

# Influence of Information Technology, Training and Participation of Users towards the Effectiveness of Accounting Information Systems in the Supply Chain Management

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**Abstract**—The purpose of this study was to examine the effect of information technology, training, user participation on the effectiveness of accounting information systems in the implementation of Supply Chain Management. The results of this research will improve the effectiveness of Supply Chain Management, so that the process of distribution of LPG 3 kg can be done accordingly target. The sampling technique is purposive sampling in the study. Sample in this study all employees of the company official supplier of gas LPG 3 kg in East Jakarta that have implemented information systems. The respondents who filled out questionnaires and can be used as much as 123 people. Data analysis techniques used multiple linear regression test. The results of this research indicate that: (1) there is a positive and significant influence among information technology towards the effectiveness of the accounting information system, (2) there is a positive and significant influence between the training against the effectiveness of the accounting information system, and (3) there are no significant effects between user participation against the effectiveness of accounting information systems. This means the necessity of understanding the management related the importance of technological information and training employees in order to improve the effectiveness of information systems.

**Keywords**—*training; participation; effectiveness; system information; supply chain management*

## I. INTRODUCTION

Technology is a useful tool to help individuals in the completion of his works [1]. The influence of user participation might be called employee or personnel very determines the success implementation of accounting information systems in a company. The main influence upon human behavior derives from the existence of individual differences and therefore should be made the focus of attention management is an attempt to understand individual differences [2].

His study chose 3 kg LPG gas distribution activities as a form of application of SCM (Supply Chain Management). There is a change in the distribution process to the payment system on 3 Kg LPG gas. Initially the payment was made in cash and then changed to cashless, namely using SMS banking, applied by the sub-suppliers to suppliers. As a result of changes

to SCM in the distribution of 3 kg LPG gas, there are several obstacles. Barriers that arise cause the information system not to be fully utilized by system users. There was constraint in technological incompetence because the average age of base owners is not productive. Another obstacle is the level of complexity and risk that arises if one follows the stages of the system, affecting the inconsistency in the distribution process.

The utilization of appropriate technologies, training and participation of the users required to support the effectiveness of accounting information system. Accounting information system can be said to be effective if the system is able to generate information that can be received and be able to meet the expectations of the information in a timely, accurate and reliable [3].

Based on the description of the distribution of LPG 3 kg as a form of implementation of SCM (Supply Chain Management) on the blurb above then the main issue is whether there is the influence of information technology, training and participation of the wearer against the effectiveness of the accounting information system in applying supply chain management? Next through the test results are expected to be able to resolve problems in the application of supply chain management distribution LPG gas 3. So at least one of the goals of the Government subsidy in LPG 3 kg can be achieved, namely the distribution of LPG 3 kg can be uneven, particularly for people in need.

## II. LITERATURE REVIEW

Information system is a set of activities of the organization to provide financial information and information obtained from the transaction data for internal and external reporting purposes [4]. Information Technology is a technology that is used to use in order to produce information that is related to decision making [5]. The factors of training and participation are the main things in the process of developing information systems by giving input to thoughts, energy, time, expertise, capital [6,7].

SCM is a series of activities related to the transfer of goods from the raw material stage through to the customer. These activities include procurement, order processing, production scheduling, supplies, transport, factory, customer service and demand for goods [8].

To improve the effectiveness of information system are intended for independent use with base Supply Chain, PT Pertamina leveraging web-based technologies to oversee the distribution of LPG gas by the agent to the base by using the System Monitor the Distribution of LPG 3 kg (SIMOL3K). The advantages of standalone systems and Supply Chain SIMOL3K are: 1) more secure, because it helps deal with the risk of cash handling like money lost, robbery, dishonest salesmen, 2) minimize human error, because data transactions that occur can be monitored online in real-time from the office, 3) efficiency, because the cost of each transaction is free of charge SMS requires only internet network, 4) is more practical, because direct gas sales transactions transferred to bank account, and since employees no longer need to be queued to the bank for deposit money to the bank, because SMS banking transactions are executed. In addition, LPG gas sales month report 3 kg can be sent via email to PT Pertamina as a tax receipt instantly uploaded. Self-service technology Supply Chain utilized and SIMOL3K, the information obtained is expected to assist stakeholders in identifying a problem, solve the problem and evaluate, so that the information obtained is accurate, timely and relevant.

The presence of technology is a source of power that makes a company has a competitive advantage, and was identified as a factor that gives the retribution against the success of the company [9]. Therefore information technology has a high influence on the success of the company in managing the company. In addition, information technology has a positive and significant effect on the effectiveness of accounting information systems. If the use of technology is high, the effectiveness of accounting information systems will be higher [10].

The success of the implementation of the system is not only determined at the sheer mastery of the techniques, but the individually system users behavior factors largely determine the success of the implementation of a system of [11]. The behavior factors are the training, the support of top management, and clarity of purpose. So, the success of the implementation of an information system such as SIMOL3K and SCM can realized by exercising more training activities. Training has a positive and significant effect on the effectiveness of the accounting information system. If the intensity of training is high, the effectiveness of the accounting information system is higher [12].

The development of information systems need to be supported by many factors that are expected to be able to give the success of information systems which can be seen through the satisfaction of users of information systems. A system can be said to be successful if supported by a number of factors, such as the participation of the users of his supporters [13]. Participation is carried out by the user in the form of a real personal intervention or activity of the user in the system development.

User participation has a positive and significant effect on the effectiveness of the accounting information system. If the user participation is high, the effectiveness of the accounting information system is higher [13]. The ability of the users of information systems have a positive relationship towards the performance of the accounting information system the better the ability of users of information systems. It will increase their participation using accounting information systems. That is because the users of the system that has the ability can make in their work, so that the wearer was satisfied on performance SIA in using [14].

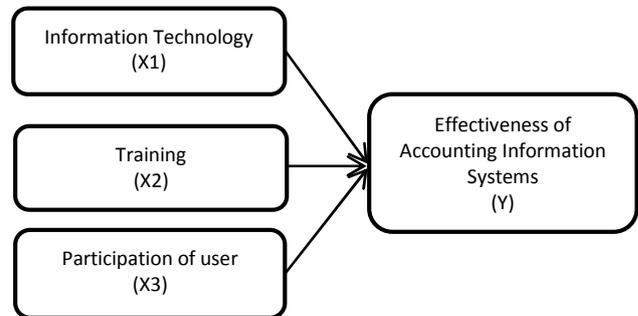


Fig. 1. Research Model

### III. METHOD

Strategy of the research conducted in this study of associative causal. Associative research is causal aims to analyze the relationship between one variable with another variable or how a variable affects the other variable [15]. With this strategy can be known how big is the influence of the contribution of the independent variable (information technology, training and participation of users) of the dependent variable (the effectiveness of accounting information system in applying supply chain management).

The population is all over the company that runs the system accounting information in applying Supply Chain Management distribution LPG gas 3 kg of PT. Pertamina official in East Jakarta. Samples obtained from some employees who work in the finance/accounting/tax and administration using accounting information systems in conducting its activities in the company. For the selection of the sample of respondents, researchers using a nonprobability sampling method approach with sampling purposive. Dissemination of the questionnaire amounted to 125 fruit and performed directly by researchers and helped 2 people peer researchers.

Analysis tools are used in the form of descriptive statistics. Procedures of descriptive statistics, calculate the value of the average (the mean, maximum value, minimum value and standard deviation). For the purposes of analysis, the variables that operated must meet the requirements so that it does not produce the results introduction in testing. These tests include testing the quality of the data, a classic assumption test, multicollinearity test, normality test and hypothesis testing that is a test of the determination of the coefficients and partial test.

**IV. RESULTS AND DISCUSSION**

Bulk LPG Filling and Transporting Stations (SPPBE) and LPG Bulk Filling Stations (SPBE) are the mains for filling and transporting 3 Kg LPG of several distributors/ agents in a region. The dealer/ agent submits the realization of the daily allocation for the current month to Pertamina. Furthermore, Pertamina will approve the daily distribution allocation for the following month. Based on the quota, that has been set by Pertamina, each dealer/ agent takes the goods on the designated SPPBE/ SPBE on the specified day.

Resellers/agents who had taken the LPG 3 kg quota allocation in SPPBE/the SPBE has been appointed then distribute the daily allocation to a number of Sub Contracting/Base in the territory of the dealer in question. Dealer daily quotas distributed to Sub Contracting/Base Nature of transactions daily and ideally each transaction delivery/distribution of LPG 3 kg from retailer to retailer recorded in a recording media such logbook of transactions SIMOL3K, delivery to dealer/sub base.

Based on the available stock, sub dealer distributes LPG 3 kg to users in need. Transactions are daily and reservations and payments to suppliers is carried out by means of SMS banking in a recording media such logbook delivery to users/ consumers. Ideally periodic sub dealer reported the entire distribution transactions (transaction sale of refill) LPG 3 Kg to resellers/agents to be processed as supporting data sales.

*A. Determination of coefficient*

Hypothesis testing shows the influence of information technology (X1), training (X2), participation of users (X3) against the effectiveness of accounting information system (Y). Based on table I., indicated that the results of the calculation of coefficient determination of 0.480. This shows that 48% of the variable effectiveness of accounting information system implementation is affected by the variable utilization technology, training, participation of the wearer, while 52% are influenced by other factors.

TABLE I. T-TEST RESULT

	Model	t	Sig.
1	(Constant)	4.450	.000
	Information technology (X1)	6.662	.000
	Training (X2)	2.168	.032
	Participation of users (X3)	.571	.569

<sup>a</sup>. Dependent Variable: Effectiveness of Accounting Information Sys (Y)

Based on the results of the regression analysis to calculate t value obtained of 6.662 > t table 1.980 and significance value (Sig) and 0.05 value 0.000 < X1 of 0.760 is positive. It can be concluded that H0 is rejected and the H1 is accepted, meaning information technology (X1) positive and significant effect against the effectiveness of accounting information system (Y).

Based on the results of the regression analysis to calculate t value obtained of 2.168 > t table 1.980 and significance value (Sig) 0.032 X 2 and the value of 0.05 < of 0.316 is positive. It can be concluded that H0 is rejected and H2 are received,

which means training (X2) a positive and significant effect against the effectiveness of accounting information system (Y).

Based on the results of the regression analysis to calculate t value obtained of 0.571 < t table 1.980 and significance value (Sig) 0.569 > 0.05 X 3 value of 0.052 and is positive. It can be concluded that H0 H3 accepted and rejected, which means the participation of users (X3) do not affect significantly to the effectiveness of the accounting information system (Y).

Interpretation of the results of the technology supply chain and independent SIMOL3K, the information obtained is expected to assist stakeholders in identifying a problem, solve the problem and evaluate, so that the information obtained is accurate, timely and relevant. The system information can be said to be effective if the system is able to produce information that can be received and be able to meet the expectations of the information in a timely, accurate, and reliable [3].

The utilization of technology can to reflect the diversity of the number of technologies that are used while the sophistication of information is indicated by the nature of its application portfolio. The presence of technology is a source of power that makes a company has a competitive advantage, and was identified as a factor that gives the retribution against the success of the company. Therefore, information technology has a high influence against the company's success in managing the company. So the more sophisticated information technology is applied then the effectiveness of the system of information generated will be higher also in addition to the influence of the user information. The results of this study are consistent with the research [16], which States that positive effect of technology utilization and significantly to the effectiveness of accounting information systems.

Bodnar and Hopwood stated that a complete success system implementation not only determined at the sheer mastery of the techniques [17], but the individual user behavior and the factors of the system largely determine the success of the implementation of a system. The behavior factors the training, the support of top management, and clarity of purpose. Need for support of the top management of the contracting companies/agents such as training and socialization in order to use the system properly in accordance with the primary goal of the information systems. Development and application of information systems that are not supported by careful planning will not be able to bridge the wishes and interests of the various parties in the company. So, the success of the implementation of an information system can be realized with increased training activities. The results of this study are consistent with previous research results conducted by [18], which shows that the positive effect of training and significantly to the effectiveness of accounting information systems.

Meanwhile, in a study conducted in the entire LPG gas contracting companies 3 kg which is in East Jakarta it is evident that the participation of the user does not have an impact on the effectiveness of accounting information systems. Where high the low participation of the user that owned the leader and staff employees does not warrant the effectiveness of accounting information system they do will increase. The system is made by having the procedures that have been made

to the target and the objective and independent, so that the performance of the system will not be affected by high or low levels of participation of the users of the system.

The results of this study are inconsistent with research conducted by Fatimah that examines people's bank crediting in Buleleng Regency [18]. The results of this study stated that the participation of the user that influence the effectiveness of implementation of accounting information system, the results show participation user effect positive and significantly to the effectiveness of the implementation of accounting information systems. The research conducted by [18] that states the user has no effect significant participation in the system of accounting information.

## V. CONCLUSION

Based on the results of the analysis and testing of research on the influence of information technology, training and participation of users against the effectiveness of the accounting information system in Supply Chain Management activities can be composed as a conclusion the following:

- Based on the results of the study, when the better information technology used then the better the effectiveness of the accounting information system also. Thus, it provides a statement there is a significant influence of the variable information technology against the variable effectiveness of accounting information systems. The utilization of information technology in distribution gas LPG 3 kg, the information obtained is expected to assist stakeholders in identifying a problem, solve the problem and evaluate, so that the information obtained is accurate, timely and relevant.
- Based on the results of the study, when the better training that is done then the better the effectiveness of the accounting information system also. Thus, it provides a statement there is a significant influence of the variable against the effectiveness of the training of accounting information system. The support of the top management of contracting companies/genes such as training and socialization in order to use the system properly in accordance with the primary goal of the information systems. Development and application of information systems that are not supported by careful planning will not be able to bridge the wishes and interests of the various parties in the company. So, the success of the implementation of an information system can be realized with increased training activities.
- Based on the results of the study, when the better participation of the wearer then the better the effectiveness of the accounting information system also, but the results turned out to be different because it has examined several factors that are less supportive. Thus, it is giving the statement contained

no significant variables influence the participation of users against the variable effectiveness of accounting information systems. In a study conducted in the entire LPG gas contracting companies 3 kg which is in East Jakarta proved that participation user does not have an impact on the effectiveness of accounting information systems. Where high the low participation of the user that owned the leader and staff employees does not guarantee the effectiveness of the accounting information system they do will increase.

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