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The Effect of Accounting Information Systems to Facilitate Supply Chain Management in Retail Companies: Evidence form Indonesia

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Abstract— **This study aims to determine the effect of the ability of users of Accounting Information Systems (AIS) to improve the Supply Chain Management (SCM) performance, the involvement of users of AIS, and top management support on the performance of AIS in retail companies. The population in the study were 23 retail companies in the Central Java Region. The sample in this study amounted to 69 respondents. The sampling technique in this study was purposive sampling. Data collection was done through a questionnaire and data were analyzed using multiple linear regression analysis. Based on the results of the analysis that has been done, there is a significant influence between the independent variables on the performance of AIS at retail companies in the Central Java region simultaneously. Whereas partially, the information system user capability and top management support had a significant effect on the performance of AIS, on the contrary the information system involvement variable did not significantly influence the performance of AIS in retail companies in the Central Java region.**

Keywords— *Accounting Information Systems, Retail Companies, System Performance.*

1.   Introduction

Accounting information system (AIS) is a system used to record financial transactions for business or organizations. This system combines methodology, control and accounting techniques with IT industry technology: user interfaces, computers and sophisticated software. The software used to track transactions provides internal reporting data, external reporting data, financial reports, and trend analysis capabilities to influence organizational performance [1]. Or in other words AIS is a system that is built in a structured and interrelated way to achieve the goal, namely achieving efficiency in financial management with a reliable level of accuracy in decision making. AIS that is well managed and supported by a competent user system will be able to control and oversee the company as well. So that AIS is considered an organizational mechanism is very important for effective management and control of organizational expertise [1, 2].

SCM is essential in today's world for companies' success. In addition, many organizations are becoming more involved in strategic alliances, networks and virtual relationships. The success of an AIS can be seen from the performance of the system. AIS is the success of the system to produce information needed to achieve a goal. The basis for knowing the performance of the AIS can be seen from the level of satisfaction from the user or the use of the AIS. AIS user satisfaction shows how far the user has trust or confidence in the AIS used to produce information according to his needs relevant, accurate, and able to produce information in a timelines. The use of AIS is used to measure the level of success of an AIS, if the frequency of use of the information system it self is often used it can be said to be good The performance of AIS can be influenced by several factors, namely user involvement, personal technical ability, training and education programs, top management support, formalization of system development, organizational size, location of information systems departments, and the existence of a steering committee.

AIS can assist companies in making decisions about information obtained from information systems. AIS in a company or organization is a tool to help smooth accounting tasks and facilitate coordination between parts of the company, because AIS will help control and make decisions in running the company. The system is a collection of interrelated procedures that are made based on integrated patterns and are developed in accordance with the plan to achieve certain goals. Studies have shown that the successful application of an

accounting system requires a match between three factors. Match must be achieved with a dominant view in the organization or perception of the situation. Second, the accounting system must be appropriate when the problem is usually solved, namely organizational technology. Finally, the accounting system must be in accordance with culture, namely the norms and value systems that characterize the organization [3].

According to data from the Indonesian Retail Entrepreneurs Association (Aprindo) in 2019, modern retail sales are estimated to reach Rp256 trillion, or grow around 10% compared to last year's retail sales data. Based on Aprindo's data, the value of modern retail sales in 2016, 2017 and 2018 reached Rp205 trillion, Rp212 trillion and Rp233 trillion, respectively. The performance of the modern retail industry in 2019 will be influenced by consumer spending trends that tend to wait and see along with the political year. Retail business in the province of Central Java continues to decline. Today, more and more digital and online information is used in AIS [4]. The growing number of online stores scattered in a number of big cities urged retail outlets slowly close. According to [5] Central Java data, currently the retail business continues to be eroded by digitalization, so entrepreneurs feel uneasy and cannot do much about technological developments. The impact of this competition, the retail company must implement an information technology-based AIS in order to survive in this competition.

AIS in a retail company plays an important role in the transactions carried out in it. At present many modern retail companies have implemented information technology-based AIS. The retail company itself has the goal of providing various needs needed by the community. In the retail company's business processes, AIS is needed to facilitate the processing of various transaction data. AIS can assist employees in checking inventory and cash in retail stores or minimarkets, buying and selling transactions, and helping management in making decisions. AIS can also produce financial reports that are understandable, relevant, trustworthy, and comparable to previous financial statements.

Research from. [1], explains that the research findings provide added value in the accounting literature given the scarcity of work related to the relationship between the application and use of AIS and performance and productivity indicators in SMEs in Spain. At present in Spain, in most regions, there is a general understanding that using information technology is very important to expand marketing and to save on sales management costs. In Spain the information society and the new computer tools have allowed companies to use their accounting systems better in their relationships with suppliers and customers. Likewise the development of electronic banking allows companies to save a lot of time in their transactions; in addition, AIS has accelerated tax management.

However, it has also been shown that the challenge of successful development in the information society does not lie in the availability of technological infrastructure goods such as in increasing business disposition towards the use of AIS [5, 6]. Thus, and according to several authors, it is very interesting to analyze the impact of AIS on the economic and financial indicators of profitability (Return On Assets (ROA) and Return On Equity (ROE)) and the productivity of small and medium-sized Spanish companies. The results obtained in this study indicate that there is a direct relationship between using AIS for fiscal and bank management and performance indicators and it reveals how important it is to implement it in these companies; However, there is no evidence of a relationship between AIS use and productivity. Previous research has shown that adoption of AIS does indeed improve company performance, profitability and operating efficiency in Malaysia, Spain, Finland, Pakistan and Iran [7-9].

In [10], who found a positive relationship between AIS alignment and strategy and performance measures of SMEs. In the case of Spain [11], suggests an indirect relationship between AIS and company performance through various strategies that can be adopted by companies. Productivity increases when this innovation is used correctly. To the extent that the corporate culture is open to the introduction of a new accounting information system this will lead to a more holistic view and make it more flexible and dynamism in the organization's search for better results.

There are studies that obtain a positive relationship between investment in IT and economic profitability, financial profitability and value added [12]. Other studies show that there is no clear relationship between this type of investment and performance indicators [13]. Their authors argue that, at present, IT is readily available and using it

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does not provide a competitive advantage to achieve better results [14]. Likewise, they argue that many companies have invested in IT but were unable to achieve the performance targets that were set. The results of this study indicate that although AIS is very useful and influential on organizational performance for companies listed on the Dubai financial market (DFM) but, there is no relationship between AIS and performance management [15].

This study aims to determine what factors can influence the performance of technology-based AIS used by retail companies. Factors that will be examined in this study are the ability of users of AIS users, user involvement in the development of AIS, and top management support.

2.   Theoretical Framework

2.1 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is a theory to explain how acceptance from users of technology in the information system used a person's behavior in using information technology is influenced by perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use and actual users [16-21].

2.2 Accounting Information System (AIS)

The system is a collection of two or several components to produce an information in achieving certain objectives that have a link. Information is data that is processed into a form to provide useful results for the recipient. While AIS it self is an information system designed and built to process financial data and produce financial reports. While Boochholdt defines AIS as a system that operates the functions of data collection, processing, categorizing and reporting financial events with the aim of providing relevant information for the purpose of maintaining scores, directing attention and making decisions [16].

AIS is an information system that is used to collect, record, store and process financial data to produce information (financial statements) that can assist in decision making [17]. The function of AIS in business processes, especially in the retail sector is 1) collect and store data on the activities of an organization effectively and efficiently, 2) change a data into information so that it can help management in compiling, processing, controlling, and evaluating the organization's activities, 3) there

are sufficient internal controls to secure organizational assets and data.

While the components contained in the AIS are as follows: 1) the person or operator who operates the system, 2) procedures and instructions, used to prepare, process, and store data, 3) data of an organization and its business activities, 4) software, an application used to process or process data and produce information needed by the user, 5) information technology infrastructure such as computers, enhancements (peripherals) and communication networks that can be used to collect, store, process, and send data and information to those in need, 6) internal control for storing data and information.

2.3 SCM Performance

Performance is a work of both individuals and groups that contain quality and quantity in a particular activity to obtain an achievement. While the performance of the AIS is a set of components of resources in which can be in the form of humans and other equipment that is managed to convert a financial data into financial information in helping to make decisions in SCM. The SCM performance appraisal measurement tool can be measured through the level of satisfaction of users and the use of the AIS. If the user is satisfied and produces the information needed, the performance of the AIS can be said to be good, and vice versa whereas according to [18]. SCM performance is an assessment of the use of AIS by a company for its achievements in providing financial information in accordance with specified targets [18].

3.   Research Methods

This research is the dependent variable, which is AIS performance. AIS performance is the achievement produced by the system to achieve certain objectives in producing an information that is seen through the level of user satisfaction and the use of the system that has been applied [19]. While the independent variables used in this study are the ability of AIS users, AIS user involvement, and top management support.

The population in this study are all AIS users, both employees and managers in retail companies in Central Java, where the number of minimarkets that will be investigated is 23 retail companies that have Trading Business License (SIUP) in Central Java with the number of employees being respondents

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69 employees. The data collection method used in this study is a questionnaire, namely by providing several questions which will be given to respondents (informants). Questionnaire is an efficient data collection technique to find out the measurement of variables and what is expected from respondents.

This study uses data analysis methods are 1) validity and reliability test to test the validity and reliability of the questionnaire used in research. 2) Meanwhile, to analyze the influence of factors using multiple Linear Regression using the SPSS application. The research model proposed in this study is as follows:
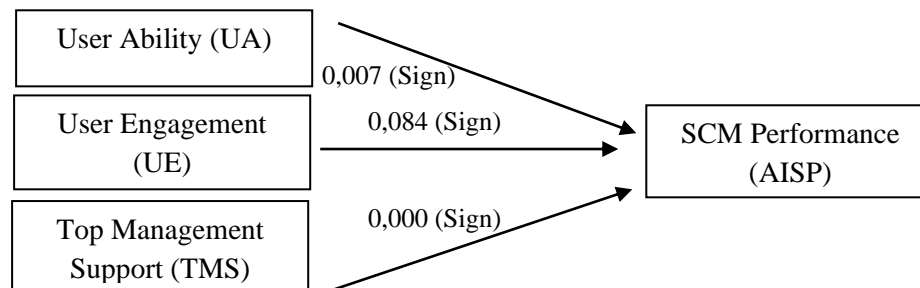

Figure 1. Research Model

4. Research Results And Discussion

4.1 Characteristics of Respondents

Respondent characteristics based on the place or name of the retail company are dominated by Indomaret as many as 30 respondents or 44% and Alfamart as many as 27 respondents or 40%, then 4 local minimarket, each of which is 3 respondents or 4%. Characteristics of respondents based on position are dominated by cashier positions, namely as many as 22 respondents or 32%, then positions of sales people as many as 19 respondents or 27%, assistant managers as many as 13 respondents or 19%, managers as many as 12 respondents or 18%, and administration as many as 3 respondents or 4 %.

4.2 Descriptive Statistics Results

Descriptive statistical results from the variable ability of users of the AIS consists of 5 indicators submitted to respondents. Overall the ability of AIS user variables has an average score of all indicators of 3,66. This means that the ability of AIS users

can be categorized well. While the AIS user involvement variable has an average score of 3,70. The score states that AIS user involvement is included in both categories. For top management support variables have an average score of 3,70. This shows that top management support variables are categorized as good. While the AIS performance variable has an average score of 3,80. This means that the performance of the AIS can be said to be good.

4.3 Results and Discussion

The Multiple Linear Regression Test is used to test the relationship of the influence of one variable on another. The results of data processing using SPSS application assistance with the following results:

Table 1. Test Results of Multiple Linear Regression Analysis

Variable	Coefisien Regretion	T count	P Value (sign)
Constant	15,814	3,061	0,003
UA	0,505	2,801	0,007*
UE	0,265	1,753	0,084**
TMS	0,451	5,185	0,000*

Information: t table ($\alpha/2= 0,025$; n-k-1= 65) = 1,997

Source: processed primary data, 2019

Based on the regression results and interpretations presented above, it can be seen that the independent variable that has the greatest regression coefficient is the AIS user ability variable with a value of 0,505 which means that the SI user ability variable has a large influence on the SCM performance variable, while the independent variable has the smallest regression coefficient is the AIS user involvement variable with a value of 0,265 which means the AIS user involvement variable has a small influence on the AIS performance variable.

− The user ability variable AIS (UA) has a value of 2,801> t table 1,997 and a sig value of 0,007 <0,05 then H_a is accepted and H_0 is rejected. This shows that the AIS user ability variable significantly influences the AIS performance variable.

− AIS user involvement variable (UE) has a value of 1,753 <t-table 1,997 and a sig value of 0,084> 0,05 then H_0 is accepted and H_a is rejected. This shows that the SI user involvement variable does not significantly influence the AIS performance variable.

− Top management support variable (TMS) has a value of 5,185> t-table 1,997 and a sig value of 0,000 <0,05 then H_a is accepted and H_0 is rejected. This shows that the top management support variable significantly influences the AIS performance variable.

Table 2. Model Goodness Test

F count	F table	P value (sign)	Keterangan
11,472	2,74	0,000	Model Fit

Source: processed primary data, 2019

Table 2 shows that the value of $F_{count}> F_{table}$ (11,427> 2,74) and the p value of 0,000 <0,05 and the Fit Model which means the regression model is said to be feasible. So in this case H_a is accepted, meaning that the AIS user ability variable, the AIS user involvement variable, and the top management support variable have a joint influence on the AIS performance variable.

Table 3. Coefficient of Determination

R	R Square (R^2)	Adjusted R Square (R^2)	Std. Error of the Estimate
0,588	0,346	0,316	3,560

Source: processed primary data, 2019

Based on Table 3 shows that the value of Adjusted R^2 is close to 1 (0 <R^2> 1) which is equal to 0,316 then based on the interpretation guidelines the regression model is considered to be quite good. In this case it means that the influence of the SI user ability variable, the SI user involvement variable, and the top management support variable on the AIS performance by 32% and the remaining 68% is influenced by other variables outside the research model.

4.4 AIS User Ability on SCM Performance

Based on the data in Table 1 and testing the hypothesis shows that hypothesis 1 is accepted, in other words the AIS user ability variable influences the AIS performance variable. Based on the results of descriptive analysis shows the largest respondent's answer lies in the first question that has the knowledge of AIS with an average score of 3,74 where no respondent answers STS choice, 1 respondent on choice TS, 21 respondents on choice N, 42 on choice S, and 5 respondents who answered the SS choice. This shows that the level of knowledge about the AIS possessed by respondents contributes the ability of SI users to have a significant influence on the performance of the SCM.

The implication of this research is that improving the performance of AIS in companies in the Central Java region can be achieved if the capabilities relating to the knowledge and skills of information system users are increasingly developed, so users feel confident and confident in operating information systems and can support quality AIS performance. This is in accordance with the theory of TAM which explains the perception of utilization, which means that the respondent is able to use the information system well so that it can

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produce a good AIS performance and the level of productivity is also getting better.

4.5 AIS User Engagement Against SCM Performance

Based on data from Table 1 and testing the hypothesis shows that hypothesis 2 is rejected, in other words the SI user involvement variable does not significantly influence the AIS performance variable. Based on the results of descriptive analysis shows the lowest respondent's answer lies in the second question that is opinion or proposal in the development of the system with an average score of 3,59 where there are 2 respondents who answered Strongly Disagree, 5 respondents answered the choice Disagree, 22 respondents on the Neutral choice , 30 respondents on Agree choice, and 10 respondents on Agree Strongly Agree. This shows that in the process of developing AIS, respondents were less involved in providing proposals or opinions, thus contributing that the involvement of AIS users had no effect on the performance of SCM. The results showed that the involvement of AIS users did not significantly influence the performance of SCM.

This result occurs because AIS users (respondents) only use the system and are less involved in developing AIS so there is little motivation to use AIS so that the performance of AIS is less than optimal. This is as explained in the TAM theory regarding interest in usage behavior which means that if an AIS user is directly involved in developing an AIS, the user will be increasingly motivated to be able to use the AIS continuously because the user feels responsible for being able to improve the AIS's performance better.

4.6 Effects of Top Management Support on AIS Performance

Based on the data in Table 1 and the hypothesis testing that has been done shows that hypothesis 3 is accepted, in other words the top management support variable significantly influences the AIS performance variable. Based on the results of descriptive analysis shows the highest respondent's answer lies in the first question that is proficient in using a computer with an average score of 3,77 where there are respondents who answered the choice strongly disagree, 4 respondents answered Disagree, 17 respondents answered Neutral, 35 respondents answered Agree, and 12 respondents

answered Strongly Agree. This shows that according to respondents the management is proficient in using AIS so as to contribute that top management's support has a significant influence on SCM performance.

The implication of this research is that improving the performance of AIS in retail companies in the Central Java region can be achieved if the application of AIS receives greater support from the top management. Top management support in this study concerns top management understanding of computer systems and their level of interest, support and appreciation, and knowledge of computerized systems. Top management support in developing and organizing AIS in the company will increase the user's desire to use the existing system and can encourage user satisfaction in using AIS. Theory of TAM explains the interest of user behavior towards technology, which in this case means the management has succeeded in providing support in the form of motivation and attention to employees to be able to use AIS in order to increase their productivity and the resulting good performance.

5. Conclusions and Recommendations

5.1 Conclusions

SCM is one of the most powerful determinants for creating competitive advantages for companies. In today competitive environment, companies strive to respond and offer its services faster to the market. Based on the analysis of the data that has been described, the following conclusions can be drawn:

1. The variable ability of AIS users significantly influences the SCM performance variable in minimarkets in the Central Java region. In other words, if the ability of AIS users is getting better, then the performance of AIS will also be better

2. The AIS user involvement variable significantly does not affect the SCM performance variable in minimarkets in the Central Java region. In other words, if the involvement of AIS users decreases, the performance of AIS will also decrease further.

3. The management support variable significantly influences the SCM performance variable in minimarkets in the Central Java region. In other words, if the top management's support is getting better, then AIS performance will also get better.

5.2 Recommendations

Based on the conclusions above, the authors provide useful advice as follows:

1. For further researchers, it is better to add interviews about the obstacles faced by AIS users, so that the discussion is more detailed.
2. The factor of user ability and management support in every retail company can be said to be good. This needs to be maintained and improved again so that the resulting AIS performance is also getting better.

The management should involve employees in the process of developing information systems so that the resulting AIS performance is getting better because it is expected that employees will continue to use AIS in completing their work.

References

[1] Grande, E. U., Estabanez, R.P., Colomina, C.M. The impact of accounting information systems (AIS) on performance measures: empirical evidence in spanish SMEs. The international journal of digital accounting research, Vol. 11, pp. 25-43. 2011.

[2] Sajady, Dastgir, M., Nejad, H.M.S. Evaluation of the effectiveness of accounting information systems. International journal of information science and technology, vol. 6, no. 2, pp. 49-59. 2008.

[3] Markus, M. L. and Pfeffer, J. Power, and the design and implementation of accounting and controlling systems. Accounting, organization and society, Vol. 8, No. 2-3, pp. 205-218. 1983.

[4] Huang, Huan-Tsae, Lee, Y. W., & Wang, R. Y. Quality information and knowledge. Prentice Hall PTR. 1999.

[5] Scapens, R., Jazayeri, M., Scapens, J. SAP: integrated information systems and the implications for management accountants. Management accounting research, vol. 76, no. 8, pp. 46-48. 1998.

[6] Scapens, R.W., Jazayeri, M. ERP systems and management accounting change: opportunities or impacts? a research note. European accounting review, vol. 12, no.1, pp. 201-233. 2003. http://dx.doi.org/10.1080/0963818031000087907

[7] Kharuddin, S., M.Z. Ashhari, & Nassir, M.A. Information system and firms' performance: the case of Malaysian small medium enterprises. International business research, vol. 3 no. 4, pp. 33. 2010.

[8] Gullkvist, B. Towards paperless accounting and auditing. E-Business Research Center, Finland. 2002.

[9] Kouser, R., Awan, A., Rana, G., & Shahzad, F. Firm size, leverage and profitability: overriding Impact of accounting information system. Journal of management and business review, vol. 1, no. 10, pp. 58-64. 2011.

[10] Ismail, N.A.; King, M. Firm performance and AIS alignment in Malaysian SME´s. International journal of accounting information systems, vol. 6, no.4, pp. 241-259. 2005. http://dx.doi.org/10.1016/j.accinf.2005.09.001

[11] Naranjo-gil, D. The Role of Sophisticated Accounting System in Strategy Management. The international journal of digital accounting research, vol. 4, no. 8, pp. 125-144. 2004. http://dx.doi.org/10.4192/1577-8517-v4_5

[12] Menachemi, N., Burkhardt, J., Schewchuk, R., Burke, D., Brooks, R.G. Hospital Information Technology and positive financial performance: a different approach to finding ROI. Journal of healthcare management, vol. 51, no. 1: 40-59. 2006.

[13] Dibrell, C.; Davis, P.S.; Craig, J. Fueling innovation through information technology in SMEs. Journal of small business management, vol. 46, no. 2, pp. 203-218. 2008. http://dx.doi.org/10.1111/j.1540-627X.2008.00240.x

[14] Powell, T.C., Dent-Micallef, A. Information technology as competitive advantage: the role of human, business and technology resources. Strategic management journal, vol. 18, no.5, pp. 375-405. 1997. http://dx.doi.org/10.1002/(SICI)1097-0266(199705)18:5<375::AID-SMJ876>3.3.CO;2-Z.

[15] Soudani, S.N. The usefulness of an accounting information system for effective organizational performance. International journal of economic and finance, vol. 4 no. 5, pp. 136-145. 2012.

[16] Boockholdt, J. Accounting information systems transaction processing and control. The Mac-Graw-Hill companies. 1999.

[17] Romney, Marshall B., Steinbart, P. J., & Cushing, E. B. Accounting Information

System. Seventh Edition, Addison-Wesley. 2015.

[18] Utami, S. C., Dewi S.P.A., dan Muhammad R.S. The Influence of Information Systems User Capability, User Engagement, and Top Management Support on Accounting Information System Performance at PT. BTPN Area Surakarta. Journal of Accounting and Information Technology Systems, Vol. 12 No. 2. 2016.

[19] Saebani, A., dan Muliawati, A.. Analysis of Factors Affecting Accounting Information System Performance. SNaPP Proceedings: Social, Economic, and Humanities ISSN: 2089-3590, Vol. 6 No. 1. 2016.

[20] Khaidir, K., & Susanti, N. Analisis Faktor-faktor Yang Mempengaruhi Kinerja Sistem Informasi Akuntansi Pada Bank Rakyat Indonesia Kantor Cabang Bengkulu. Ekombis Review, 3(2), 43103.2015.

[21] Jogiyanto, H. M. Sistem informasi keperilakuan. Yogyakarta: Andi Offset. 2007.