td>System Quality (SYSQUA)</td>
<td>0.590</td>
<td>0.876</td>
</tr>
<tr>
<td>User Competence (UCOMP)</td>
<td>0.650</td>
<td>0.848</td>
</tr>
<tr>
<td>Management Support (MS)</td>
<td>0.816</td>
<td>0.930</td>
</tr>
</tbody>
</table>

Source: Output Smart PLS 3.0

2. Inner Model Evaluation

Inner evaluation models (structural model) aims to predict the relationship between latent variables. Inner models evaluated by looking at the value of R-square for endogenous latent constructs and value T-statistics in the table to test the significance of the path coefficients through bootstrapping menu.

R-square value resulting from inner evaluation model is presented in the following table:
Table 3. Value of R-Square

<table>
<thead>
<tr>
<th>Construct</th>
<th>R-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Satisfaction (USAT)</td>
<td>0.276</td>
</tr>
</tbody>
</table>

Source: Output Smart PLS 3.0

According to the table above, it was concluded that the variable user satisfaction (USAT) can be explained by the variable INQUA, SYSQUA, UCOMP and MS of 27.6%, while 72.4% is explained by other variables not examined.

In addition to R-Square, inner evaluation models through bootstrapping menu also produces Value T-statistics that will be used to test the hypothesis. The results of T-statistics values in the table path coefficients are presented in the following table:

Table 4. Path Coefficients

| Relationship among Variables | Original Sample (O) | T Statistics (|O/STERR|) | Conclusion          |
|------------------------------|---------------------|----------------|----------------------|
| INQUA -> USAT                | 0.105               | 1.071          | H1 is rejected       |
| SYSQUA -> USAT               | 0.168               | 1.662          | H2 is accepted       |
| UCOMP -> USAT                | 0.219               | 2.640          | H3 is accepted       |
| MS -> USAT                   | 0.331               | 3.796          | H4 is accepted       |

Source: Output Smart PLS 3.0

Equation results of research is as follows:

\[ \text{USAT} = 0,10\text{INQUA} + 0,16\text{SYSQUA} + 0,21\text{UCOMP} + 0,33\text{MS} + \zeta \]

Remarks:

USAT = User Satisfaction
INQUA = Information Quality
SYSQUA = System Quality
UCOMP = User Competence
MS = Management Support
\( \zeta \) (Zeta) = Error of structural model
4.2. Discussion

1. Effect of Information Quality to The User Satisfaction

Hypothesis testing results show that the value of the T-statistics <t-table, is 1:07 <1.66. This means that the quality of the information does not affect the user satisfaction. This is not in line with the research livari (2005), Istianingsih (2009), Zaied (2012), and Nursudi (2013), but supports research Radityo and Zulaikha (2007) and Susanty (2013) that the quality of the information does not affect the user satisfaction.

Finding that the quality of the information does not affect the user satisfaction can caused by the use of SAIBA application that is mandatory. Thus, the quality of the reports produced by SAIBA be ignored by the user because of the use only regarded as routine.

Other causes for this finding is the change due to the implementation of accrual-based accounting system. The application of this accounting system caused changes of these reports in terms of both the type and format of the report. Thus, the operator understanding of these reports quality may be inadequate.

2. Effect of System Quality to the User Satisfaction

PLS hypothesis test showed that the value of T-statistics> t-table, that is 1.68> 1.66. This means that the quality system is an effect on user satisfaction. The better the quality of the system at the SAIBA application, user satisfaction will also increase. The finding is in line with Information System Success Model DeLone and McLean (1992) that one of the elements of user satisfaction is the perception of the quality system.

Systems on SAIBA application has deemed satisfactory by the operator. This is because the applications are flexible and can be used either on a personal computer (PC) or commonly known as a desktop computer or on a portable computer or laptop. SAIBA also considered fast in responding to commands and process data. This indicates that the operator is satisfied with the application’s response time.
The other thing that made operators are satisfied with the system on SAIBA is a feature to correct an error. It can be seen on the menu contained in the application Saiba, where in the application there is a menu option "CHANGE" and the "DELETE". This indicates that there is access to correct an error. In addition, the perceived SAIBA easy to learn and use, and requires no complex process of data input. The language used in the application is considered short, dense, and clear so easily understood by users. Those things have finally lead to the satisfaction of users of the system to the application SAIBA.

3. Effect of User Competence to User Satisfaction

The next hypothesis states that user competence has an influence on user satisfaction. Testing with PLS, indicating that the value of the $T$-statistic $> T$-tables, that $2.64 > 1.66$. This may imply that user competence has significant impact on user satisfaction. It supports research undertaken by Koeswoyo (2006), Jalil (2008), Adaileh (2009), Hidayat (2012), Wijaya (2013), Nursudi (2013) and Hertati (2015).

These results indicate that users are satisfied with their competence, in which with these competencies user can operate SAIBA application well. SAIBA users in this study can be concluded already have sufficient knowledge to operate SAIBA. Their educational background is also considered support their understanding of SAIBA. In addition, work experience is also considered improve their satisfaction with SAIBA application usage. Where the longer they work with the applications they will be more adept and feel satisfaction in using it.

4. Effect on User Satisfaction to Management Support

Hypothesis testing results show that the $T$-statistic $> T$-tables, that $3.79 > 1.66$. This may imply that management support effect on user satisfaction. The better support of the top management will increase the level of user satisfaction on using SAIBA. It supports research undertaken by Sharma (2003), Komara (2005), Ramayah (2012), Nursudi (2013), Milaldi (2012), and Trisna (2015).
5. Conclusion, Implication and Limitation

5.1. Conclusion

Based on empirical findings, this study reach several conclusion below.

(1) Information Quality is not significant impact on user satisfaction. It means that a good or bad quality of the reports generated from SAIBA no effect on user satisfaction in using the application (2) Systems quality has significant effect on user satisfaction. This indicates that a good or bad the system contained on SAIBA will affect user satisfaction in using it. (3) User competence is significantly impact on user satisfaction. This means that the more a user of the application has the competence to operate Saiba then his satisfaction of these applications will increase. (4) Management support significant impact on user satisfaction. This indicates that whether or not the support given top management will affect whether or not a user satisfied in using the application SAIBA.

5.2. Implication

For the stakeholders this study contributes as study materials and evaluation of accounting policies of central government and also about the development of accounting software. The evaluation is that the application SAIBA that used today enough successfully implemented by the user. This means the application of accrual accounting policy goes well. Although the quality of information is a factor that does not significantly, this variable and the other variables that influence user satisfaction still need to be considered in the development of better applications in the future.

For further research, could be given some suggestions as follows:

(1) Using language that is more communicative in the questionnaire to facilitate the respondents understand the intent of the question, (2) involve the theories and frameworks other than success model of information system DeLone and McLean to produce evaluation models accounting information system that is more comprehensive, for example, the model Unified Theory of Acceptance and Use of Technology (UTAUT), Balance Score Card (BSC) and Cost-Benefit Analysis (CBA), and (3) To get the most reliable in retrieval of data from respondents , should be given assistance at the time of giving answers to the questionnaire research.
5.3. Limitation

Several limitations of this study are:

(1) The questionnaire is not communicative in terms of language and require the necessary improvements for the next study, (2) Research using only one model of the theory (DeLone and McLean) to evaluate the success of accounting information systems, and (3) The technique of collecting data through questionnaires done without no assistance by giving full credence to the respondent to fill it. Researchers only shed light on the questions in the questionnaire and how to fill. This sort of thing is likely to cause biased results on the level of confidence in the people who responded to the questionnaire.

Reference


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