

# THE ANALYSIS OF EFFECTIVENESS MEASUREMENT IN ACCOUNTING INFORMATION SYSTEMS THROUGH COMPETENCE FACTOR OF INFORMATION SYSTEM USER (Research on Higher Education in Bandung)

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**Abstract:** Accounting Information Systems exists in all forms of organization (Bockholdt, 1999: 1). Organization will depend on Accounting Information Systems for competitiveness (Bodnar & Hapwood, 2004: 3). The ability of business competition gives a major impact on the increased use of Accounting Information Systems for company (Laudon and Laudon, 2005: 5).

Various facts of findings indicate that there is still the usage of Accounting Information Systems which are less effective in various organizations in Indonesia that are caused by the information system which is not integrated, the reporting and recording of transactions which have not been optimal. Besides that there are users who do not have the knowledge and skill (competency). Based on this phenomenon the purpose of this study implementation is to determine the effect of user competence on the effectiveness of Accounting Information System at financial accounting division on Higher Education in Bandung city-Indonesia.

This study uses descriptive and explanatory research methods. The population in this study is 60 colleges which are located in Bandung city-Indonesia. The number of samples is determined using Slovin formula based on probability sampling method. The number of samples which are used in this study is 37 universities. The data quality is tested by Validity and Reliability test. The statistical test which is used is structural equation modelling (SEM) based on component or variance which is known as Partial Least Square (PLS) and the hypothesis test is by using SPSS 2.0 for Microsoft Windows. The study results show that user competence gives significant positive effect on the effectiveness of Accounting Information Systems at Financial Accounting Division on Higher Education in Bandung city-Indonesia.

**Key Word:** User Competence, the Effectiveness of Information Systems, User Satisfaction and System Usage.

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## 1. INTRODUCTION

Information system is not in a vacuum environment. Information system is an integral part of the company it serves. Therefore information system has a close relationship with the physical operation and organization of the company (Wilkinson, 1993: 33). The information system supports the company's daily operations which are carried out by the personnel of the company so it can determine whether their work has been efficient and effective (Hall, 2011: 14).

Accounting Information System is one of the most important information systems in an organization (Wilkinson; 1992: 18). Accounting information system touches almost into most of human lives (Wilkinson, et al: 2000: 3). Accounting Information Systems is an "accounting's principal goal" for individuals and organizations. (Barganoff et al, 2010: 1).

All businesses at the level of any size will not be able to survive without accounting information system (Stair & Reynolds; 2010: 4). Accounting information system is built by an organization with the main purpose to process accounting data from various sources into the accounting information needed by the various users to reduce the risks at the time of decision making (Azhar Susanto, 2008: 8). Accounting information system is needed to carry out planning, control and business operations activities of an organization (Romney, et. al: 1997: 2).

Accounting Information System is a collection (integration) of sub-systems/ components both physical and nonphysical which are interconnected and cooperate each other in harmony to process transaction data that is related to financial problems into financial information (Azhar Susanto, 2008: 72). Romney et al (2006: 2) states that accounting information system is a data processing and transactions to provide the information which is needed by *User* for their planning, controlling and business operations.

Accounting information system that is built an organization must be able to provide accounting information that refers to the monitoring of accounting activities, adopts rules and accounting standards, as well as refers to the revenue and expenditure transactions of the organization concerned (Lupasc et al., 2009). Accounting Information System that is effective will add value to organization by providing quality accounting information (accurate and timely). System usage and satisfaction of information user is a measure that is used to assess the effectiveness of information system, De.Lone & Mc. Lean (1992).

This condition occurs when the Application of Accounting Information System which is not effective still occurs in many organizations in Indonesia. Various fact finding indicates there is Accounting Information Systems which is inadequate at various government agencies due to integration issues as proposed by: Anwar

Nasution (Chairman of BPK-RI, 2009) who states that Accounting Information System at the central and local governments have not been integrated, then the statement of Taufiqurohman Ruki (Member of BPK 2011) who states that Accounting Information System at DGT is still weak and has not been integrated because it still found differences of tax revenues recording according to DGT with State Treasury.

The other Accounting Information Systems issues is related to Reporting and Recording problem of transactions as proposed by Hadi Purnomo (Chairman of BPK RI, 2013) which states that Accounting Information System of state finance is still weak and has not been effective due to the problem of inconsistent reporting. Furthermore Ani Rahmawati (Budget DG of Ministry of Fund, 2013) states accounting information system of state finances is still weak due to the transaction recording has not been adequate, Ali Masykur Musa (Member of BPK-RI, 2013) reveals Accounting Information System at Ministry of Marine and Fishery is still not good because of the property and supplies recording are inadequate), here in after Rizal Zalil (Chairman of BPK-RI, 2014) states that the weak AIS of State finances causes loss in State Treasury, and Achsanul Qosasih (members of BPK-RI, 2015) states that 14 BUMN have not been accountable in managing State finances.

The effective Accounting Information System must involve the understanding of how people work and the social practices involved inside it (Indeje and Zheng, 2010: 4). User competence is one of the factors that influence the success or failure of an organization/company in implementing information systems (O'Brien and Maracas, 2009). The philosophy of user-oriented accounting information system designing indicates the importance of attitude and approach to systems development that consciously consider the user should be involved in designing applications (Bodnar and Hapwood, 2004: 25).

O'Hagan (2007: 17) defines user competence as the product of *knowledge, skills/expertise* and *values*. Mejia, Balkin & Cardi (2010) define competence as the inherent characteristics of individuals which are associated with the success of a person/individual performance. Sterwart & Brown (2011, 22) user competence shows knowledge, skills and abilities which are needed by individuals to display the desired behaviour.

Based on various findings conditions in the field there are still many users of accounting information systems who are not competent as stated by Supomo Pradjodihardjo (2009, experts BPK) that there are still many local officials with the interest in Accounting field do not have the knowledge and understanding (competence) about accounting information systems. Furthermore Bagus Rumbogo (Bappenas, 2009) states there are still many financial officers or staffs who do not have knowledge and skills/expertise in accounting field. Indratjahja (Ministry of

Home Affairs, 2009) that Human Resources at both central and regional level are recognized incompetent in handling the accounting information system of the State Finance.

The results of research which is conducted by Jong Min Choe (1996), Deghanzade et.al (2011), and Taber et.al (2014) produce empirical evidence that there is a significant positive effect between user competence of Information System to the performance of Accounting Information Systems. Further research that is conducted by Majed Alsharayri (2012), Petter, DeLone and Mc. Lean (2008), and Research of Najab Eternal et.al (2013) provide empirical evidence that information technology has positive influence on the effectiveness the accounting information system.

## 2. LITERATURE REVIEW

### Accounting Information System

Accounting information system is a set of resources such as people and equipment that are designed to alter financial data (Bodnar & Hapwood, 2010) to produce accounting information (Hall, 2004: 21; Sacer et al, 2006: 61) which is used in decision making process (Laudon and Laudon, 2007: 13) by user either to user internal and external management system (Mitchell et al., 2000). Furthermore, O'Brien & Marakas (2008:30) argue that accounting information system is a set of human resources, *Hardware* and *Software*, data and network.

Accounting Information System Components according to Romney and Steinbart (2006; 3) consists of people, procedures, data, software and information technology infrastructure. According to O'Brien (2005: 10) Accounting Information System components consist of people (*brainware*), information technology (*hardware*, *software* and communication networks) and database then McLeod & Schell (2007: 85) and Azhar Susanto (2008: 72) add procedures components in Accounting Information Systems.

The integration of accounting information system components is the company resources in order to achieve substantial advantage (McLeod and Schell, 2007: 29). Integration is the key to successful implementation of information system. Integrated information system will generate information that is accurate, timely, and consistent for management (Rodin-Brown, 2008).

Researchers in Information Systems field examine the definition of Accounting Information Systems Effectiveness as a condition of information user satisfaction in getting the desired information (Dehghanzade et al, 2011). According to Nicolaou (2000) The Effectiveness of Information Systems is a condition of the

information availability which is used as a basis for decision-making that is needed by organisation to conduct coordination and control.

According to De.Lone & Mc. Lean (1992), the system usage and information user satisfaction are the measure in assessing the effectiveness of information systems. Furthermore De.Lone & Mc. Lean (1992) adds that the size of information systems usage and Information User Satisfaction can be seen from the point of view system quality, information quality and service quality.

Based on the various descriptions, it can be said the effectiveness of accounting information system is a condition of information user satisfaction on the information it receives which is produced by information system (Dehghanzade. et.al. 2011) as well as the condition of how the system is used in an organization that is seen from the point of view system quality, information quality and service quality (De. Lone & Mc. Lean, 1992 and Pitt, et al, 1995).

### **User Competence**

User competence shows knowledge, skills, and abilities which are required to display the desired behaviour (Sterwart & Brown, 2011: 22). According to Spencer and Spencer (1993: 9) competence is a special characteristic of individual which is reflected in how the individuals think rationally during a long period of time.

According to Ward and Peppard (2002: 393) user competence is a combination of knowledge, skills, expertise and behaviours that exist and spread in individual and organizational processes and can determine how individuals can develop and exploit the expertise (*competency can be considered as a combination of knowledge, skills, expertise and behaviours that reside in the people it deploys and organizational processes that determine how to develop and exploit that expertise*). The similar opinion was expressed by Funk (2005: 33) user competence is a level of performance that shows knowledge, skills and management which have been implemented effectively by individual (*a level of performance demonstrating the effective application of knowledge, skills and Management*).

Spencer & Spencer (1993: 9) further argues that the special characteristics of a person who has competence from the perspective: knowledge, skills/expertise, *Self Concept* (individual perception/concept), and nature/ character/personal traits of a person (*traits*). Dimensions of competence according to Meija et al (2010: 242) are: *Knowledge, skills/expertise, ability (capability), Work Management, Character, and Commitment*. Dimensions of competence according to Konopaske et al (2009) are the ability, *Knowledge, skills/expertise, behaviour (attitude), motivation, and Stress*.

Knowledge should be owned in building user competence in designing accounting information system, accounting as system users must have knowledge

in the principles of Accounting, Auditing, Information Systems Technology and system development method (Gelinas and Dull, 2008: 26). Information systems users particularly accountant will work effectively it depends on how they have knowledge in accounting information systems and technologies which is used in implementing it. Furthermore Mc. Leod & Schell (2007: 80) suggests the knowledge that must be possessed by system users are: *computer literacy, information literacy, the Business fundamentals, System Theory, System Development and System modelling*, then the skills/expertise that must be possessed is the expertise in terms of: communication, the ability to analyse, creativity, and leadership. Similar opinion is expressed by Kondalkar (2007: 48) that there are two criteria for *skills/expertise* which should be owned by user are: *physical skills/expertise* and *intellectual skills/expertise*.

### 3. RESEARCH MODEL

#### 3.1. Framework and Hipottheses

Effective use of information systems requires clear/definite knowledge and expertise. Information specialists will use their expertise and knowledge all the time. Users will use their skills and knowledge in using computer at the relevant level (*The development of Information systems requires certain knowledge and skill. Information specialists apply this knowledge and skill on a full time-basis. Users apply them when they engage in end user computing to any degree*). (Mc. Leod & Schell, 2007: 9).

Ward & Peppard (2002: 115) reveals human resource development and competence of information systems users will increase the success of information systems usage in an organization. (*Developing the appropriate resources and user competencies to deploy Information System successfully across the Organization*). Furthermore Gelinnas & Dull (2008: 26) argues that the accounting information system development process to be effective, user must have adequate knowledge about system development. (*To be effective in the AIS design process, the users must have knowledge the systems are developed*). In line with Mc.Leod & Schell (2007: 9) and Ward & Peppard (2002: 115), Curtis and Cobham (2005: 592) states that accounting information system which is designed to incorporate elements of user competence will increase job satisfaction and information system will function effectively (*Information systems are designed with the personal competence, job satisfaction will be improved and information system will function effectively*).

Furthermore Azhar Susanto (2008: 370) suggests several reasons that cause failure in the application of information systems, the causes of failure are:

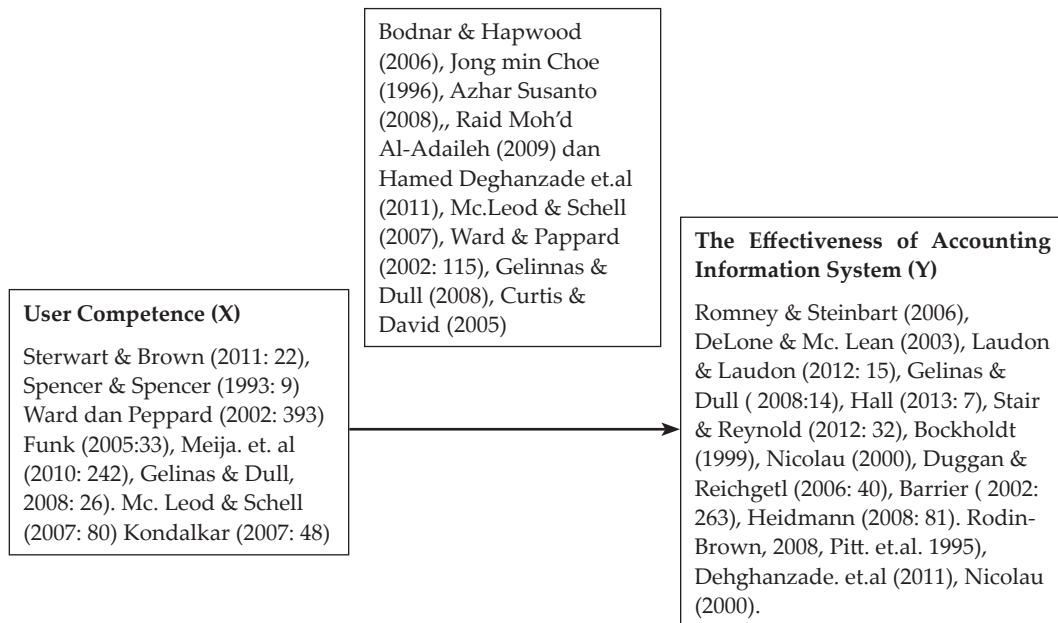
1. Unavailable knowledge which users owned so that they are not willing to make decisions or to give their views, because users less understand the impact of their decision.
2. Lack of experience in decision making because of environmental culture that does not support and lack of support from the organizations in participating to take decision.
3. Decision making is limited to stages that allow users or employees are involved in decision making.
4. Lack of opportunities for testing and lack of opportunity to learn, this arises because of fears of high costs that need to be incurred for these activities.

Based on the concepts which are stated by Azhar Susanto (2008: 370) it can be said that the level of knowledge, experience, and skill affect the effectiveness of information systems.

In line with Azhar Susanto (2008: 370), Bodnar and Hapwood (2006) emphasize the importance of knowledge and expertise of users on Accounting information systems, users should be able to understand the purpose and characteristics of each output so that the output can be maximum utilized. Personnel training are needed in design phase not after the system is run. Finally system must be prepared to accept the changes to be changed after the operation is begun. Users will usually ask for a change. Anticipation of this possibility and the other factors which are mentioned above are important in system design philosophy which is user-oriented.

Many researchers have studied the effect of user competence on the effectiveness of accounting information system. The results of research which are conducted by Jong Min Choe (1996) provide empirical evidence that there is a significant positive effect between of the performance of Information System User competence to Accounting Information System performance. Further the research which is conducted by Deghazade et.al (2011) provides empirical evidence that education level, education field and skills/expertise in computer field influence the effectiveness of accounting information system. The research which is conducted by Taber et.al (2014) examines the effect of user competence on the effectiveness of Accounting Information System. The results of research which is conducted by Taber et.al (2014) prove that Competence has significant positive effect on the Effectiveness of Accounting Information System.

For more details, framework can be presented in the form of research model in figure 2.1 below:

**Figure 1: Research Model**

Based on the framework, the hypothesis in this study can be stated as follows: **“Users Competence influence the Effectiveness of Accounting Information Systems”**.

### 3.2. Research Method

The research method that is used in this research is descriptive method and explanatory research. Descriptive methods are often designed to collect data that describes the characteristics of a person, event or specific situation (Sekaran & Bogie, 2014: 97), while explanatory research method is the method that is used for research which aims to explain the causal relation between variables (cooper and schindler, 2006: 154).

### Research Variables

In this study, the research variables can be identified as follows:

#### i. Users Competence (X)

To measure user competence it is used Dimensions and Indicators as follows:

1. **Knowledge Dimension** use indicators:
  - a. Computer & Information literacy



- b. Business fundamentals
  - c. System theory
  - d. Ability to choose which of several options is the right response
2. **Skill/Ability Dimension** use indicators:
- a. *Intellectual/cognitive Skill*
  - b. *Analytical skill*
  - c. *Creativity*

## **ii. The Effectiveness of Accounting Information Systems (Y)**

Dimensions and indicators to measure the effectiveness of Accounting Information Systems are:

1. **User Satisfaction Dimension** (Boockholdt.1999; Stair & Reynold. 2012, Heidmann. 2008, Nicolau. 2000), the indicators are:
  1. flexible
  2. accessible
  3. Efficient
  4. Correct and timely Provides Information
2. **System Use Dimension** (Romney & Steinbart. 2006; Duggan & Reichgelt. 2006, Barrier 2002, Davis.1989, Venkantesh.2003), the indicators are:
  1. security
  2. processing integrity
  3. availability.
  4. Ease to Use & Usefulness

## **Population, Unit of Analysis, Unit of observation and Research Sample**

**Population** according to Sekaran and Bogie (2010: 262) is described as “*the entire group of people, events, or things of interest that researcher wishes to Investigate*”. Collection or group which is referred to in the study can be objects, people, symptoms, events or other matters that have certain characteristics to clarify the research problem (Kerlinger, 1992). Based on this statement, the population in this study are Public and Private Universities in Bandung City Region which have been using accounting information system in the financial reporting system of 60 universities.

**Unit of analysis** is a thing/a person/a member of population (Sekaran & Bogie, 2010: 263), which are units (person, group, institution, etc.) that the information will

be collected (Babbie.1983: 146). The unit of analysis in this research is Public and Private Universities in Bandung City Region which have been using accounting information system in the financial reporting system.

**Unit of observation** or units of data collection is an element or group of units of analysis which information will be collected. Thus the unit of observation or respondents in this study is a part or financial accounting division as a unit organizer in accounting information systems in university.

**Sample** according to Sekaran and Bogie (2010: 262) is a small part which is taken from population and sought representing all important elements of population. To narrow population scope it is carried out sampling, sampling uses *probability sampling*, the sampling technique that gives equal opportunity for each element of (members of) the population to be elected as sample members (Sugiyono, 2008: 118). The minimum number of samples which is used is determined by using Slovin formula (Husein Umar, 2003: 141), with the following formula Based on calculations using the formula above, the sample which is used in this study is about 37 public and private universities in Bandung city.

### **Data Analysis Methods**

The data analysis in this study is conducted with descriptive analysis and verification. Descriptive analysis aims to obtain a description of each study variable characteristics. Make it easier to interpret the variables which are being studied, it is performed categorization of the respondent scores which uses an average value of respondent scores. Categorization scores uses inter-quartile range as it is proposed by Cooper & Schindler (2006; 467) for ordinal data or interval data which has an asymmetric distribution, central tendency measurement can be done through the distribution of inter-quartile range. The first quartile is the 25<sup>th</sup> percentile, the second quartile (median) is the 50<sup>th</sup> percentile and the third quartile is 75<sup>th</sup> percentile.

Further verification analysis which is used to test the hypothesis in this study is *structural equation modelling (SEM)* which is component or variance-based that is known as *Partial Least Square (PLS)*. This analysis tools are chosen on the consideration of limited samples number, of which the samples number in this study is only 55 districts / cities and are not eligible to use *structural equation modelling (SEM)* which is *covariance*-based.

According to Imam Ghozali (2008), partial least square (PLS) is a powerful analytical method therefore it is not based on many assumptions. The data does not have to distribute multivariate normal and the sample size also does not have to be big. Although partial least square is used to confirm the theory, but it can also be used to explain whether there is relation between latent variables. With the following steps:

- a. Step One: Designing Structural Model (*inner model*)
- b. Step Two: Designing Measurements Model (*outer model*)
- c. Step Three: Constructing Path diagram
- d. Step Four: Conversion Path diagram into Equation System
- e. Step Five: Estimation
- f. Step Six: *Goodness of Fit*
- g. Step Seven: Testing Hypotheses

Higher educations that become the research samples (unit of analysis) are 37 universities with 74 employees as respondents. The number of respondents who returned the questionnaire is 50 respondents, or 67.6% with a number of research place/unit of observation are 34 universities or 91.9%. Based on the 50 questionnaires which are returned, all of them can be processed because as all of the research places are directly visited.

#### 4. DATA ANALYSIS

Before analysing the data further, it will be tested for validity and reliability of research data.

##### Validity Test

- The validity test results show the seventh questionnaire statement items of User Competence (X) has value of  $r_{\text{count}} > 0.30$  so that it can be concluded that **all variable items of User Competence (X) is valid**. This means that the measuring instrument in the form of a questionnaire statement has had a good level of validity which means it can measure variable of User Competence (X) that is studied.
- The validity test results from the eight questions item to test **the Effectiveness of Accounting Information System** variable (Y) shows that the eight items of questionnaire statement has value of  $r_{\text{count}} > 0.30$ , so it can be concluded that all items of **the Effectiveness of Accounting Information Systems** variable (Y) can be said valid. This means that the measuring instrument in the form of a questionnaire statement has had a good level of validity which means it can measure variable of **the Effectiveness of Accounting Information System (Y)** that is studied. (*The recapitulation result is in the table 4.2 annex*).

##### Reliability Test

Reliability test indicates the trust level in the results of a measurement. According to Kaplan Saccuzo (2009; 125), the criteria of a good reliability test value is in

the range of 0.7 up to 0.8. Based on the research data, reliability test results are good for the **Effectiveness of Accounting Information Systems** variable (Y) or **Competence Users** variable (X) indicates that the value of  $r_{\text{count}}$  is greater than 0.7 it can be assumed questionnaire statement as a variables measuring tool which is used in this study is *reliable*. (The recapitulation result is in the table 4.3 annex)

## Results of Descriptive Analysis, Results of Respondents

### *Descriptive Analysis of User Competence Variables*

Users Competence variables are measured using 2 dimensions with 7 indicators. Scores categorization uses inter-quartile range as it is proposed by Cooper & Schindler (2006; 467). Based on the research result which is obtained by the respondents' assessment for 7 indicators that is used to measure User Competence variables in this study it is shown in the following table:

- **Dimensions of Knowledge** which are within the scores range of 4.05 are included in **good** category it means than the condition of information system user competency from the knowledge he possesses in general it can be said good. There is phenomenon that user is still incompetent can be answered/explained by respondents score to the Business Fundamental indicator at 3.92 and System Theory Indicator at 3,82 are included in fair category, it means that the information system users do not have sufficient knowledge in Business Fundamentals and System theory. This condition can occur because the information system users which are the respondents in this study few of them who have educational background in accounting field at the level of D3, S1 or S2. As the result, it can be ascertained that the users will have difficulty in understanding the stages in transaction processing and transactions recording / inputting which are related to financial issues. (The recapitulation scores can be seen table 4.4 in the annex)
- **Dimension of Skill** is in the scores range of 3.79 it is included in **Fair** category, it means the condition of information system user competency in terms of the skills can generally be categorized in sufficient condition. The results are consistent with a phenomenon that has been noted previously that there are users who are incompetent in using information systems. The incompetent users after conducted research have considerable expertise. It means that there are still many system users who do not have the physical/ cognitive skills, analytical skill and creativity in operating information systems so that they have many obstacles and difficulties in operating accounting information system.

## **Descriptive Analysis of the Effectiveness of Accounting Information Systems Variable**

- Effectiveness of Accounting Information Systems Variable was measured by using two dimensions (user satisfaction and System Use) with eight indicators. Calculation results of *grand mean* score of respondents about the Effectiveness of Accounting Information System (*table 4.5. in the annex*) of 3.92 is at the third quartile ( $Q_3$ ) or interval 3-4 is included in the category **good enough**. The amount of 3.92 which is obtained is equivalent to 78.4% ( $3.92/5 \times 100$ ). The scores which are obtained do not reach 100% as it is expected, so there is a gap of 21.6% between the ideal levels which is expected with the actual condition. This gap shows the effectiveness of Accounting Information System has not reached the ideal level which means that the conditions of accounting information system have not been effective to allow it can happen and it answers the phenomenon mentioned earlier.
- Based on research result data, **user satisfaction dimension** and **system usage dimension** are included in the category good enough (*table 4.5. in the annex*). This condition shows accounting information system has not been effectively implemented in the company because the user is not satisfied with the information system applications which are available in the company, the dissatisfaction is triggered because of the flexibility and accessible accounting information systems are inadequate and the user has not maximize the use of information systems for security, integration and availability of information systems which have not been assessed adequately.

## **The Results of Verification Testing (Testing of Statistics)**

### *Designing Structural Model (inner model)*

Based on the results of statistical data processing, Structural Model can be described as follows:

$$\eta_1 = 0,383\xi_1 + 0,290$$

### *Testing of Measurement Model (outer model)*

The three criteria which are used in assessing outer models: Convergent Validity, Discriminant Validity and Composite Reliability can be said to have met the criteria with the following explanation:

#### **1. Convergen Validity**

- Calculation results of Loading factor value for 2 dimensions of User Competence (X) latent variables which the range is from 0.98-1.0 (*table 4.7*)

and 4.8 in the annex) is above the average of 0.6. Calculation results of *outer model* value or correlation between dimensions and variables already meet *Convergent Validity*. Loading factor values are above the recommended value which is equal to 0.60 so that there is no dimension of User Competence is eliminated from the model.

- Calculation results of Loading factor value for 2 dimensions of the Effectiveness of Accounting Information Systems (Y) variable which the range is from 0.9-1 is above the average of 0.6. Calculation results of *outer model* value or correlation between dimensions and variables already meet *Convergent Validity*. Loading factor values are above the recommended value which is equal to 0.60 so that there is no dimension of the Effectiveness of Accounting Information Systems is eliminated from the model.

## 2. Discriminant Validity.

Based on the table 1 4.9... (in the annex) can be seen that *loading factor* value for each indicator of each variable is still greater than *loading* value if it is associated with other variables. It shows that each variable has good *discriminant validity* of which the variables do not have a measuring that is highly correlated with other constructs.

## 3. Composite Reliability

Based on the table 4.10 (in the annex) can be concluded that all constructs meet reliable criteria. This is indicated by *composite reliability* value which is above 0.70 as recommended criteria.

### *Structural Model Testing (Inner Model)*

*R-square* value for the effectiveness of Accounting Information Systems (Y) variable is obtained at 0.710. These results indicate that 71.0% of the Effectiveness of Accounting Information Systems variables are influenced by User Competence and Information Technology Quality variables.

### Hypothesis Testing

The statistical results of this research can be stated as follows:

Ho.  $\gamma_1 = 0$  : Users Competence do not influence the effectiveness of Accounting Information System

Ha.  $\gamma_1 \neq 0$  : Users Competence influence the effectiveness of Accounting Information System

Based on the results of hypothesis testing it showed that the relation between User Competence and the Effectiveness of Accounting Information Systems variables indicated by path coefficient value of 0,383 with  $t_{\text{count}}$  of 2.401 (table 4.6

*in the annex*). The t-statistic value is greater than  $t_{\text{critical}}$  (1.960), which means User Competence influence the effectiveness of Accounting Information Systems.

The amount of direct influence of Users Competence on the effectiveness of Accounting Information System is equal to  $(0.383 \times 0.383 \times 100\%) = 14.6\%$ . While the influence of User Competence on the Effectiveness of Accounting Information System is indirectly because of the relation with Quality of Information Technology  $(0.383 \times 0.632 \times 0.547 \times 100\%) = 13.2\%$ . The amount of total influence of User Competence on the Effectiveness of Accounting Information Systems is **27.9%**.

## 5. DISCUSSION

### **The influence Users Competence on the Effectiveness of Accounting Information Systems**

The effective use of information systems requires clear/definite knowledge and expertise (Mc. Leod & Schell, 2007: 9). Ward & Peppard (2002: 115) suggests development of human resources and competence of information systems users will increase the success of information system usage in an organization. Furthermore, the statement is reinforced by Gelinias & Dull (2008: 26), in his statement that the development process of accounting information system can effectively run. The user must have adequate knowledge about the system development.

Based on the research results can be demonstrated that the ineffectiveness of Accounting Information Systems is caused by the user is not satisfied in using the accounting information system and the lack of accounting information systems usage in the company. Results of the questionnaire answers show that dissatisfaction of users on accounting information systems in the company is because of accounting information system that is considered is not able to adapt well (it is not flexible yet) besides users feel the difficulty in accessing accounting information systems in the company. Furthermore, the system usage which is not optimal is due to accounting information system that is available in the company is not easy to use, it has not had an adequate security level, it has not been well integrated and it often has an error/interference so as it is not ready to use.

There are information system users who are not competent in various institutions in Indonesia. It can be re-proven based on the research result which is conducted at universities in Bandung city. Based on the research result, there is still found the level of users competence which has not been adequate. This condition shows there are the system users who do not have good knowledge in the field of accounting and information systems, as well as there are information systems users who do not have expertise in conducting transactions recording that

relates to financial data and have not been able to do an analysis of the company's financial transactions.

Based on the research result it is also known that the influence of the user competence of the information systems effectiveness is 27.9% with significant direction of positive relation by the existence of good users system competence mean it will improve the effectiveness of accounting information system at the company. Hypothesis testing result shows that the user competence significantly affects the effectiveness of accounting information systems. The research results can be said to strengthen the previous theory which is proposed by Mc. Leod & Schell (2007: 9), Ward & Peppard (2002: 115), Gelinnas & Dull (2008: 26), Curtis and Cobham (2005: 592), Azhar Susanto (2008: 370) and Bodnar and Hapwood (2006).

As the research hypothesis accepted that the user competence influences on the effectiveness of accounting information system, this study reinforces previous research result as it has been researched by: Jong Min Choe (1996), Deghanzade et.al (2011) and Taber et.al (2014).

## **6. CONCLUSION AND SUGGESTION**

### **Conclusion**

Based on research Results and Discussion of the research results can be summarized as follows: User Competence influence the effectiveness of Accounting Information Systems. The ineffectiveness of accounting information systems at universities in Bandung city is caused by the level of user satisfaction and information systems usage are still not optimal. Further the problems that there are users who are not competent due to the users do not have adequate level of knowledge and skills in using accounting information system that is available within the company.

### **Suggestion**

The research Results has addressed the issues that have been raised previously in the research background, but there are some things that need to be suggested relate to the research results that it shows small effect among variables which are studied. The suggestions that will be given are as follows:

#### **1. Practical aspects (Troubleshooting)**

- a. To anticipate the re-emergence of the same problems which are associated with Accounting information systems that is less effectively implemented by universities in Bandung city, it is recommended in order to: improve user satisfaction and accounting information systems usage (system usage) by designing an accounting information system more flexible, have a data



processing that is well integrated, security in data storage, and easy to use (*user friendly*).

- b. To anticipate the knowledge and expertise of the accounting information system user which is not optimal can be overcome by organizing training that is related to accounting information systems usage for employees and to provide encouragement and opportunity for employees to continue their education at higher level which is in line with their work field.

## **2. Theoretical aspects (scientific development)**

The research results are expected to be used as a reference for further research in order to obtain the same results/conclusions (*replicability*), to increase confidence on the research that has been done as well as the applicability of the research results can be widely accepted (*generalizability*). The suggestions that can be delivered for the science development are:

- a. The researchers then are expected to add the research sample in order to obtain more optimal research results
- b. The researchers then use the research unit/location which is different from that is used in this study thus strengthening support for theories linkages that have been proposed by the previous experts.
- c. The researchers then are expected to do research using different Statistics test equipment from the one which is used in this study in order to test the theoretical model that is used whether it will produce the same effect when it is tested using different statistics test techniques.

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## ANNEXES

**Table 1**  
**Recapitulation Test Result Validity of Research Instruments Users competence (X1))**

<i>No Item Inquiry</i>	<i>Correlation Item - Total</i>	<i>Limit value</i>	<i>Description</i>
1	0,744	0,3	Valid
2	0,767	0,3	Valid
3	0,629	0,3	Valid
4	0,816	0,3	Valid
5	0,803	0,3	Valid
6	0,876	0,3	Valid
7	0,735	0,3	Valid

**Table 2**  
**Recapitulation Test Result Validity of Research Instruments Effectiveness of  
Accounting Information Systems (Y)**

<i>No Item Inquiry</i>	<i>Correlation Item - Total</i>	<i>Limit value</i>	<i>Description</i>
1	0,672	0.3	Valid
2	0,679	0.3	Valid
3	0,701	0.3	Valid
4	0,752	0.3	Valid
5	0,750	0.3	Valid
6	0,725	0.3	Valid
7	0,792	0.3	Valid
8	0,708	0.3	Valid

Source: Research Data Processing

**Table 3**  
**Recapitulation Test Result Reliability of Research Instruments**

<i>Variable</i>	<i>Value of Reliability</i>	<i>Limit value</i>	<i>Description</i>
Kompetensi Pengguna (X <sub>1</sub> )	0,861	0.7	Reliabel
Efektifitas Sistem Informasi Akuntansi (Y)	0,927	0.7	Reliabel

Source: Research Data Processing



**Table 4**  
**Recapitulation Score Descriptive Variables User Competence**

<i>Indikator/ Dimension</i>	<i>Actual score</i>	<i>Mean Scor</i>	<i>Criteria</i>
Computer & Information Literacy	211	4,22	Good
Bussiness Fundamental	196	3,92	Good enough
System Theory	191	3,82	Good enough
Ability tho choose which several option is the right response	212	4,24	Good
Knowledge	810	4,05	Good
Intellectual/Cognitive Skill	172	3,44	Good enough
Analitical Skill.	192	3,84	Good enough
Creativity	204	4,08	Good
Skill	568	3,79	Good enough
Total Skor			
<b>Rata-rata (grand mean)</b>	1378	3,94	Good enough

Keterangan : Rata-rata = (skor aktual) dibagi (jumlah responden kali jumlah item pertanyaan)

**Table 5**  
**Recapitulation Score Descriptive Variables AIS Effectiveness**

<i>Indikator/ Dimension</i>	<i>Actual score</i>	<i>Mean Scor</i>	<i>Criteria</i>
Flexible	192	3,84	Good enough
Accesible	189	3,78	Good enough
Efficient	216	4,32	Good
Provides Correct and Timely Information	200	4,00	Good
User satisfaction	797	3,99	Good enough
Security	196	3,92	Good enough
Processing Integrity	188	3,76	Good enough
Availability	190	3,80	Good enough
Ease to use and Usefullness	197	3,94	Good enough
System Usage	771	3,86	Good enough
<b>TOTAL SKOR</b>	1568		
<b>Rata-rata (grand mean)</b>		3,92	Cukup Baik

**Table 6**  
**Significance test of The influence of user Competence to AIS Effectiveness**

<i>Coefficient Line</i>	$t_{hitung}$	$T_{critical}$	<i>Conclusion</i>
0,383	2,401	1,96	Signifikan

Source: PLS Calculation Results

**Table 7**  
**Users Competence Measurement Model variables (X1)**

<i>Variabel Manifes</i>	<i>Loading Factor</i>	<i>Measurement Model</i>	<i>Tcount</i>
<i>Knowledge (X<sub>11</sub>)</i>	0,959	$X_{11} = 0,959 X_1 + 0,079$	88,000
<i>Skill (X<sub>12</sub>)</i>	0,951	$X_{12} = 0,951 X_1 + 0,096$	72,645

**Tabel 8**  
**Measurement Model Accounting Information Systems Effectiveness variable (Y)**

<i>Variabel Manifes</i>	<i>Loding Faktor</i>	<i>Measurement Model</i>	<i>Tcount</i>
<i>User satisfaction (Y<sub>1</sub>)</i>	0,940	$Y_1 = 0,940 Y + 0,116$	66,574
<i>System Usage (Y<sub>2</sub>)</i>	0,909	$Y_2 = 0,909 Y + 0,174$	46,438

**Tabel 9**  
**Discriminant Validity value**  
**(Cross Loading)**

	<i>X1</i>	<i>X1.1</i>	<i>X1.2</i>	<i>Y</i>	<i>Y1</i>	<i>Y2</i>
<b>X1.1.1</b>	0,757	0,744	0,685	0,693	0,583	0,681
<b>X1.1.2</b>	0,774	0,845	0,620	0,606	0,651	0,429
<b>X1.1.3</b>	0,593	0,617	0,523	0,358	0,361	0,284
<b>X1.1.4</b>	0,818	0,858	0,705	0,499	0,452	0,403
<b>X1.2.1</b>	0,800	0,674	0,868	0,550	0,483	0,482
<b>X1.2.2</b>	0,877	0,769	0,922	0,531	0,460	0,461
<b>X1.2.3</b>	0,748	0,662	0,759	0,659	0,555	0,645
<b>Y1.1</b>	0,562	0,619	0,445	0,686	0,774	0,467
<b>Y1.2</b>	0,525	0,562	0,433	0,671	0,773	0,472
<b>Y1.3</b>	0,413	0,416	0,362	0,700	0,795	0,514
<b>Y1.4</b>	0,503	0,444	0,514	0,783	0,697	0,735

<b>Y2.1</b>	0,383	0,332	0,395	0,722	0,559	0,834
<b>Y2.2</b>	0,282	0,269	0,261	0,630	0,521	0,799
<b>Y2.3</b>	0,615	0,608	0,560	0,814	0,692	0,802
<b>Y2.4</b>	0,707	0,633	0,713	0,720	0,544	0,766

Source: Data processing by PLS, 2015

**Tabel 10**  
**Composite Reliability value Variabel laten**

<i>Variabel laten</i>	<i>Composite Reliability</i>
<b>Kompetensi Pengguna (X<sub>1</sub>)</b>	0,9103
<i>Knowledge (X<sub>11</sub>)</i>	0,8532
<i>Skill (X<sub>12</sub>)</i>	0,8881
<b>Kualitas Teknologi Informasi (X<sub>2</sub>)</b>	0,8794
<i>Computer Technology (X<sub>21</sub>)</i>	0,8008
<i>Communication Technology (X<sub>22</sub>)</i>	0,8102
<i>Data Storage &amp; Proccessing Methode (X<sub>23</sub>)</i>	1,0000
<b>Efektifitas Sistem Informasi Akuntansi (Y)</b>	0,8880
<i>User satisfaction (Y<sub>1</sub>)</i>	0,8457
<i>System Usage (Y<sub>2</sub>)</i>	0,8770
<b>Kualitas Informasi Akuntansi (Z)</b>	0,9176
<i>Time Dimension (Z1)</i>	0,8812
<i>Content Dimension (Z2)</i>	0,8400
<i>Location Dimension (Z3)</i>	0,8243
<i>Form Dimension (Z4)</i>	0,8946