



User Involvement, Training and Education of the User, Formalization of the Development of Information System and Support of Top Management to the Performance of Udayana University Accounting Information Systems: Organizational Commitments as Moderate Variable



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Abstract

The purpose of this research is to find out and analyze the influence of user involvement, user training and education, formalization of information systems development, and top management support to the performance of accounting information systems at Udayana University with organizational commitment as moderating. Udayana University has developed and applied information systems, one of the breakthroughs in strengthening information technology is the construction of a system called the Accounting and Financial Information System (SIAKU). With the application of SIAKU, it shows a high commitment from Udayana University, to implement good financial governance, through the accountability and transparency offered from this system. This study uses a sampling method saturated with respondents who are all Treasurers Spending Assistant and Member Treasurer Spending Assistant Work Unit of Udayana University. Data analysis techniques used are multiple linear regression analysis and moderation regression analysis (MRA). The results showed that User Involvement, User Training, and Education, Formalization of Information Systems Development, Top Management Support had a positive effect on Accounting Information System Performance and Organizational Commitment could moderate these positive influences. This means that with a high commitment it will strengthen the positive influence of user involvement, user training, and education, formalization of information systems development, and top management support to the performance of accounting information systems. The high organizational commitment that is owned by an employee will cause a high sense of responsibility so that it can reduce errors in their work.

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1 Introduction

As a form of seriousness and high commitment, the leadership of UNUD in building an integrated system in the context of strengthening the information technology field, UNUD formed the Information Resources Unit (USDI). In 2015 UNUD began to make a breakthrough in the field of information systems by building a system named IMISSU (Integrated Management Information System the Strategic of Udayana), namely the development, structuring, and integration of information systems into an SSO (Single Sign On) service. With this model, all existing information systems have been integrated, both in the context of user management, information systems, and data integration at the database level and business process integration. At present, the UNUD community has used more than 30 integrated systems in running campus management.

To create a systematic, transparent, and accountable financial administration, the initial step taken is to apply an Accounting Information System (SIA). Udayana University has developed and applied information systems, one of the breakthroughs in strengthening information technology is the construction of a system called the Accounting and Financial Information System (SIKU).

SIKU is an information system developed to improve the performance of financial managers in all sub-units at Udayana University, through the management of financial information that is fast and integrated. The development of SIKU is the main requirement to fulfill the financial administration management provisions for Udayana University, which is proposed to be determined as a full Public Service Agency (BLU), following article 1 of the Government Regulation of the Republic of Indonesia Number 23 of 2005 concerning Financial Management of Public Service Bodies. Public Service Agency is an agency within the government established to provide services to the public in the form of the supply of goods or services sold without prioritizing profit-seeking and in carrying out its activities based on the principles of efficiency and productivity. The Minister of Finance of the Republic of Indonesia has established Udayana University as a government agency that implements the Financial Management of Public Service Agencies (PK-BLU) in full, following the Decree of the Minister of Finance of the Republic of Indonesia Number: 441 / KMK / 05/2011, December 27, 2011. Udayana University has determined as PPK-BLU in full, because it has fulfilled substantive, technical, and administrative requirements, with satisfactory categories. SIKU is a manifestation of Udayana University's ability to meet administrative requirements, namely the ability to improve service performance, finance, and community benefits, and improve governance in organizations. SIKU as an electronic service for the entire financial management of Udayana University was built and developed its application throughout 2012 with funding sources coming from Indonesia Managing Higher Education for Relevancy and Efficiency (IMHERE) (Lestari & Rosyidi, 2020). IMHERE (Indonesia Managing Higher Education for Relevance and Efficiency) is an activity within the Directorate General of Higher Education (Dikti) whose funding is partly financed through a loan (Loan) from the World Bank. Following the objectives of IMHERE, one of which is to increase institutional capacity, the implementation organization that is developed will also reflect the systematic efforts to increase referred to by integrating the implementation of activities into the existing organizational structure.

When SIKU was designed and programmed, it had experienced obstacles in its implementation, due to non-technical aspects, in the form of leadership changes in the University of Udayana, which had lowered the scale of priority in the application of SIKU. But in the end, SIKU can be implemented while fulfilling the requirements for Udayana University to be determined as a full Public Service Agency (BLU). SIKU for the first time was tested (pilot test) at the Faculty of Economics and Business, Udayana University in 2013. Having proven that SIKU was very helpful in facilitating financial management and increasing accountability and transparency in financial management, then SIKU was submitted to the University level. After being presented at the Directorate General of Higher Education (Ditjen Dikti), and declared feasible to implement, the application of SIKU was formalized by the Chancellor of Udayana University on January 1, 2014. This also marked the entry into force of the use of SIKU in every unit at the University of Udayana. With the application of SIKU, it shows a high commitment from Udayana University, to implement good financial governance, through the accountability and transparency offered from this

system. SIAKU was run online in full 2015 and began to be integrated from the center to the work units in each faculty and study program.

The application of SIAKU is expected to create a systematic, transparent, and accountable financial administration. SIAKU is used to manage all financial transactions at Udayana University in an integrated manner with each work unit so that the financial transaction process is faster, more precise, and with a minimum error rate. Besides, SIAKU is also expected to be able to realize the effectiveness and efficiency of financial administration management both in revenue administration and expenditure administration and is expected to be able to improve the quality of financial reports. To achieve these expectations, the application of the Accounting Information System needs to get support from top management, so that it can be used optimally.

Top management support according to Jen (2002) that, the greater the support provided by top management, will improve the performance of Accounting Information Systems due to a positive relationship between top management support in the process of developing and operating accounting information systems to improve the performance of Accounting Information Systems. Meanwhile, according to Doll (1985) in Komara (2012), top management support includes funding guarantees and determining development priorities. The support and involvement of top management play an important role in the successful implementation of Accounting Information Systems. Top management support is not only important for the allocation of resources needed, but it gives a strong signal to employees that the changes made are important.

Change in the organization is an act of switching an organization from the current conditions to the conditions to come to increase effectiveness and can provide opportunities for organizations to improve performance from the previous. Strong belief and support by organizational members of the values and goals to be achieved by the organization is organizational commitment. The high organizational commitment possessed by an accountant will lead to a high sense of responsibility as well. The auditor does his work inadvertently because there is no commitment to the organization that impacts the commitment to the quality of his work (Fatimah, 2012). Organizational commitment is used as a moderating variable due to inconsistencies in previous research. Wati & Koo (2010), stated that organizational commitment has a significant positive effect on company performance. Meanwhile, according to Widhi & Setyawati (2015), organizational commitment does not have a significant effect on company performance.

Furthermore, Widhi (2015), research results show that organizational commitment does not affect the performance of government auditors. Research results from Ratifah & Ridwan (2014), state the trust of members of organizational values, and the willingness of members to support in realizing organizational goals and loyalty to remain, members of the organization, are elements that are the basis of organizational commitment. Members of the organization will feel happy at work if they feel bound by the values and goals of the organization. This will have an impact on the responsibilities and awareness of members in running the organization. Besides, members are also motivated to carry out accountability to the public voluntarily by reporting all their activities.

This study leads to research conducted by Komara & Ariningrum (2013), which measures the performance of accounting information systems (SIA) based on user satisfaction and the use of the SIA. The performance of SIA can be influenced by several intermediate factors, namely (1) user involvement in developing SIA, (2) technical ability of personal SIA users (3) organizational size, (4) top management support, (5) formalization of information system development, (6) the existence of an information system steering board, (7) the location of the information system department, and (8) user training and education programs. User satisfaction is the response and feedback rSIAed by the user after the use of the information system (ter Hofstede *et al.*, 1998).

Terry & Standing (2004), states that user satisfaction will increase if supported by user involvement itself. Ratnaningsih & Suaryana (2014), states that user participation in the development of accounting information systems is an effective factor that influences performance. Komara (2005) and Perbarini & Juliarsa (2012), found that there was a positive and significant influence between user involvement variables in the development of SIA and SIA Performance, but Almilialia & Briliantien (2007), found no relationship between these variables. Komara (2012) mentions that users of information systems who have the ability gained from experience and education can increase satisfaction in the use of SIA and will continue to use it to help complete their work. Muhindo *et al.* (2014), found a positive and significant relationship between the SIA personal technical ability variables and SIA performance, but Perbarini & Juliarsa (2012), did not find a significant relationship between these variables.

According to Lau (2004), top management support is executive behavior related to information system planning, development, and implementation. Komara (2005) and Perbarini & Juliarsa (2012), found a significant relationship between top management support variables and SIA performance but Iskandar (2015) did not find any relationship between these variables. Muhindo *et al.* (2014), found a positive and significant relationship between the variables formalizing information system development with the performance of the SIA but Almilialia & Briliantien (2007), did not find any relationship between these variables.

Hartono (2005), defines the board of directors as executives whose job is to direct, implement, and control the running of a system. The task is to make the quality of the system used better so that the performance of the SIA also increases. Muhindo *et al.* (2014), found a positive relationship between the variables of the existence of an information system steering board and SIA performance but Komara (2005), did not find a relationship between these variables.

Sadatt & Syar'ie (2005) stated training is the most important thing to provide a background that aims to bring users closer to the use of computer techniques in general as part of the process of using a specific system. According to Tianhui *et al.* (2009), user training and education aim to increase awareness of information and skills in decision making. Perbarini & Juliarsa (2012), found a significant relationship between education programs and user training and SIA performance, but Muhindo *et al.* (2014), did not find a relationship between these variables.

Research on the performance of accounting information systems has been widely carried out, but there are still inconsistencies in the results of research that has been done. Perbarini & Juliarsa (2012), found that there was a positive and significant influence between user involvement variables in the development of SIA and SIA Performance, but Almilialia & Briliantien (2007), found no relationship between these variables. Likewise in the training variable Perbarini & Juliarsa (2012), found a significant relationship between the education program and user training with the performance of the SIA but Utama & Suardikha (2014), did not find any relationship between these variables. Then for organizational size variables Nurhayati (2014), found a positive and significant relationship between organizational size variables and SIA performance but Almilialia & Briliantien (2007), did not find any relationship between these variables. For user expertise according to Nelson & Cheney (1987), argues that user expertise influences the performance of SIA. Research on the performance of accounting information systems has been widely carried out, but there are still inconsistencies in the results of research that has been done.

Almilialia & Briliantien (2007), examined the factors that influence the performance of accounting information systems at government commercial banks in the Surabaya and Sidoarjo regions. The results showed that: 1) User involvement in the development of AIS affects the performance of accounting information systems, 2) The ability of personal technical information systems do not affect the performance of accounting information systems, 3) firm size does not affect the performance of accounting information systems, 4) Top management support influences the performance of accounting information systems, 5) Formalization of the development of information systems affects the performance of accounting information systems. Putra (2010), conducted a study that showed that user involvement, training, and education, as well as top management support significantly influenced the performance of accounting information systems Almilialia & Briliantien (2007) and Putra (2010), showed that of the six variables studied, there were four factors affect the performance of the AIS, namely: 1) User involvement in the development of the AIS, 2) User Training and Education, 3) Formalization of information systems development, and 4) Top Management Support. Whereas: 5) Personal technical ability of SIA, and 6) Firm size does not affect SIA performance.

Based on the results of both Almilialia & Briliantien (2007) and Putra (2010), research, and pay attention to characteristics that are identical to the location of the study at PPK-BLU Udayana University, then in this study, the authors examine the variables that affect the performance of SIA, namely: 1) Involvement users in developing AIS, 2) User Training and Education, 3) Formalization of information system development, and 4) Top Management Support. Almilialia & Britlianyine (2007), argue that the involvement of users who increasingly often will improve the performance of accounting information systems due to a positive relationship between user involvement in the process of developing information systems in the performance of accounting information systems. Involvement is the behavior, work and activities carried out by the user during the information system development process, starting from the planning stage, development to the implementation of information systems. The existence of user participation is expected to increase the acceptance of the system by the user of the system by developing realistic expectations of the ability of the system, providing bargaining power and solving conflict problems around system design problems and minimizing changes in attitudes of users towards information that has been developed (Lau & Ngo, 2004; Mandala & Astika, 2019; Eldenburg *et al.*, 2010; Mauldin & Ruchala, 1999). Therefore the involvement of users in the information system that is developed and will ultimately improve the performance of accounting information systems.

User involvement will influence key criteria such as system quality, user satisfaction, and system usage. User involvement in the system development process has a positive effect on satisfaction. The participation of accounting information system users in the system development process will further add new insights to system users. User involvement aims to accept things that are more recent regarding system development. So, in the case of the operation of the new system, users of the accounting information system will be more fluent in its operation.

H1: User involvement positively influences the performance of accounting information systems at Udayana University

Jen (2002), believes that accounting information system performance will be higher if user education and training programs are introduced. The ability of users of information systems will have a positive influence on the results of performance produced. A study of the virtues of information systems proposed by Soegihartono (2001), namely user education greatly influences accounting information systems, while research conducted by Komara (2012), states that education and training do not affect accounting information system performance due to assessing information system performance not based on education and training programs obtained from related companies because most employees get it from informal job training. Training is an effort in developing Human Resources (HR), increasing knowledge, and improving performance skills. Training is useful to minimize errors when operating accounting information system applications, so users can improve their performance. The success of the user of the system depends on the technology itself and the level of expertise of the individual who operates it. The training and education program here is training organized by the company to introduce the system to its employees (Repper & Breeze, 2007; Milburn *et al.*, 2012). With training and education, users can gain the ability to identify their information requirements and the seriousness and limitations of SI and this ability can lead to improved performance. Training activities are aimed at training and developing the ability of system users. Besides, the existence of training activities can build the confidence of the user so that they anticipate the emergence of anxiety and rejection of the user of the new system.

H2: User training and education has a positive effect on the performance of accounting information systems at Udayana University

The theory that supports the formalization of the relationship between the development of information systems in the process of developing systems to the performance of accounting information systems is the theory of X Gregor (1957). This theory states that adherents of theory X tend not to trust the creativity of subordinates and prefer subordinates to act according to standard procedures so that they prefer a higher degree of formalization. In Almilialia (2007), argues that the higher level of formalization of information systems development in the company will improve the performance of accounting information systems due to a positive relationship between the formalization of information system development with the performance of accounting information systems. Formalization shows clarity of rules and procedures that are documented and reported so that it is useful to ensure uniformity in business processes. With the reporting and documentation, all activities that take place in the said institution, especially activities related to the accounting information system will be known by internal and external parties. If the formation is done well, the work can be done according to the right procedures so that the work and evaluation can be done well.

H3: Formalization of Information System Development has a positive effect on Accounting Information System Performance at Udayana University

Almilialia (2007), argues that the greater support given by top managers will improve the performance of accounting information systems due to a positive relationship between top management support in the process of developing and operating accounting information systems. According to Doll (1985) in Komara (2012), top management support includes funding guarantees and determining development priorities. The support and involvement of top management play an important role in the successful implementation of information systems (Blili *et al.*, 1998; Bano & Zowghi, 2015). Top management support is not only important for the allocation of resources needed but it gives a strong signal to employees that the changes made are important.

Top management support is defined as the support given by top management to system users. The level of support provided by top management can be used as an important factor in achieving success in all activities related to information systems (Lee *et al.*, 2016; Basu *et al.*, 2002). If the support given is greater, then the performance of accounting information systems will increase. This is because there is a relationship between top management support in the process of developing information systems. This support is important, because not only is the allocation of resources needed for the development of the system, but most importantly it also gives a strong signal to employees, that a change made is something important

H4: Top management support has a positive effect on Accounting Information System Performance at Udayana University

Ratifah & Ridwan (2014), state the trust of members on organizational values, and the willingness of members to support in realizing organizational goals and loyalty to remain, members of the organization, are elements that are the basis of organizational commitment. Members of the organization will feel happy at work if they feel bound by the values and goals of the organization. This will have an impact on the responsibilities and awareness of members in running the organization. Besides, members are also motivated to carry out accountability to the public voluntarily by reporting all their activities.

Commitment strengthens the willingness of employees to carry out their work obligations as well as possible, not for their interests but customers and organizations. Organizational commitment is a condition where an employee intends to maintain and be responsible for membership and alignment to an organization and its goals. The high organizational commitment that is owned by an employee will cause a high sense of responsibility so that it can reduce errors in their work. If the employee does his work inadvertently because there is no commitment to the organization, it will have an impact on the quality of his work. Organizational commitment is an attitude that employees have to remain loyal to the company and are willing to keep working as well as possible for the achievement of organizational goals. Personal with high organizational commitment will increase the positive influence of user involvement, user training, and education, formalization of information systems development, and top management support to the performance of accounting information systems.

H5: Organizational commitment strengthens the influence of user involvement on the performance of accounting information systems at Udayana University

H6: Organizational commitment strengthens the influence of user training and education on the performance of accounting information systems at Udayana University

H7: Organizational commitment strengthens the effect of formalizing development on the performance of accounting information systems at Udayana University

H8: Organizational commitment strengthens the influence of Top Management Support on the performance of accounting information systems at Udayana University

2 Materials and Methods

This research was conducted in the Unud environment both on the Bukit Jimbaran campus, the Sudirman Campus, and the Nias Campus in the Head Office Sub-Unit, Sub-unit / Study Program at the Faculty and Postgraduate. The study was conducted from January 2020 to June 2020. The scope of this study was the Performance of Accounting Information Systems, user involvement, user training and education, formalization of information systems development, and top management support.

The study population was the Treasurer of Assistant Expenditures and Members of the Assistant Treasurer Expenditures for Work Units of Udayana University listed in the Decree of the Udayana University Budget User Authority No.2 / UN14 / HK / 2020 dated January 9, 2020, totaling 80 people consisting of the Assistant Treasurer Expenditures (BPP) and members of the Assistant Expenditures Treasurer (BPP) in sub-units or study programs in the Rectorate, Faculties, and Post-Graduate Programs. The entire population was used as a research sample (saturated sample) with 80 respondents with the specification of respondents being 16 Assistant Expenditures Treasurers (BPP) and 64 Assistant Expenditures Treasurers (BPP) as many as 64 people who were directly and actively involved in the implementation of SIAKU.

One way that can be used to test whether a variable is a modern variable is by conducting an interaction test. An intervariable interaction test is called Moderated Regression Analysis (MRA) (Main, 2009). MRA is a special application of multiple linear regression where the regression equation contains interaction elements (multiplication of two or more independent variables) (Liana, 2009). The Moderated Regression Analysis (MRA) equation is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \dots\dots\dots \text{(Model 1)}$$

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_1 X_m + \beta_6 X_2 X_m + \beta_7 X_3 X_m + \beta_8 X_4 X_m + e \dots\dots\dots \text{(Model 2)}$$

Information:

Y = SIA performance

α = Constant

β = Regression coefficient

X1 = User Engagement

X2 = User Training and Education

X3 = Formalization of System Development

X4 = Top Management Support

Xm = Organizational Commitment

X1.Xm = Interaction of User Engagement and Organizational Commitment

X2.Xm = Interaction of User Training and Education and Organizational Commitment

X3.Xm = Interaction Formalization of System Development and Organizational Commitment

X4.Xm = Interaction of Top Management Support and Organizational Commitment

e = Residual Value

3 Results and Discussions

Model suitability test (F test) and coefficient of determination (R²)

Model suitability test (F test) is intended to find out whether in this study the model used is feasible to use or not as an analytical tool to test the effect of independent variables on the dependent variable. The test results are presented in Table 1 as follows:

Table 1
Model suitability test results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	563,001	9			0,000
	Residual	5.886	70	62,556	734,903	
	Total	568,888	79	0,084		

Primary Data, 2020

Based on Table 1 it can be seen that the model has a sig value of 0.00 less than the value of $\alpha = 0.05$, indicating that this research model is feasible to be used as an analytical tool to test the effect of the independent variable on the independent variable. Analysis of the coefficient of determination is done to measure how much the independent variable can explain the change in the dependent variable. In this study the coefficient of determination is seen through the value of R² which is seen in Table 2 as follows:

Table 2
Results of the model determination coefficient

Model	R	R Square	Adjusted R Square	Std.Error
1	0,848	0,719	0,713	0,28998

Primary Data, 2020

Based on Table 2 it can be seen that the R² value in the model is 0.719. Value of R² In the model which means 71.9 percent changes in the performance of accounting information systems can be explained by the variables of user involvement, training and user education, formalization of information systems development, top management support, and moderate variables.

Hypothesis testing

The first hypothesis testing up to four is tested using multiple linear regression analysis techniques. The results of the testing model one (first to fourth hypotheses) can be seen in Table 3, as follows:

Table 3
T-value calculated for Model 1

Variable	T	Sig	Description
User involvement	6,600	0,00	Significant
User training and education	14,205	0,00	Significant
Formalization of information system development	12,962	0,00	Significant
Top management support	6,052	0,00	Significant

Primary Data, 2020

The multiple linear regression equation models for model one is as follows:

$$Y = 16,823 + 0,349 X_1 + 0,405 X_2 + 0,453 X_3 + 0,253 X_4$$

The regression equation can be interpreted as follows.

- A constant value of 16,823 means that if the involvement of users, training and education of users, formalization of information systems development, top management support is zero, then the performance of accounting information systems is 16,823.
- The coefficient value (b1) of 0.349 means that the performance of the accounting information system increases by 0.349 if user involvement is increased by one unit and the other independent variables are considered constant.
- Coefficient value (b2) of 0.405 means that the performance of accounting information systems increases by 0.405 if the training and education of users are increased by one unit and the other independent variables are considered constant.
- The coefficient value (b3) of 0.453 means that the performance of the accounting information system increases by 0.453 if the formalization of the development of the information system is increased by one unit and the other independent variables are considered constant.
- The coefficient value (b4) of 0.253 means that the performance of the accounting information system increases by 0.253 if the support of top management is increased by one unit and the other independent variables are considered constant.

The fifth to eight hypothesis testing was tested using MRA analysis techniques. The results of testing model two (hypotheses five to eight) can be seen in Table 4, which is as follows.

Table 4
T value model 2

Variable	T	Sig	Description
Interaction of user involvement with organizational commitment	7,138	0,00	Significant
The interaction of training and education of users with organizational commitment	2,209	0,030	Significant
The interaction of formalizing information systems development with organizational commitment	2,471	0,018	Significant
Interaction of top management support with organizational commitment	3,464	0,007	Significant

Primary Data, 2020

The MRA regression equation model for model two is as follows:

$$Y = -0,354 + 0,387 X_1 + 0,334 X_2 + 0,470 X_3 + 0,301 X_4 + 0,381 M + 1,195 X_1M + 1,473 X_2M + 0,287 X_3M + 0,732 X_4M$$

The regression equation can be interpreted as follows:

- a) The coefficient value of 1.195 means the coefficient is positive, which means an increase in the interaction of user involvement with organizational commitment, can improve the performance of accounting information systems.
- b) The coefficient value of 1.473 means the coefficient is positive, which means an increase in the interaction of training and education of users with organizational commitment, can improve the performance of accounting information systems.
- c) A coefficient value of 0.287 means the coefficient is positive, which means an increase in the interaction of information systems development formulation with organizational commitment, can improve the performance of accounting information systems.
- d) The coefficient value of 0.372 means the coefficient is positive, which means an increase in the interaction of top management support with organizational commitment, can improve the performance of accounting information systems.

The effect of user engagement on accounting information system performance

Based on the results of this study it can be seen that the t value of 6.600 at a 5% confidence level is known to the value of sig 0.00 < 0.05, it can be concluded that the hypothesis is accepted, or user involvement has a positive effect on the performance of accounting information systems. This means that the higher the involvement of users, the higher the accounting information system will work. This means that the involvement of accounting information system users in the system development process will further add new insights to system users regarding system development and operation of the new system so that users of accounting information systems will be more fluent in their operations.

Almilia & Britlianyine (2007), argue that the involvement of users who increasingly often will improve the performance of accounting information systems due to a positive relationship between user involvement in the process of developing information systems in the performance of accounting information systems. Involvement is the behavior, work and activities carried out by the user during the information system development process, starting from the planning stage, development to the implementation of information systems. The existence of user participation is expected to increase the acceptance of the system by the user of the system by developing realistic expectations of the ability of the system, providing bargaining power and solving conflict problems around system design problems and minimizing changes in attitudes of users towards information that has been developed (Lau & Ngo, 2004). Therefore the involvement of users in the information system that is developed and will ultimately improve the performance of accounting information systems.

User involvement will influence key criteria such as system quality, user satisfaction, and system usage. User involvement in the system development process has a positive effect on satisfaction. The participation of accounting information system users in the system development process will further add new insights to system users. User involvement aims to accept things that are more recent regarding system development.

The effect of user training and education on accounting information system performance

Based on the results of this study it can be seen that the t value of 14.205 at a 5% confidence level is known to the value of sig 0.00 < 0.05, it can be concluded that the hypothesis is accepted, or user training and education has a positive effect on the performance of accounting information systems. This means that the more frequent training and education intensities are carried out, it will increase knowledge, and improve performance skills to minimize errors when operating accounting information system applications, so users can improve their performance and vice versa if education and training programs are rarely implemented, then the performance of information systems will decline.

The rationale is that learning outcomes with experts as instructors can benefit respondents to facilitate daily work and increase creativity in using accounting information systems. User education and training have a positive effect on the performance of accounting information systems. The results of the study give the meaning that the higher the training and education of users, the higher the performance of accounting information systems at Udayana University. Jen (2002), believes that accounting information system performance will be higher if user education and training programs are introduced. The ability of users of information systems will have a positive influence on the results of performance produced. A study of the virtues of information systems proposed by Soegihartono (2001), that user education greatly influences accounting information systems.

The effect of formalization of information systems development on accounting information system performance

Based on the results of this study it can be seen that the t value of 12.962 at a 5% confidence level is known to the value of sig 0.00 <0.05, it can be concluded that the hypothesis is accepted, or the formalization of information system development has a positive effect on the performance of accounting information systems. This means that the higher the formalization of system development, the performance of accounting information systems will be better. This means that formalization shows clarity on a rule and documented and reported procedures so that it is useful to ensure uniformity in business processes.

With the reporting and documentation, all activities that take place in the said institution, especially activities related to the accounting information system will be known by internal and external parties. If the formation is done well, the work can be done according to the right procedures so that the work and evaluation can be done well. [Almilia \(2007\)](#), argues that the higher level of formalization of information systems development in the company will improve the performance of accounting information systems due to a positive relationship between the formalization of information system development with the performance of accounting information systems.

Formalization shows clarity of rules and procedures that are documented and reported so that it is useful to ensure uniformity in business processes. With the reporting and documentation, all activities that take place in the said institution, especially activities related to the accounting information system will be known by internal and external parties. If the formation is done well, the work can be done according to the right procedures so that the work and evaluation can be done well.

The effect of top management support on accounting information system performance

Based on the results of this study it can be seen that the t value of 6.052 at a 5% confidence level is known to the value of sig 0.00 <0.05, it can be concluded that the hypothesis is accepted, or top management support has a positive effect on the performance of the accounting information system. This means that the higher the top management support provided, the higher the performance of the accounting information system. This means that top management support supports information system users including funding guarantees and determining system development priorities.

Top management support is not only important for the allocation of resources needed but it gives a strong signal to employees that the changes made are important. [Almilia \(2007\)](#), argues that the greater support given by top managers will improve the performance of accounting information systems due to a positive relationship between top management support in the process of developing and operating accounting information systems. According to [Doll \(1985\)](#) in [Komara \(2012\)](#), top management support includes funding guarantees and determining development priorities. The support and involvement of top management play an important role in the successful implementation of information systems. Top management support is not only important for the allocation of resources needed but it gives a strong signal to employees that the changes made are important.

Top management support is defined as the support given by top management to system users. The level of support provided by top management can be used as an important factor in achieving success in all activities related to information systems. If the support given is greater, then the performance of accounting information systems will increase. This is because there is a relationship between top management supports in the process of developing information systems. This support is important, because not only is the allocation of resources needed for the development of the system, but most importantly it also gives a strong signal to employees, that a change made is something important.

The ability of organizational commitment moderation on the effect of user involvement on the performance of accounting information systems

Based on the results of the study it can be seen that the t value of 7.138 at a 5% confidence level is known to the value of sig 0.00 <0.05, it can be concluded that the hypothesis is accepted, or organizational commitment can strengthen the positive influence of user involvement on the performance of accounting information systems. This means that the involvement of users with high organizational commitment will improve the performance of accounting information systems. The involvement of accounting information system users in the system development process will further add new insights to system users regarding the development of systems and the operation of new systems so that users of accounting information systems will be more fluent in their operations.

The capability of organizational moderation of organizers on the effect of user training and education on accounting information system performance

Based on the results of the study it can be seen that the t value of 2.209 at a 5% confidence level is known to the value of sig 0.030 <0.05, it can be concluded that the hypothesis is accepted, or organizational commitment strengthens the positive influence of user training and education on the performance of accounting information systems. This means that training and education of users with high organizational commitment will improve the performance of accounting information systems. Organizational commitment is closely related to the willingness of individuals to strive to realize organizational goals.

The capability of organizational moderation of organizations on the effect of formalization of information system development on accounting information system performance

Based on the results of the study it can be seen that the t value of 2.471 at a 5% confidence level is known to the value of sig 0.018 <0.05, it can be concluded that the hypothesis is accepted, or organizational commitment strengthens the positive influence of information system development formulations on the performance of accounting information systems. This means that formalizing the development of information systems with high organizational commitment will improve the performance of accounting information systems. Formalization of information systems development in the system development process will be better following appropriate procedures so that work and evaluation can be done so that the performance of accounting information systems increases.

The capability of organizational moderation of organizations on the effect of top management support on accounting information system performance

Based on the results of the study it can be seen that the t value of 3.464 at 5% confidence level is known sig 0.007 <0.05, it can be concluded that the hypothesis is accepted, or organizational commitment reinforces the positive influence of top management support on the performance of accounting information systems. Top management support supports users of the information system including funding guarantees and determining system development priorities. Top management support is not only important for the allocation of resources needed but it gives a strong signal to employees that the changes made are important.

Organizational commitment can strengthen the positive influence of user involvement on the performance of accounting information systems. This means that the involvement of users with high organizational commitment will improve the performance of accounting information systems. The involvement of accounting information system users in the system development process will further add new insights to system users regarding the development of systems and the operation of new systems so that users of accounting information systems will be more fluent in their operations.

Organizational commitment strengthens the positive influence of user training and education on the performance of accounting information systems. This means that training and education of users with high organizational commitment will improve the performance of accounting information systems. Organizational commitment is closely related to the willingness of individuals to strive to realize organizational goals.

Organizational commitment strengthens the positive effect of formalizing information systems development on the performance of accounting information systems. This means that formalizing the development of information systems with high organizational commitment will improve the performance of accounting information systems. Formalization of information systems development in the system development process will be better following appropriate procedures so that work and evaluation can be done so that the performance of accounting information systems increases.

Organizational commitment strengthens the positive influence of top management support on the performance of accounting information systems. Top management support supports users of the information system including funding guarantees and determining system development priorities. Top management support is not only important for the allocation of resources needed but it gives a strong signal to employees that the changes made are important.

The meaning of organizational commitment is the leadership of individual leaders towards the organization to realize the ideals and goals of the organization, the leadership of the leader is marked by the identification of the leader of the organization, the involvement of the leader in organizational activities and the leader's loyalty to the organization. In making decisions often the influence of several parties to bring or direct decisions for certain goals, the role of decision-makers is very important so that decisions become in line with the interests of the organization. If a decision-

maker has good organizational commitment, the decision will be directed to the interests and targets of the organization. Because of the loyalty of this decision-maker should bring the decision to always side with the organization. With the high organizational commitment of decision-makers, it will be able to facilitate and expedite the decision-making process that is in line with the targets and objectives of the organization (Darmadi & Gunawan, 2013). Organizational commitment is the degree to which an employee sides with a particular organization and its goals and intends to maintain its membership in that organization. Organizational commitment is also a personal value that sometimes refers to a loyal attitude to the company or commitment to the company. Often organizational commitment is interpreted individually and relates to that person's involvement in the organization. Employee commitment to the organization is one of the attitudes that reflect an employee's likes or dislikes towards the organization where he works (Ikhsan & Ishak, 2005). Organizational commitment consists of three things, namely, a strong belief in accepting the values and goals of the organization, a willingness to give effort to the organization, and a strong desire to improve its role as a member of the organization. Organizational commitment as encouragement from within individuals to do something to support the success of the organization following the objectives and prioritizes the interests of the organization rather than their interests. Organizational commitment becomes important for an organization in creating the survival of an organization regardless of organizational form. Commitment shows the desire of employees of a company to stay and work and devote themselves to the company.

Ratifah & Ridwan (2014), state the trust of members on organizational values, and the willingness of members to support in realizing organizational goals and loyalty to remain, members of the organization, are elements that are the basis of organizational commitment. Members of the organization will feel happy at work if they feel bound by the values and goals of the organization. This will have an impact on the responsibilities and awareness of members in running the organization. Besides, members are also motivated to carry out accountability to the public voluntarily by reporting all their activities.

Commitment strengthens the willingness of employees to carry out their work obligations as well as possible, not for their interests but customers and organizations. Organizational commitment is a condition where an employee intends to maintain and be responsible for membership and alignment to an organization and its goals. The high organizational commitment that is owned by an employee will cause a high sense of responsibility so that it can reduce errors in their work. If Aryawan does his work inadvertently because there is no commitment to the organization, it will have an impact on the quality of his work. Organizational commitment is an attitude that employees have to remain loyal to the company and are willing to keep working as well as possible for the achievement of organizational goals. Personal with high organizational commitment will increase the positive influence of user involvement, user training, and education, formalization of information systems development, and top management support to the performance of accounting information systems.

4 Conclusion

The results of this study are in line with the theory of needs put forward by McClland in Robbins *et al.* (2003), explaining that motivation is driven by three needs namely: the need for achievement (needs of achievement), the need for power (needs of power), and the need for affiliation (needs of affiliation). From research on the need for achievement, that achievers of high achievement distinguish themselves from others their desire to accomplish things well. They reach situations where they can achieve personal responsibility for finding solutions to problems, where they can get quick feedback on performance so that they are better or not, and where they can set quite challenging goals. The performance of relevant accounting information systems is explained by the theory of the need for achievement. This statement is based on the view that the accounting information system developed through a plan, designer, engineering, and a set of methods, and procedures used as a standard reference is to achieve success in its implementation and operation. Top management is responsible for articulating all system development activities to achieve successful system performance.

This research has practical implications, namely providing support especially to Udayana University to always be committed to improving the performance of accounting information systems that have become the main product of financial management and play a role as a material for decision making for interested parties. So, by improving policies on the performance of accounting information systems, clear division of tasks, and careful planning will improve the quality of the performance of accounting information systems while minimizing errors in financial management.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

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