

# Accounting Information System User Satisfaction: A Survey of Indonesian State-Owned Banks

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## Abstract

*The objective of this study is to explore accounting information system user satisfaction, particularly, this study examines the level of accounting information system user satisfaction among state-owned banks in Indonesia. User satisfaction is generally used as a proxy for the successful implementation of an information system. The findings show that users are satisfied with the implementation of accounting information system. Specifically, majority of respondents indicate their satisfaction in terms of the content, accuracy of the system, format of the information, ease of use of the system, and timeliness of the accounting information system among the Indonesian state-owned banks. Thus, the management of state-owned banks in Indonesia are expected to maintain the good accounting information systems and improve the quality of the systems in order to achieve excellent services and further enhance the operations of the Indonesian state-owned banks.*

**Keywords:** Accounting information system, user satisfaction, state owned bank

## 1.0 Introduction

Implementation of accounting information system in an organization provides various benefits, among which are, reliable, accurate and timely information. Thus, the strategic activities of the organizations can be performed effectively and efficiently, improve decision-making, increase efficiency in the processing of accounting information. Moreover, improving quality and reducing product and service costs, improving work efficiency in financial units, and increasing knowledge sharing (Taiwo & Edwin, 2016; Wiguna & Dharmadiaksa, 2016).

Accounting information system is closely related to the information technology usage in its application to the organization. Through a combination of information technology and the application of appropriate accounting information systems, the objective of providing assistance within the organization can be achieved (Wiguna & Dharmadiaksa, 2016). Specifically, these combination also provide convenience for management in providing information for planning, controlling and decision-making, and ultimately

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impacting the overall improvement of the organization's performance (Alnajjar, 2016, Carolina, 2015).

In the implementation of information systems, satisfaction of users plays an important role. This is because, if the users are satisfied with the information system, then the system can be implemented properly or successful (Lee & Kim, 2010). The information system user satisfaction is often used as a substitute measure for the effectiveness or success of the application of information systems (Carolina, 2015; Dastgir & Mortezaie, 2012; Liu & Guo, 2008; Napitupulu & Dalimunthe, 2016). User satisfaction provides a higher viewpoint than several of the existing determinants of success such as usage and perceived usefulness of the information system. The user of system (system usage) is unable to be the only determinant of the success of an information system. Similarly, perceived usefulness is also not able to capture some things that affect user satisfaction of information systems. Guimaraes, Staples, and McKeen (2003) stated that the user satisfaction with an information system is how the user viewed the system in reality, but not in the context of technical quality of the system.

The banking sector in Indonesia is an institution that mediates between those who have the funds and those who need the funds. State-owned banks in Indonesia are banking institutions owned by government and one of the economic backbone contributing significantly to the economy of Indonesia. The Indonesian state-owned banks have become one of the reliable public sector organizations supporting the national economy, through providing employment opportunities for the citizens of Indonesia, providing financial services and providing excellent services to the public as well (Haryanto, 2016). According to *Undang-Undang Nomor 19 Tahun 2003*, state owned bank refers to business entities owned by the government of Indonesia, whose capital is either in whole or in part through direct participation and derived from separated government assets. State-owned banks in Indonesia are limited companies consisting of four major banks, namely PT Bank Mandiri, PT Bank Rakyat Indonesia, PT Bank Negara Indonesia, and PT Bank Tabungan Negara. The implementation of information technology and information system in the Indonesian state-owned banks were intended to provide convenience and flexible services, as well as to leverage the potential of business opportunities (Kesuma, Saidin, & Ahmi, 2016). The technology support is also important in order to improve the productivity of state-owned banks in value added creation, provide excellence financial services and operational effectiveness in the state owned banks' environment (Bank Indonesia, 2010).

This study explored user satisfaction of accounting information system. In particular, the study investigated the level of accounting information system user satisfaction among state owned banks in Indonesia. This paper consists of five sections, organized as follows, section two provides a review of literature related to accounting information system, accounting information system user satisfaction, and accounting information system in state-owned banks in Indonesia. The methodology used in this study is described in section three. Furthermore, section four discusses the preliminary results of the study. Finally, the conclusion, limitations and implication for future study are summarized in section five.

## 2.0 Review of Literature

This section provides an overview of studies related to accounting information system, user satisfaction of accounting information system and accounting information system implementation in state-owned banks in Indonesia.

### 2.1 Overview of Accounting Information System

Each organization applies accounting as a process of recording, classifying, and reporting of business transactions. The ultimate goal of accounting activities is the preparation and provision of both financial and non-financial information that would be used by the management of an organization. In general, accounting information systems is a collection of information technology-based structures and procedures, working together, intended to transform financial data into useful financial information for stakeholders (Alnajjar, 2016; Carolina, 2015). The information generated by accounting information systems will be used by stakeholders (decision makers) to make decisions, both technical and non-technical.

According to Bodnar and Hopwood (2010), the accounting information system can be defined as an accumulation of organizational resources, including people and infrastructure, intended to convert financial and non-financial data into useful information. Then, the information is provided to various decision makers in the organization.. Users of accounting information system consist of two groups:

- 1) External users which include shareholders, investors, creditors, government, customers, suppliers, competitors, and the public.
- 2) Internal users includes the managers from various levels in the organization.

According to Romney and Steinbart (2012), accounting information systems have six interrelated components in order to achieve goals. The six components are:

- 1) People as user of the system.
- 2) Various procedures and instructions which are applied in the process of collecting, processing and storing data.
- 3) The organization and business data
- 4) Software (application) used in the data processing.
- 5) Information technology tools which consists of computers, communication and networking devices.
- 6) Internal control, security and monitoring mechanism to ensure data security.

As mentioned above, information technology is an essential part in accounting information system. The use of information technology and accounting information may process a number of transactions quickly, store and retrieve large amounts of data, reduced mathematical errors, generate reports in time in various formats, and useful tool for decision making (Soudani, 2012). Thus, the use of information technology in accounting information is not only limited to the information recorded, but it should be part of a strategy to create a competitive advantage for the organization (Jogiyanto, 2003).

Generally, accounting information systems aim to provide information for the management of business activities and also maintain the level of reliability and security of accounting information in an organization. Particularly, Hall (2012) explains that there are three important objectives of the accounting information system in the organization:

- 1) Support the management functions. Accounting information system provides information related to the use of organization's resources through the financial statements.
- 2) Support management decision making. The accounting information system provide useful information required by managers to perform their responsibility in making strategic business decision.
- 3) Support daily operational activities. Accounting information system provides information for all personnel, unit and departement involved in the daily operations.

## 2.2 *Accounting Information System User Satisfaction*

Based on the previous information system studies such as Anwar (2010), Marakarkandy and Yajnik (2013), and McGill, Hobbs, and Klobas (2003), the success of an information system can be measured by user satisfaction. According to Doll and Torkzadeh (1988), an information system user satisfaction may refer as an affective attitude towards a particular information system through interaction with the system directly.

As described above, the use of user satisfaction in the information system literature has a long history. In the context of information systems, a number of studies have been conducted to assess the end user in considering the use of overall information systems, for example, user satisfaction as well as factors that affect end user satisfaction. (Chin, Diehl & Norman, 2000; Suzanto & Sidharta, 2015). A model developed by Doll and Torkzadeh (1988) emphasizes user satisfaction with the technology perspective, which consists of multiple indicators such as the content of information, accuracy of the system, format of system output, timeline of the system as well as ease of use of the system. Based on the initial study conducted by Doll and Torkzadeh (1988), They surveyed 618 respondents to test the level of user satisfaction by modifying several instruments and factor analysis. Doll and Torkzadeh (1988) validited the twelve items of user satisfaction instruments in the context of quality of the system and information,

the items consists of five components, accuracy, ease of use, content, format, and timeliness. Furthermore, the user satisfaction model introduced by Doll and Torkzadeh (1988) has been tested (both reliability test and validity test) by other researchers and the results showed no significant difference, although this instrument is translated in many different ways (Dastgir & Mortezaie, 2012; Ilias & Razak, 2011; Liu & Guo, 2008).

User satisfaction may viewed as an important indicators for assessing the success of an accounting information system because this is the most valid measure in the assessment of an information system's success which includes its applicability and ease of use (Carolina, 2015; Mahmood, Burn, Gemoets, & Jacques, 2000). The result from previous studies such as Soegiharto (2001) who analyzed the performance of AIS among listed companies on the Australian Stock Exchange, found that the accounting information system user satisfaction is important in the performance of accounting information system. According to Illias and Razak (2011), the user satisfaction indicators, significantly contributed to satisfaction of the computerized accounting system. Carolina (2015) noted that better accounting information system success would improve both the accounting information quality and the user satisfaction of accounting information. Meanwhile, based on the Myers, Kappelman, and Prybutok (1997) study, the service quality as well as system quality and the quality of information has a significant impact on the user satisfaction with the system. Myers et al. (1997) noted that if the users of the system are satisfied with the quality of the service, then, they tend to be satisfied and will continue to use the system. Therefore, it can be concluded that the higher quality of service will affect the higher level of user satisfaction.

### **3.0 Methods**

This study explored accounting information system user satisfaction among state-owned banks in Indonesia. Particularly, the study investigated the level of accounting information system user satisfaction. State-owned Banks are the focus of this study because these institution are one of the largest financial institutions in Indonesia and have an important role in Indonesian economic development.

This research is based on the survey method as the research design. The population of the study covered the accounting staff as end users of accounting information system in accounting departments of state owned banks in Indonesia. Accounting staff is one of the essential resource in the implementation of accounting information system (Abreu, 2015; Hossin & Ayedh, 2016) in state-owned banks environment. In particular, accounting staff have an important role especially in the environment of accounting information systems, both as implementers and also as users (Saeidi, Prasad, & Saremi, 2015; Hossin & Ayedh, 2016). A total of 239 questionnaires were distributed to the accounting staff at state-owned banks, 183 were returned, and this translate to 79.5% response rate. Basically, The measurements of the accounting information system user satisfaction were adapted from previous studies of Ilias and Razak (2011), Marakarkandy

and Yajnik (2013), and Suzanto and Sidharta (2015). The measurement consists of five criteria and each criteria consist of several items, content, accuracy, format, ease of use and timeliness.

## 4.0 Results

This section discusses the preliminary findings of the study related to demographic profiles and accounting information system user satisfaction which consist of the level of content, level of accuracy, level of format, level of ease of use, and level of timeliness.

### 4.1 Demographic Profiles

Table 1 shows that there is balance between genders, with 48.6% male and 51.4% female respondents. In term of age, the majority of respondents (26.8%) are between 25 and 30 years old, 25.1% respondents between 31 to 35 years old, 16.4% respondents below 25 years old, 14.2% between 36 to 40 years old, 9.3% respondents between 41 to 45 years old, and 8.2% above 45 years old. The education level of respondents consist of mostly bachelor degree (66.1%), about 29.5% are master degree holders, and 4.4% have other degrees. Moreover, majority of respondents (30.1%) had working experience between 2 to 5 years, about 25.7% less than 2 years of experience and 23.5% had working experience between 5 and 10 years. Finally, 71.6% of respondents work as accounting staff, about 17.5% work as assistant supervisors, 9.3% work as supervisor and only 1.6% work as managers.

Table 1

### *Demographic Profiles*

<b>Demographic Profiles</b>	<b>Freq.</b>	<b>%</b>
<b>Gender :</b>		
Male	89	48.6
Female	94	51.4
<b>Age :</b>		
Below 25 years old	30	16.4
Between 25-30 years old	49	26.8
Between 31-35 years old	46	25.1
Between 36-40 years old	26	14.2
Between 41-45 years old	17	9.3
Above 45 years old	15	8.2

(continued)

<b>Demographic Profiles</b>	<b>Freq.</b>	<b>%</b>
<b>Education Level :</b>		
Bachelor Degree	121	66.1
Master Degree	54	29.5
Other	8	4.4
<b>Experience :</b>		
Less than 2 years	47	25.7
2-5 years	55	30.1
5-10 years	43	23.5
10 years above	38	20.8
<b>Position :</b>		
Assistant Supervisor	32	17.5
Manager	3	1.6
Staff	131	71.6
Supervisor	17	9.3

#### 4.2 Level of Content

On the level of content, the respondents were asked about, the system in terms of providing precise information (content 1), the system in providing information content (content 2), the system in providing reports (content 3), and the system in providing sufficient information (content 4). Table 2 indicates that about 63.4% respondents are satisfied with the precise information provided by the system (content 1). Majority information content meet the respondents needs (66.%) (content 2). Most repondents are satisfied with the system (68.3%) because the system provide reports exactly what their need (content 3). About 55.2% respondents satisfied with sufficient information provided by the system.

Table 2

#### Level of Content

<b>Level of Content</b>	<b>Total (%)</b>			
	<b>Content 1</b>	<b>Content 2</b>	<b>Content 3</b>	<b>Content 4</b>
Never	0 (0)	0 (0)	0 (0)	0 (0)
Some of the time	0 (0)	0 (0)	0 (0)	0 (0)
About half of the time	41 (22.4)	35 (19.1)	35 (19.1)	61 (33.3)
Most of the time	116 (63.4)	121 (66.1)	125 (68.3)	101 (55.2)
Always	26 (14.2)	27 (14.8)	23 (12.6)	21 (11.5)
<b>Total</b>	<b>183 (100)</b>	<b>183 (100)</b>	<b>183 (100)</b>	<b>183 (100)</b>

### 4.3 Level of Accuracy

In the level of accuracy, respondents asked about the accuracy of the system (accuracy 1) and the satisfaction with the accuracy of the system (accuracy 2). Table 3 shows that about 62.3% respondents are satisfied, the system is accurate (accuracy 1) and mostly respondents also satisfied (60.7%) with the accuracy of the system (accuracy 2).

Table 3

#### Level of Accuracy

Level of Accuracy	Total (%)	
	Accuracy 1	Accuracy 2
Never	0 (0)	0 (0)
Some of the time	0 (0)	0 (0)
About half of the time	36 (19.7)	27 (14.8)
Most of the time	114 (62.3)	111 (60.7)
Always	33 (18)	45 (24.6)
<b>Total</b>	<b>183 (100)</b>	<b>183 (100)</b>

### 4.4 Level of Format

In term of the level of format, respondents were asked about the output presented in a useful format (format 1) and the clarity of information (format 2). Table 4 indicates that most of the respondent are satisfied (58.5%) on the output presented in a useful format by the system (format 1). About 66.1% respondents are satisfied on the clarity of information provided by the system (format 2).

Table 4

#### Level of Format

Level of Format	Total (%)	
	Format 1	Format 2
Never	0 (0)	0 (0)
Some of the time	1 (0.5)	0 (0)
About half of the time	45 (24.6)	30 (16.4)
Most of the time	107 (58.5)	121 (66.1)
Always	30 (16.4)	32 (17.5)
<b>Total</b>	<b>183 (100)</b>	<b>183 (100)</b>



#### 4.5 Level of Ease of Use

Respondents were asked about user-friendliness of the system (ease of use 1) and ease to use of the system (ease of use 2) on the level of ease of use. Table 5 shows that about 64.5% respondents are satisfied that the system is user friendly (ease of use 1) and most of respondents (67.2%) are satisfied on the ease of use of the system (ease of use 2).

Table 5

##### *Level of Ease of Use*

Level of Ease of Use	Total (%)	
	Ease of Use 1	Ease of Use 2
Never	0 (0)	0 (0)
Some of the time	0 (0)	0 (0)
About half of the time	43 (23.5)	34 (18.6)
Most of the time	118 (64.5)	123 (67.2)
Always	22 (12)	26 (14.2)
<b>Total</b>	<b>183 (100)</b>	<b>183 (100)</b>

#### 4.6 Level of Timeliness

In the level of timeliness, respondents were asked about timeliness in getting information (timeliness 1) and the system provide up-to-date information (timeliness 2). Table 6 indicates that most of the respondents are satisfied with the system (66.7%) because they get the information on time (timeliness 1) and majority of respondents also satisfied (68.9%) because the system provide up-to-date information (timeliness 2).

Table 6

##### *Level of Timeliness*

Level of Timeliness	Total (%)	
	Timeliness 1	Timeliness 2
Never	0 (0)	0 (0)
Some of the time	0 (0)	0 (0)
About half of the time	32 (17.5)	23 (12.6)
Most of the time	122 (66.7)	126 (68.9)
Always	29 (15.8)	34 (18.6)
<b>Total</b>	<b>183 (100)</b>	<b>183 (100)</b>

## **5.0 Conclusion**

This paper intended to explore the accounting information system user satisfaction among state-owned banks in Indonesia, particularly, this paper examine the level of accounting information system user satisfaction. The implementation of an accounting information system in the organization provide various advantages, among others, accurate and timely information. Currently, the accounting information system is closely related to the use of information technology in its application to an organization. By using the information technology, accounting information system may provide a convenient way for the management in providing information.

In general, users of an information system is one of the important component and has a significant role, especially in implementing the system. Thus, the user satisfaction of an information system is believed to be critical to the success of the implementation of the system. The user satisfaction is often used as an important indicator in assessing the success of information systems implementation. User satisfaction may viewed as an affective attitude towards a system or application that interact directly.

The findings of this study indicate that overall, users are satisfied with the implementation of accounting information systems in the state owned banks in Indonesia. Specifically, the users of the system are satisfied with the content of the system, the accuracy of the information, the ease of use of the system, the format of the information generated by the system, and the timeliness of generated information. Thus, the management of state-owned banks is expected to maintain and improve the implementation of accounting information systems optimally. In particular, improving the system may help in providing excellent services to the public and also improve the productivity and capability of the institutions.

This study provides insight into the understanding of the accounting information system user satisfaction level among state owned banks in Indonesia. This study is expected to be one of the references for the improvement of accounting information systems implementation in the state-owned banks in particular and Indonesia in general. The study focuses on the user satisfaction of accounting information system in the state owned banks environment and determined user satisfaction in term of accuracy, content, format, ease of use, and timeliness.

Future studies may add other sectors, such as private banks, regional development banks and rural banks. Another indicator, such as system reliability, may be included in the user satisfaction level assessment. In term of respondents, this study only focuses on accounting staff as accounting information system users, future studies may consider other accounting information system user groups such as financial staff, marketing staff or credit staff.

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