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Muda, Iskandar

## Article

### User impact of literacy on treatment outcomes quality regional financial information system

Management dynamics in the knowledge economy

#### Provided in Cooperation with:

National University of Political Studies and Public Administration, Bucharest

*Reference:* Muda, Iskandar (2017). User impact of literacy on treatment outcomes quality regional financial information system. In: Management dynamics in the knowledge economy 5 (2), S. 307 - 326.

doi:10.25019/MDKE/5.2.08.

This Version is available at:

<http://hdl.handle.net/11159/1510>

#### Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

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## User Impact of Literacy on Treatment Outcomes Quality Regional Financial Information System

Iskandar MUDA

Universitas Sumatera Utara  
Jl. Prof. TM Hanafiah No.12 USU Campus, Medan, 20155,  
North Sumatera, Indonesia  
iskandar1@usu.ac.id

**Abstract.** *This study aims to determine the effectiveness of the Outcomes of the Quality Regional Financial Information System. The research is an explanatory survey exploration that explains the relationship between some variables. The population of this study is formed by 7 District Municipalities in North Sumatra. The sample comprises 197 respondents; the sampling process is a purposive random one. Variables used include User Literacy, Regional Information System, Role Ambiguity, Training and Local Government Finance Report. Treatment Outcomes Quality systems have a significant effect on the accuracy of Local Government Financial Statement Presentation. Role Ambiguity has no significant effect on the accuracy of Local Government Financial Statement Presentation. Training does not significantly influence the accuracy of Government Financial Statements literacy. The findings of this study provide recommendations for improvement of the performance manager in North Sumatra, which thus supporting the implementation of a good government system.*

**Keywords:** *outcomes quality, Regional Financial Information System, user literacy, Local Government Finance Report.*

### Introduction

Financial Literacy is an essential skill in the lives of everyone. Not only businessmen or professionals, but also individuals self-require knowledge about money. Moreover, it is vital in a globalized world where the financial system has changed to become more sophisticated and where the development of financial products is a common phenomenon. In this situation, it becomes imperative for every individual, at any age, to have a strong financial literacy. Financial literacy must begin from an early age as an individual's ability to make good decisions must begin with the personal ability to manage finances. Financial literacy index in Indonesia of 21.7% is lower than the financial literacy index in Singapore of 98% (Hayat, 2014). Therefore, the understanding of the Indonesians concerning financial products is still very poor; students have an understanding of their finances better because of their educational background.

Regional Financial Information System (MoF) is regulated by a law supplemented by government regulation. On the basis of this rule, the central government issued a decree of the Minister of the Interior stating the era now called the Regional Financial Information System (MoF/SIKD). Financial Services Authority based its decisions on a survey conducted in 2013, which showed that only 22% of Indonesian people understand financial literacy and 57% of Indonesian people use the facilities and products of financial services such as banking, insurance, and capital market instruments. In the capital market, 15% of Indonesians became investors. In addition, a survey conducted by the Financial Services Authority of the Republic of Indonesia also stated that a person with a college education has the financial literacy level of 56.4%, followed by high school students of 35.7%, while for students below the level of secondary school the percentage is smaller: 24.6% and even 13.6% for the lowest education level (FAT, 2013).

The implementation of a regional financial information system is expected to meet the demands of society on promoting transparency and accountability of public sector institutions (Dalimunthe, Fadli & Muda, 2016; Mardiasmo, 2002). A key obstacle to the achievement of the success of a new system implementation is the lack of focus on behavioral factors during implementation. Abdullah and Chong (2014) investigated the financial literacy with respect to Islamic financial products and services, as well as if there are sufficient studies on the differences in the factors that affect financial literacy of people. Abdullah and Anderson (2015) used factor analysis in order to identify those factors that indicate banker's Islamic financial literacy. The findings reveal that nine factors determine banker's financial literacy on Islamic financial products and services.

Research conducted by Abernethy, Bouwens and Van Lent (2013) has examined the behavioral factors during the implementation phase of the new system. According to Abernethy et al. (2013), decentralized decision-making resulted in the implementation of a new system within the company. Implementation of this new system is mediated by two factors, namely adaptation behavior of employees and employee involvement to design a new system. The adaptability of employees will help the acceptance of the new system implementation. The adaptability of the employees will try its utmost to adapt to changes in their work environment so that the system implementation process is acceptable (Adhi & Suhardjo, 2013). Employee involvement in designing a new system also helps the implementation of a new system. Employees directly involved in the design of the system will tend to have a sense of responsibility towards the implementation of a system that will further support the implementation process of acceptance of the system (Muda, 2014; Muda & Abukusno, 2015;

Muda & Rafiki, 2014; Maksum, Hamid & Muda, 2014; Nurzaimah, 2014; Rasdianto & Muda, 2014).

Abedana, Omane-Antwi, and Oppong (2016) proposed a model of success information system consisting of six categories: system quality, information quality, usability, user satisfaction, personal influence, and the influence of the organization. In this study, we will investigate the relationship between the quality of information produced and the satisfaction of its users. The quality of the information related to the characteristics of data such that the output generated by the system can be useful information to users (Ljutić & Janković, 2012). An organization faces many problems and difficulties. Nevertheless, the wisdom to organize training and development activities should still be pursued. Because an organization's lack of success and setbacks caused by reducing or eliminating altogether the budget for education, training, and development of employees lead to inefficient use of the system. Ritchi, Fettry, and Susanto (2016) find that the information technology elements integration will be needed on each business processes stage such that a great number of services within public services sphere are attributed with an accurate, timely, complete, and relevant information.

Klein (2009), Lubis, Lubis, and Muda, (2016), Mandell and Schmid Klein (2007), Nababan and Sadalia (2013), Nurzaimah and Muda (2016) and Xiao, Shim, and Lyons (2007) concluded that the best way to improve behavior in adulthood is to teach good behavior from childhood, including financial behavior. While in Indonesia alone personal finance is still rarely found from primary school to college. Developed countries such as the United States, Canada, Japan and Australia are aggressively providing financial education to the community, especially students aiming the increase of financial literacy. Several institutions were formed, as well as various research and programming conducted to measure and improve the financial literacy of the community. Nababan and Sadalia's (2013) research concludes that the average respondent is only able to answer correctly half of the 27 questions - that is equal to 56,11%. This means the level of personal financial literacy of respondents as a whole is included in the low category (<60%). In addition, other results conclude that the characteristics of respondents with relatively high financial literacy are male students, attended economics courses, 2008 level (senior),  $IPK \geq 3$  and living alone (kost). The characteristics of respondents with low financial literacy tendencies are female students, management courses, 2011 level (junior),  $GPA < 3.00$ , and living with parents.

For academics, the results of this study can be used as a reference and further study materials for disciplines associated to Public Sector

Accounting. For further research, the results of this study can be used as a further foothold to examine the effectiveness of Regional Financial Information System (MoF). It also can be used to support and accelerate the achievement of an unqualified opinion from the Audit Board of Republic of Indonesia. The findings of this study are expected to provide suggestions and recommendations for improvement of the performance manager MoF in North Sumatra, which thus supporting the implementation of a good government system.

## **Literature review**

### ***Theoretical overview***

#### *Cognitive and non-cognitive theory*

According to the theory of behavioral finance, financial actors are human beings with all their uniqueness and in a variety of situations, they make their own decisions based on rational thought, determined by individual behavior and psychology of their condition. This is supported by Pompian (2008) which gives the conclusion that there is a financial behavior influence on investment decisions. Investment decisions are influenced by the behavior of individuals, which is formed by psychological factors of self.

#### *Accounting information systems*

Brown and Smith (2015) state that accounting information systems today refer primarily to computerized systems. Accounting is seen rather as a continuous process of extracting information from raw data, where the good receipts change from time to time. In order to produce an efficient outcome, both of them should cooperate. Accounting information systems can be defined as the sum of equipment, people, computer programs and resources which include communications and network connections along with organizational procedures, that enables the collection, sorting, recording, summarizing and storing of data and information. Ultimately accounting information systems are of paramount importance in the preparation and presentation of the accounting related information to relevant users (Elson, O'Callaghan, Walker & Williams, 2013).

#### *Financial literacy*

Cohen and Nelson (2014) associated financial literacy with the state where the customers know the ins and outs of the financial aspects of the activities done. Lusardi and Mitchell (2007) states that financial literacy is knowledge

of financial concepts that include covering basic knowledge of basic personal finance, knowledge of cash management, knowledge of credit and debt, knowledge of savings and investment and knowledge on risks. Financial knowledge has close links with financial literacy or financial education. Financial knowledge can be channeled and well understood through financial education or financial literacy. Financial literacy is grouped into two sectors: the level of an individual's ability to understand financial information and the level of people's ability to use financial information for managing personal finances in the short term and long term planning (Huston, 2010; Remund, 2010). Likewise, Remund (2010) suggests that the four most common things in financial literacy are budgeting, savings, loans, and investments. Jumpstart Coalition for Personal Financial Literacy (2005) conducted a survey on the financial literacy of high school students in the United States about the financial knowledge in topics such as income, money management, saving and investment, and loan or credit.

#### *Decentralization of decision making*

Decentralized decision-making resulted in changes in the condition of an organization. In this condition, the employee and the manager have to be able to respond to changes in local situations that occur. They should be able to adjust to these changes. According to Buss, Haselton, Shackelford, Bleske, and Wakefield (1998) adaptation is a characteristic that develops reliably, which means the ability to adjust to changing conditions. Based on research of Abernethy (2005), decentralization has a positive effect on adaptation. An adaptable subunit manager is able to accept the implementation of MAS (Management Accounting System) effectively and efficiently.

#### *Role ambiguity*

The role of ambiguity arises due to differences in perceptions or expectations of others against an individual, as this creates difficulties when a person receives a wide range of expectations in the absence of a rejection of the expectations of others. The absence of a person's understanding of their specific rights and obligations. The problem that often arises is the difference of rules and duties accepted by people both outside and within the organization. This can lead to a conflict of interest or duty. Dualism meaning arises as a result of their obscurity and ignorance of the role of the individual (Muda, Dharsuky, Siregar & Sadalia, 2016). They did not know what to do in certain situations. Changes within the organization require a training or briefing of the employees. The adaptation process plays an

important role in this change; the skill factor determined adaptation time so that each individual has a time-varying acceptance of the changes that occur in the company.

### *Training*

According to Vinnari and Nasi (2013), although an organization faces many problems and difficulties, the wisdom to keep organizing training and development activities should still be pursued. Because an organization's lack of success and setbacks could be caused by the decrease or even elimination of the budget for education, training, and development of employees.

### *Previous research overview*

The results of previous studies associated with this research topic can be observed in the following table:

**Table 1. Prior research**

<b>Researchers / Years</b>	<b>Title</b>	<b>Result</b>
Brahmana, Puah, Hla and Suci Lestari (2015)	Financial Literacy and Retirement Planning: Evidence from Malaysia	Basic financial literacy has failed to contribute significantly to retirement planning, but not advanced financial literacy.
Müller and Weber (2010)	Financial literacy and Mutual Fund Investments: Who Buys Actively Managed Funds?	Results indicate that the lack of financial literacy among most mutual fund customers cannot completely explain the past growth in actively managed funds.
Brown, Grigsby, van der Klaauw; Wen and Zafar (2015)	Financial Education and the Debt Behavior of the Young	Financial education programs, increasingly promoted by policymakers, do have significant impacts on the financial decision-making of youth, but their impacts may depend on the content of the programs.
Nguyen (2015)	The Influence of Financial Risk Tolerance And Risk Perception On Individual Investment Decision-Making In A Financial Advice Context.	The results reveal significant direct and indirect influences of trust, relationship length, and financial literacy on risk tolerance and risk perception, indicating the important role of the financial advice service on client risk assessment and decision-making.

Guliman (2015)	An Evaluation of Financial Literacy of Micro and Small Enterprise Owners in Iligan City: Knowledge and Skills	The correlation between financial knowledge and skills is positive yet very low. The findings have practical relevance to MSMEs and policy makers to be able to determine the interventions necessary to help the MSME sector. It is recommended that future studies be made to substantiate the results of this study considering other municipalities and cities in the Philippines.
Murphy (2015)	Psychosocial Factors and Financial Literacy	Financial satisfaction and religiosity are correlated with financial literacy.
Thapa and Nepal (2015)	Financial Literacy in Nepal: A Survey Analysis from College Students	The study further identified income, age, a stream of education, types of college, and attitude of students as determinants of financial knowledge; and financial knowledge is unaffected by gender, university affiliation, financial behavior, and influence. It is concluded that college students have a basic level of financial knowledge. However, overall financial knowledge of the students is affected by some of their demographic, educational and personality characteristics.
Nurzaimah (2014)	Analysis on the Timeliness of the Accountability Report by the Treasurer Spending in Task Force Units in Indonesia	The results of the study have revealed that simultaneously and partially the variables of treasurer's human resources and tenure of service, facilities, and infrastructure, the regulation and intensity of the training administration and the accountability of the treasurers in North Sumatera are significantly affected to the timeliness of the regional government's financial report.
Riyada Consulting and Training (2011)	Financial Literacy and Consumer Awareness Survey in the West Bank and Gaza	Financial literacy and consumer awareness education should be delivered through mass media; mass media should be utilized to elevate consumer awareness and increase financial literacy in the West Bank and Gaza
Deuflhard, Georgarakos and Inderst (2015)	Financial Literacy and Savings Account Returns	A one-standard deviation increase in financial literacy is associated with a 13% increase compared to the median interest rate. We isolate the usage of modern technology (online accounts) as one channel through which financial



		literacy has a positive association with returns.
Huston (2010)	Measuring Financial Literacy	Creation of financial education programs designed specifically to enhance financial literacy has been viewed as a solution to mitigating financial problems that individuals and families face.
Romiti and Rossi (2014)	Wealth Decumulation, Portfolio Composition and Financial Literacy among European Elderly	The impact of financial literacy on three different dimensions of savings decisions: an unbalanced portfolio with the excessive weight assigned to illiquid assets, the optimal consumption path, and wealth decumulation.
Jappelli and Padula (2014)	Investment in Financial Literacy and Saving Decisions	The model implies that the stock of financial literacy early in life is positively correlated with the stocks of literacy and wealth later in life. Using microeconomic and aggregate data, we find strong support for these predictions. We also show that OLS estimates of the impact of financial literacy on wealth are biased.
Sabri (2011)	Childhood Consumer Experience and the Financial Literacy of College Students in Malaysia	The childhood consumer experience of discussing family finances with parents has a substantial positive relationship with financial literacy. Students of Chinese ethnicity, who live on campus, and who attend private colleges are less likely to be financially literate.

Conceptual framework

The conceptual framework used in this study can be described as follows:

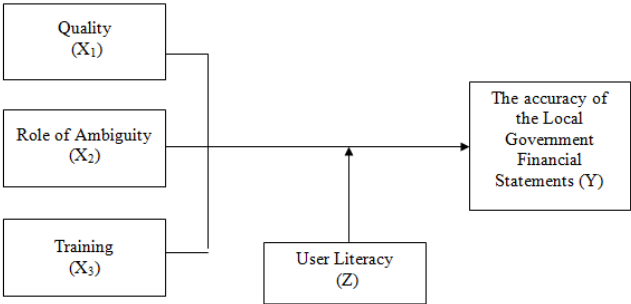


Figure 1. Conceptual framework

### ***Research hypothesis***

The hypothesis of this study is as follows “The quality, Role Ambiguity and training affect the precision of the Local Government Financial Statements in North Sumatra with User Literacy as moderating variables”.

### **Methodology**

#### ***Types of research***

The research is based on explanatory survey that explains the relationship between variables. The explanatory survey approach is testing a series of relationships between independent variables with dependent variables, connected to hypothesis proofing. In addition, a combination of quantitative and qualitative research is used. The research method is descriptive - an explorative method.

#### ***Population and methods of sampling***

The population of this study is formed by 7 City Districts in North Sumatra, especially Local Government Officers. The sample includes 197 respondents. The sampling process is done by a purposive random sampling of 7 districts in the city of North Sumatra - Indonesia.

#### ***Variable operational definition and measurement research***

The research variables consist of independent variables and one dependent variable. Operational definitions and measurement variables can be seen in the following Table:

***Table 2. Variable operational definition and measurement***

Variable	Operational Definition	Measurement	Scale
<b>Dependent</b>			
Outcomes Quality Regional Financial Information System (Y)	Prepared a report on financial accountability in time to the financial statements is prepared on education no later than two (2) months after the fiscal year ends, while the local	Financial statements prepared consist of the Budget Realization Report, Balance Sheet and Notes to Financial Statements (Maksum et al., 2014).	Interval

	government financial reports no later than three (3) months after the fiscal year ends.		
<b>Independent/Moderating Variable</b>			
Quality (X <sub>1</sub> )	A level where information generated by the information systems in accordance with pre-defined criteria such as relevant, timely, and others. For determining the level of product quality information.	The level of product quality information, respondents were asked to answer 9 (nine) questions that were adopted by Muda et al., (2016). Measurement of variables using a scale interval of scores/scale 1 which shows the level of product quality information low-to-score / 5 scale that indicates the level of product quality high information.	Interval
Role of Ambiguity (X <sub>2</sub> )	The absence of a person's understanding of their specific rights and obligations.	Measurement of variables using a scale interval of the score/scale 1 which shows the level of the role up with a scale 5 which showed high levels of conflict.	Interval
Training (X <sub>3</sub> )	The intensity of a set of knowledge and skills assessment respondents aiming to increase the professionalism and productivity are well within the capabilities of local government.	a. employee work experience in the field of financial management b. employees who had attended training on accounting (Muda, Rafiki & Harahap, 2014; Nurzaimah & Muda, 2016; Rasdianto & Muda, 2014)	Interval
User Literacy (Z)	Knowledge of the concepts of utility usage on the device technology.	1. User Attitude 2. User Behavior 3. User Knowledge	Interval

### ***Data collection technique***

The data collection of this research using primary data sourced from respondents in the field. The questionnaire consisted of two parts. The first section contains a number of questions of a general nature, namely the demographic data of respondents.

### **Data analysis**

Data analysis methods used to test the hypothesis in this study is SEM (Structural Equation Model) with WarpPLS and User Impact Literacy variable as moderating described by the equation:

$$KPLKPD = Y_1.K + Y_2.AP + Y_3.P + Y_4.UL * K + Y_5.UL * AP + Y_6.UL * P + \zeta$$

- a. KPLKPD (Y): Outcomes Quality Regional Financial Information System
- b. K X<sub>1</sub>: Quality
- c. AP X<sub>2</sub>: Role of Ambiguity
- d. P X<sub>3</sub>: Training
- e. UL Z: User Impact Literacy
- f. Y: Gama, coefficient of influence of exogenous indicators of endogenous
- g. ζ: Zeta, galat model

### **Conformance test and test statistics model**

Analysis using SEM requires some fit indices to measure the truth of the proposed model. The testing comparative value of CR (Critical Ratio) equal to t<sub>count</sub> with t<sub>table</sub>, if t<sub>count</sub> greater than t<sub>table</sub> significant meaning.

## **Results**

### **Descriptive statistics**

The respondents of this study consist of:

**Table 3. Respondents research**

Criterion	Total
<b>Sex</b>	
Male	108
Female	89
<b>Total</b>	197
<b>Age</b>	
20 - 30 Years	10
31 - 40 Years	50
41 - 50 Years	87
51 - 55 Years	50

Total	197
Level of education	
Senior High School	17
Diploma	10
Graduated	130
>Post Graduated	40
Total	197
Stratification according to rank	
II Levels	32
III Levels	140
IV Levels	25
Total	197
Experience	
< 5 Years	90
5 - 10 Years	40
10 - 20 Years	40
> 20 Years	27
Total	197

Multicollinearity

Multicollinearity test was done by observing the correlation matrix output WarpPLS program. Based on the observation of a correlation matrix was not found a correlation coefficient greater than 10 so it concluded there is no multicollinearity problem between the measurement variable and latent variables. It is presented in the following narrative:

\*\*\*\*\*

\* Block variance inflation factors \*

\*\*\*\*\*

	KHP_X1	AP_X2P_X3	UL_Z	KPLK_Y	UL_Z*P_	UL_Z*AP	UL_Z*KH
KHP_X1							
AP_X2							
P_X3							
UL_Z							
KPLK_Y	1.389	3.087	3.021		5.040	8.870	4.041
UL_Z*P_							
UL_Z*AP							
UL_Z*KH							

These VIFs are for the latent variables on each column (predictors), with reference to the latent variables on each row (criteria).

#### Full collinearity VIFs

KHP_X <sub>1</sub>	AP_X <sub>2</sub>	P_X <sub>3</sub>	UL_Z	KPLK_Y	UL_Z*P	UL_Z*AP	UL_Z*KH
1.800	5.413	5.075	1.239	1.510	5.4306	.832	2.456

#### *Compatibility test results model*

Test model fit (goodness of fit) is performed to determine whether the model obtained was right in describing the relationship between the variables being studied so that it can be categorized into a good model. Testing the model in SEM aims to look at the suitability of the model. Test model fit in structural equation modeling can be analyzed based on several criteria such as the model fit testing are presented below.

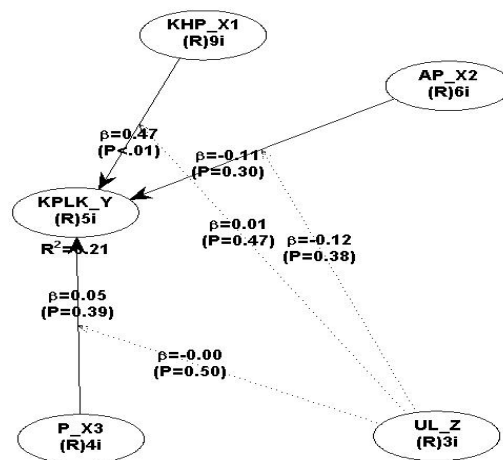
#### Model fit indices and P values

APC=0.128, P=1.120  
ARS=0.207, P=2.765  
AVIF=4.241, Good if < 5

Based on the narrative can be seen the test results are overall model fit can be concluded that the model estimation results are acceptable, meaning that the empirical model obtained is in accordance with the theoretical model.

#### *Measurement model*

The measurement model is a model that connects between the latent variables with manifest variables as follows:



**Figure 2. Full model of research**

### ***Latent variable measurement model***

The latent variable measurement model as follows:

1. Measurement of latent variables Treatment Outcomes Quality ( $X_1$ ) obtained significance value  $<0.01$  means to support the hypothesis that there is.
2. Role Ambiguity Measurement of latent variables ( $X_2$ ) obtained significance value  $>0.01$  means rejecting any hypothesis.
3. Measurement of latent variables Training ( $X_3$ ) obtained significance value  $>0.01$  means rejecting any hypothesis.
4. Measurement of literacy user variables ( $Z$ ) as a moderating invisible which gained significance value  $>0.01$  means rejecting any hypothesis.

### **Discussion**

Personal capabilities related to digital technology and communication tools to access, manage, integrate, analyze and evaluate information, build new knowledge, create and communicate with others to participate effectively in the community speed up user literacy processes. Digital literacy is the ability of human beings to be able to use a variety of digital computers, communication equipment, and computer networks, in order to facilitate creating, placing, and evaluating information. Many people, including communication experts, believe that the future of civilization is the information society - it is a civilization in which information has become a major commodity and human interaction has been based on information

technology and communications. With today's technology can be obtained and published information with ease. On the other hand, this simplicity makes the public confused in choosing which information can be trusted, or who the source of which is worth quoting (Rutledge, Annamalai, Lester & Symonds, 2010).

The information society also raises concerns about the use of the information itself. Information is no longer limited to words or sentences. Information is like a sharp edged knife where if it gets into the wrong reader can be fatal. It is undeniable that any information now easily accessible by anyone and easily also be used for any purpose. Information technology has developed so rapidly has made public a voracious consumer of information. It is certain that most citizens in the world whose name has been touched by information technology whether it is in electronic form, multimedia, or virtual. The problem is difficult to stem the flow of information. Which can and should do is to increase literacy by educating people to think critically about the information received.

Taft, Hosein, and Mehrizi (2015) showed that age and education are positively correlated with financial literacy and financial well-being. Married people and men are more financially literate. Higher financial literacy leads to greater financial well-being and less financial concerns. Finally, financial well-being leads to less financial concern. The results of the hypothesis that the quality of the results of the Regional Financial Information Processing System (MoF), Role Ambiguity and training simultaneously affect the understanding of the Local Government Financial Statements in North Sumatra received. Local governments should start thinking about the investment for the development of accounting information systems in order to strengthen local autonomy and decentralization. Having in mind the development of a new system that can meet the expectations of users, this system must be made so that the quality expectations of users to improve performance that can be achieved. Therefore, any system development should be of a quality that is based on the reasons as follows (Maksum et al., 2014): 1) consistency, 2) efficiency, 3) leading, 4) reducing costs, and 5) adaptability.

Understanding of financial management in this area is not merely an understanding of the current management but also an understanding of the previous financial management. By understanding the previous and current financial management, an assistant will easily explain the difference between what is currently applicable to the former especially to employees who are already actively involved in financial management using existing provisions.



## Conclusions

### Conclusion

The conclusions of this study are quality, role ambiguity and training affect the precision of the Local Government Financial Statements in North Sumatra with User Literacy as moderating variables. Role Ambiguity does not significantly influence the understanding of Local Government Financial Statement Presentation. Training does not significantly influence the understanding of Local Government Financial Statement Presentation. Variable literacy as a moderating user does not play a role which gained significance value  $> 0.01$  means rejecting any hypothesis.

### Limitation

The sample used in this study came from the District 7 State which limits the generalizability of research results.

### Suggestion

The findings of this study can be considered by practitioners and academics as an important input related SIA infrastructure supporting integrated financial reporting in North Sumatra. Research with similar topics in the future could be carried out by using the technology acceptance model or Technology Acceptance Model (TAM) by adding the same variable or other variables such as culture, education level, and the characteristics of the task. In addition, expanding the population for some local governments would be beneficial.

**Acknowledgements:** *Thanks to the Ministry of Research and Technology of the Republic of Indonesia that has funded this research, therefore this research has a broad impact on the economy and welfare of the people of Indonesia.*

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*Received: February 11, 2017*

*Accepted: June 10, 2017*