

# Do Management Support and System User Involvement Impact Accounting Information Systems?

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A company's advantages for implementing Accounting Information Systems (AIS) effectiveness include management support, system user involvement and employee training. This study aims to examine the effectiveness of the use of AIS in one of the manufacturing companies in Indonesia, which is at the stage of evaluating its Accounting Information System (AIS). This research was conducted at PT Inbisco Niagatama Semesta regarding 110 employees as users of accounting information systems using proportional random sampling technique. Data was collected through questionnaires and analysed by using path analysis. The results of this study state that the effectiveness of Accounting Information Systems and job training are positively influenced by each other regarding management support and system user involvement. Management will benefit in making the right decision concerning utilising existing AIS for present and future needs.

**Key words:** *Effectiveness of Accounting Information Systems, Job Training, Management Support, System User Involvement*

## Introduction

Entering the industrial revolution 4.0, marked several key markers including the development of cyber-physical systems that unite the physical world (digital and biological), the internet, cloud computing, and the cognitive computing industry 4.0 that has had a disruptive impact (accessed from Kompas on March 5th, 2018). This includes interconnected subsystems which work together in harmony to process impact on changes in Accounting Information Systems (Moffitt & Vasarhelyi 2013; Alles & Gray 2016).

Accounting information systems (AIS) are an essential part of corporate information systems (Susanto 2016). AIS is a subsystem of management information systems, which collects,

processes and reports information relating to financial transactions (Romney 2015). AIS is a collection of financial data within financial information required by management in the decision making process within the field of finance (Apostolou, et. al. 2019). AIS helps business units and solves managers' long-term problems regarding final price, costs and cash flow through providing information to support and supervise companies in the dynamic and competitive environment, and to help the integration of companies and operational considerations in a profitable way (Muda & Ade Afrina 2019). Every company has different information needs; therefore the accounting information system used varies between companies (Ramli 2015). Application of AIS is not only related to a system but also involves the human aspect as a system user (Fatima, 2016).

Awosejo, et. al. (2013) stated that management accounting knowledge, the effectiveness of vendors, and accounting firms make no significant contribution to AIS effectiveness. This study encourages SMEs managers to acquire sufficient accounting information system knowledge for a better understanding of business information requirement. According to Fitrius (2016), successful implementations of AIS have influenced top management commitment and user training. Commitment shows the power of individuals to identify and engage in an organisation. Management commitments are defined as involvement and maintaining behaviours that help others achieve a goal. Management had a high commitment that will enable critical practice for individual independence, not controlled by sanctions and external pressure, as well as relationships within the Organisation based on a high level of confidence. Fitrius (2016), Setiawan & Triaryati (2016) and Komala (2012) stated that management support is an essential factor that determines the point between success and failure of implementation of accounting information systems.

Users of accounting information systems are mostly people who are going to use information systems that have been developed, such as operators and managers (end-user) (Grace 2009). The technological-acceptance model developed by Davis (1989) explores the individual's acceptance of specific technology behaviours. It defines Perceived usefulness (PU) as the user probability that using a specific application system will increase his or her job performance within an organisational context. Furthermore, it defines perceived ease of use (PEOU) as the degree to which an individual believes that using a particular system would be free of physical and mental effort. While PEOU relates to assessment of the intrinsic characteristics of IT such as ease of use and learning, flexibility and clarity of IT interface, PU, on the other hand, it is a response to user assessment of extrinsic, i.e. task-oriented outcome. It helps users achieve task-related objectives, such as task efficiency and effectiveness. Thus, in the accounting context these two beliefs can create a favourable disposition or intention towards using AIS (Awosejo, O.J; Kekwaletswa, R, M; Pretorius, P; and Zuva, 2013).

The individual factor is related to the human use of AIS which in itself contained aspects of humanity such as desire, willingness, motivation, likes and dislikes, satisfaction and dissatisfaction, which in practice affect behaviour in the use of AIS (Apostolou et. al. 2019) Based on Fitrius (2016), training is a process where people acquire the ability to help achieve organisational goals. Van Dijk (2011), Mathis & Jackson (2011) and Rawash (2012) state that training consists of organised activities to enhance the knowledge and skills of people for a particular purpose. Furthermore, Dessler (2013) argues that training means giving employees new skills or ongoing requirements for performing their work. Companies need to institute an extensive training program to ensure their workers have the skills to use information technology effectively (Smith, Dinev & Xu 2011).

Based on the results of previous studies, it has been concluded that the application of accounting information systems is still not practical. Several factors influence this statement. Firstly, employees are not maximally involved in developing the system so that employees work operate by not using existing information systems to their fullest potential. Secondly, technical capabilities of employees using accounting information systems are still low, making the information system provided ineffective. Thirdly, the average education level of employees is high school/vocational/equivalent level, usually resigning after several years of work. Finally, support from top management is still lacking; this support usually creates a feeling of more confidence (Dehghanzade, Moradi, & Raghibi 2011).

The main problem of this research consists of discovering the relationship between job training and the effectiveness of the use of AIS in the company. This effectiveness can be measured by user convenience, speed of access, system reliability, flexibility, security and relevance, accuracy, timeliness, content and format produced while job training can be measured by system technology and new system training. Management support can be measured by managers' understanding of using computers, attention to information system performance, rated from information system usage from user departments. For the user, involvement can be measured by the users' feeling of participation and user control over the information system. Based on the above facts above, this study examines the effect of management support, system user involvement on the job training, and its impact on the effectiveness of using AIS.

This study makes a contribution by developing a model using moderating the training variable in improving the effectiveness of the accounting information system through system user involvement and management support. This is also an example of developing models in emerging countries, considering that the company which is the object of research is one of the large retail companies in Indonesia.

## Literature Review

Effectiveness of Accounting Information Systems is a measure that contributes to decision making through several resources which are collected, processed, and stored in electronic data, which can then be converted into useful information (Rikhardsson & Yigitbasioglu 2018; Dehghanzade et. al. 2011). This variable is measured using the Likert scale with indicators including user convenience, access speed, system reliability, flexibility, security, relevance, accuracy, timeliness, content and format produced (Romney 2015; Rikhardsson & Yigitbasioglu 2018; Newman, et. al. 2017).

Management Support is a leader responsible for determining goals and policies that, in completing their tasks, require other individuals. Top management is required to have an understanding of the information system used, to support the running of the system and be able to overcome the risks of implementing a system (Siva et. al. 2016; Allen, Vassilev, Kennedy, & Rogers 2016). This variable is measured using an instrument in the form of a questionnaire distributed to respondents with an instrument scale of Likert scale model. Indicators include commitment to the project, providers of resources needed, showing leadership attitudes (Siva et. al. 2016; Allen et. al. 2016).

System User Involvement, consists of personal interventions ranging from system development to implementation of the information system. This user participation is expected to improve system capabilities, solve conflicts, and reduce the risk of information being developed (Abelein & Paech 2016; Najaftorkaman & Ray 2015); (Sadoughi, et. al. 2013). This variable is measured using an instrument in the form of a questionnaire with indicator such as users' feeling of participation and user control over the information system.

Job Training is an activity to improve and develop work competencies, quality, discipline, knowledge, and work ethic by using systematic procedures by the company's wishes in achieving the company's vision and mission (Allen et. al. 2016; Abelein & Paech 2016; Sadoughi et. al. 2013). This variable is measured using an instrument in the form of a questionnaire distributed to respondents with an instrument scale of Likert scale model. The indicators used include reactions, lessons, behaviour and results (Allen et. al. 2016; Abelein & Paech 2016; Sadoughi et. al. 2013).

### ***The Influence of Management Support on Job Training***

Bodnar & Hopwood (2010) stated that the success of system implementation is not only determined by mastery of technique, on the contrary behavioural factors and individual system users largely determine the success of system implementation. Behavioural factors are generated from training and education, management support, and clarity of purpose. Success

in implementing an information system can be realised by increasing training activities and support of top management (Bhatti, et. al. 2013; Ahadi & Jacobs 2017; Oludayo, et. al. 2018).

Susanto (2017) argued that the effectiveness of software is influenced by the involvement of users in the process of designing and developing accounting information systems and the quality of support provided by users. Support for users can be divided into two parts; those who are supported for information systems such as instructor training and support for implementing staff (users) (Lindahl & Kirk 2019; Mishra & Kumar 2019). It can be concluded that management support can significantly affect job training.

**H1:** management support influences on the job training

### ***The Influence of System User Involvement on Job Training***

Diez & McIntosh (2009); Lindahl & Kirk (2019) stated that if education and training programs are introduced, they will increase participation in employee training. Díez & McIntosh 2009; Ismail & King 2014 suggested that lack of education was the main reason for the lack of utilisation of information systems. Furthermore, according to Ismail & King (2014) “user education” greatly influences the performance of employee participation in training. Business leaders believed that management involvement, continuous discussion, educating IT users, demonstration of knowledge and coaching will help to motivate and inspire IT users to make full use of the benefits of new technology (Yunus, Y. M., Aman, A., & Keliwon, K. B. 2019).

**H2:** User system involvement influences on the job training

### ***The Influence of Management Support on AIS Effectiveness***

Yunus, Y. M., Aman, A., & Keliwon, K. B. (2019) revealed that support from business leaders is necessary to motivate and encourage IT users to innovate with new technology. According to Bodnar, & Hopwood (2010); Bhatti et. al. (2013); Becker & Smidt (2016) and Ahadi & Jacobs (2017) successful system implementation is not determined by mastery of technique, rather behavioural factors and individual system users greatly determine the success of system implementation. Behaviour factors consist of training and education, management support and clarity of purpose. Dehghanzade et. al. (2011); Darmawan (2013) state that as top management supports information systems as system owners, those who determine or influence the direction of information system development also act as system users because they are concerned with the condition of the company as a whole, therefore

top management usually wants a summary of information to support their activities when carrying out planning, analysis and strategic decisions.

Following research conducted by Wisna(2015), top management has an important role in each stage of the system development cycle, including planning and implementation. The main task is to develop a system for communicating with top management in strategic planning, and determining overall success and goals. The development of the system has risks when accepting management's opinion regarding the correct fact. Responsibility for the success or failure of the new system is present when developing the system. Thus behavioural factors such as management support are needed to achieve system success, achieving success of accounting information systems produces quality accounting information that helps management in terms of decision making (Romney 2015).

**H3:** Management support has an influence on AIS Effectiveness

### *The Influence of System User Involvement on AIS Effectiveness*

Díez & McIntosh (2009); Susanto (2017) stated that the effectiveness of each computer application is influenced by the involvement of users in the process of designing and developing accounting information systems and the quality of support provided by users. Remenyi & Bannister (2007) maintained that this approach combines user perceptions on several criteria related to information systems. This includes perceptions of a range of variables relating to input and output procedures, computer processing capabilities, response speed, service quality, information system staff quality, availability of training, documentation quality and organisational factors such as top management involvement and user participation.

These issues are considered to holistically represent a framework that can be used to measure effectiveness. Elnusa, et. al. (2018) concluded that users cannot be separated from the success of implementing a system or technology. Recognising that the operationalisation of computer technology involves human aspects and their impact causes e changes, it is important to pay attention to human existence in the use of a technology (Dehghanzade et. al. 2011). Thus, user involvement has an important role in the success of an accounting information system. Users within an information system cannot be separated from each other in the operating system. The employer has the ultimate responsibility to be aware of the virtues and abilities of workers, particularly in achieving better performance and job satisfaction (Yunus, Y. M., Zain, M. Z. M., & Aman, A. 2018).

**H4:** System user involvement has an influence on AIS Effectiveness.

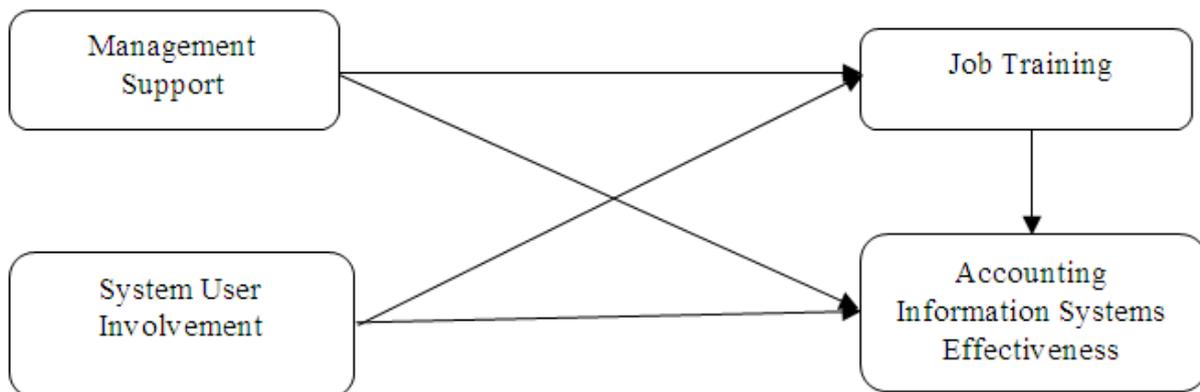
### *The Influence of Job Training on AIS Effectiveness*

Handoko (2011) and Dehghanzade et. al. (2011) maintain that the purpose of training and employee development is to improve the effectiveness of employees' work in achieving defined work results. Increasing work effectiveness can be completed through training or development. Exercise is intended to increase mastery of skills and techniques for carrying out certain jobs, details and routines. Development is needed to adjust to technological progress. For example, accountants need an understanding of capabilities and computerised programs. If employees become more skilled, they will have greater feelings of usefulness and confidence (Vasarhelyi 2017).

Susanto (2017) described that training for users should be completed so that employees understand the system used and the effect of their efforts on the success or failure of the program as a whole. This is reinforced by Fitrius (2016), who maintained that that user training is key to getting the most out of the accounting information system. According to Soudani (2012), training and education regarding the accounting information system should be provided to users to ensure that they can use the system effectively and efficiently. Thus, job training also influences the effectiveness of the use of accounting information systems (Romney 2015). Both management support and job training influence the effectiveness of the use of accounting information systems.

**H5:** Job Training influences AIS Effectiveness

**Figure 1.** Theoretical framework



### **Methodology**

The research method used a descriptive and quantitative method (Sugiyono 2011). The study variables : management support, system user involvement, job training and effectiveness of Accounting Information Systems. This research was conducted at a

manufacturing company (PT Inbisco Niagatama Semesta). A research sample of 110 people was examined regarding their function and job desk using information systems in their daily work activity units including Accounting (40 people), Finance (40 people), and Returns Warehouse (30 people). This study used instruments from each variable. Instrument lattices have been arranged based on dimensions and indicators with a five-point Likert scale. The instrument was tested to obtain a valid and reliable questionnaire.

The sampling technique used proportional random sampling (Sekaran 2016). The analysis was carried out using path analysis (Wijanto 2015). Path analysis is used to test the amount of contribution shown by the path coefficient on each path diagram of the causal relationship between variables X1 and X2 to Y. (Sugiyono 2011; Heryanto 2018).

## Results

### Model Fit Test

**Table 1:** Substructure 1

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	25.814	5.582		4.625	0.000
Management Support	0.315	0.085	0.304	3.726	0.000
User involvement	0.279	0.054	0.419	5.131	0.000
Adjusted R Square	0.277				
R Square	0.291				
Std. error of the Estimate	6.068				
F Test	21.917				
Sig	0.000				

The substructure 1 (Table 1) equation is as follows:  $Y = 0.304 X1 + 0.419 X2 + \varepsilon1$

This model is said to be significant because the p-value is obtained at  $0,000 < \alpha = 0.05$ . Then the path coefficient is  $p_{31} = 0.304$ , because  $p\text{-value} = 0.000 < \alpha = 0.05$ , the path coefficient is significant. Then  $p_{32} = 0.419 < \alpha = 0.05$ , the path coefficient is significant. The calculation results show that the two managements support variables and job training regarding the effectiveness of the use of accounting information systems have a significant path coefficient, consequently in substructure 1, there is no need for trimming (model improvement by removing one variable from the model) (Wijanto 2015).

**Table 2:** Substructure 2

Independent Variable	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std. Error	Beta		
(Constant)	24.054	6.799		3.538	0.001
Management Support	0.331	0.103	0.240	3.212	0.002
User involvement	0.506	0.066	0.571	7.637	0.000
Adjusted R Square	0.396				
R Square	0.407				
Std. error of the Estimate	7.390				
F Test	36.712				
Sig	0.000				

The substructure 2 (Table 2) equation is as follows:  $Y = 0.240 X_1 + 0.571 X_2 + \epsilon_2$   
Path coefficient analysis in this model shows that p41 obtained beta results of 0.240, because the p-value is  $0.002 > 0.005$ , then the path coefficient is declared significant. Subsequently  $p_{42} = 0.571$ , as the p-value is  $0.000 < 0.05$ , the path coefficient is significant. In this model, there is no insignificant path coefficient. The model does not need to be improved by issuing management support from the model (trimming) Ghozali (2017); (Heryanto 2018).

**Table 3:** Substructure 3

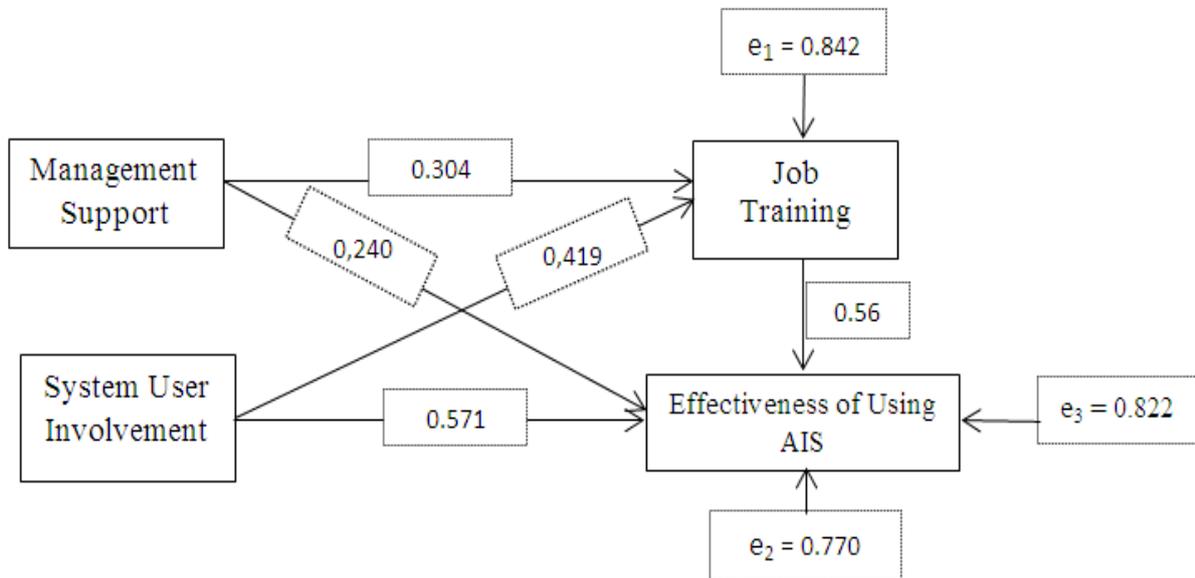
Independent Variable	Unstandardised Coefficients		Standardised Coefficients	T	Sig
	B	Std. Error	Beta		
(Constant)	30.90	6.570		4.626	0.000
Job Training	0.757	0.105	0,568	7.171	0.000
Adjusted R Square	0.316				
R Square	0.323				
Std. error of the Estimate	7.862				
F Test	51.419				
Sig	0.000				

Based on above the results above, the path coefficient 3 is  $p_{43} = 0.568$ , with t of 7.171 and p-value of 0.000. Therefore, the structural equation obtained is:  $Y = 0.568 X_3 + \epsilon_3$ .

Next, to determine the model's suitability, Q value is sought, where the value is obtained by dividing R Square data before trimming with R Square data after trimming (Ghozali 2017; Heryanto 2018). In this model, it is concluded that there are no lines trimmed because the

significance of each pathway is important (Wijanto 2015). Therefore, visually the suitable model (model fit) is described as follows:

**Figure 2.** Results of structural model



**Table 4:** Model Fit of structural model

Variable Constellation	$T_\alpha = 1,658$	Coefficient Determination	of	Conclusion
$X_1 - X_3$	3.726	0.291 (29.1%)		Significant/ H1 accepted
$X_1 - Y$	3.212	0.407(40.7%)		Significant/ H2 accepted
$X_2 - X_3$	5.131	0.291 (29.1%)		Significant/ H3 accepted
$X_2 - Y$	7.637	0.407(40.7%)		Significant/ H4 accepted
$X_3 - Y$	7.171	0.323(32.3%)		Significant/ H5 accepted

Thus it can be said that management support has a significant effect on on the job training. System user involvement has a significant influence on on the job training. Management support also has a significant effect on the effectiveness of the use of accounting information systems, and system user involvement has a significant influence on the effectiveness of the use of accounting information systems. Job Training variables also have a significant effect on the effectiveness of the use of accounting information systems.

## **Discussion**

### ***Management Support for Job Training***

Management support influences job training, as the condition of the leader not providing training to new employees being accepted. Ahadi & Jacobs (2017) mentioned several factors that influence job training, including management support which is maintained about management commitment in providing training. For training to achieve maximum results, leadership participates in training programs and assists with necessary resources. Leadership commitment to the training and development process is responsible for implementing training that is attached to leadership (Oludayo, et. al. 2018).

Leadership provides participation in the form of support to employees (Ahadi & Jacobs 2017), support from top leaders in assisting with success of the training program acts as the owner of responsibility and requires participating in the training program so that it is expected to use the accounting information with ease, helping employees achieve company goals.

### ***Management Support for AIS Effectiveness***

Management support affects the effectiveness of the use of accounting information systems, especially in the results of this study, leaders provide support for the participation of employees As stated by Darmawan (2013); Awosejo, O.J, et. al. (2013) and Iskandar D (2015) in supporting information systems, top leaders act as system owners, they often determine or influence the direction of the development of information systems, and also act as system users. As they are very concerned about the condition of the company as a whole, top management usually requires a summary of information to support activities to carry out planning, analysis and strategic decisions.

However, some conditions that need to be improved include lack of placement of employees by educational background and training related to the system that is used regularly to illustrate the concepts put forward by Bodnar (2010), including success of system implementation not being determined by mastery of techniques, where factors such as behaviour (training and education, management support, and clarity of purpose) and individual system users determine the success of system implementation.

### ***System User Involvement for Job Training***

System user involvement affects job training. In this case, the importance of technological advances in using an integrated accounting information system can complete the work

required by special training so that the system can be used appropriately. Employees who are directly involved with information systems require job training, employees can adjust, overcome problems and minimise errors and improve their abilities and skills to be able to adapt to the system used. This shows that job training is necessary for employees who are directly involved in using the system (Awosejo, O.J, et. al. 2013).

### ***System User Involvement for AIS Effectiveness***

User involvement influences the effectiveness of the use of accounting information systems but is moderated by job training, or in other words, user involvement affects the effectiveness of the use of accounting information systems when accompanied by training programs. The effectiveness of the use of accounting information systems has the following conditions: 1) process documents easily, and the accuracy of the system can be accounted for, 2) can be developed according to needs, available username and password to maintain data confidentiality, 3) valid information, on time according to needs, menu is easy to learn, respond to all forms of errors quickly and minimise errors, easily accessible, 4) cause of errors in output can be known, information can be used for appropriate and mutually integrated decision making, facilitate employee work and confidentiality of company documents (Smith et. al. 2011; Romney 2015).

In addition to these conditions, according to Trigo, Belfo, & Estébanez (2014), an increase must be made: information produced is sometimes not accountable; employees need time to adapt and a limited number of employees.

### ***Job Training for AIS Effectiveness***

According to Bodnar (2010); Romney (2015), behavioural factors which include work training as well as mastery of techniques can influence the success of the implementation of an accounting information system. The training instructor delivers training material on time so that employees do not feel that time is wasted. The purpose of training and development of employees is to improve the effectiveness of the work of employees in achieving determined work results (Handoko 2011). Increasing work effectiveness can be completed through training or development. Exercise is intended to improve the mastery of skills and techniques for implementing certain jobs, either detailed and routine (Vasarhelyi 2017). Subsequently, development is needed to adjust to technological advances. For example, accountants are required to have an understanding of capabilities and computerised programs. When employees become more skilled, they have a feeling of usefulness and greater confidence (Soudani 2012).

Based on the above explanation of the effectiveness of the use of the accounting information system, it is concluded that by achieving a loss of the importance of the maximum level of effectiveness, system user involvement becomes a factor, not with other factors that influence the effectiveness of the use of accounting information systems. Wisna (2015) stated that organisational factors such as user participation are considered to represent the framework used to measure effectiveness, supported by Elnusa et. al. 's conclusion (2018), that the user cannot be separated from the success of implementing a system or technology. Recognising that the operationalisation of computer technology involves human aspects and the impact of the changes it causes, it is important to pay attention to human existence in the use of technology.

While Susanto (2017) stated that the effectiveness of each computer application is influenced by the involvement of users in the process of designing and developing accounting information systems and by the quality of support provided by the user. Support for users can be divided into two parts, namely support for information systems such as training instructors and support for local staff or users in organisations (J.N. & M. Edwin 2016).

According to Ghasemi, et. al. (2011) some factors influence SIA performance, including user involvement in SIA development, technical capabilities of SIA personal, organisational size, management support, formalisation of SIA development, user education and training programs, the existence of an information system steering board, and the location of the information system department. Thus, the effectiveness of the use of accounting information systems can increase if employees receive direct support from leadership and participate in training programs provided and are directly involved in the use of accounting information systems (Awosejo, O.J, et. al. 2013; Vasarhelyi 2017).

## **Conclusion**

Management support and system user involvement significantly influence job training. Likewise, management support, system user involvement, and job training have a significant effect on the effectiveness of the use of accounting information systems. In the model test, it was concluded that there were no lines trimmed because each path was declared significant. Therefore the proposed model is visually suitable.

For future research, we recommend examining various other factors such as information technology, communication, conflict and attitude. Moreover, increasing work effectiveness can be completed through training or development that aims to improve mastery of the skills and techniques of implementing work in detail while adjusting to technological progress.

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