

The Influence of Managerial Style and Implementation of Computer-Based Accounting Information System (CBAIS) on Managerial Performance of Indonesian Sugar Industries

Asep Darmansyah^a, Tettet Fitrijanti

^a *Doctoral Student of Accounting Departement of Faculty of Economics and Business, University of Padjadjaran, Jln. Dipati Ukur 35 Bandung 40132, Indonesia*

Correspondence author : asep.darmansyah@sbm-itb.ac.id

Abstract

The purpose of this study was to find solutions for problems related to managerial style, implementation of computer-based accounting information system (CBAIS) on managerial performance of Indonesian sugar industries. This research was conducted through deductive analysis supported the phenomenon then sought evidence through empirical facts, especially about the influence of managerial style, implementation of computer-based accounting information system (CBAIS) on managerial performance of Indonesian sugar industries. This research is descriptive (explanatory research) that explain the causal relationship between certain variables through hypothesis testing. The managerial style of use management accounting information on Indonesian sugar industries is categorized tend to be interactive, which reflects the managers use accounting information management tend to involve regularly and personally the staff and subordinates in decision making activities. The application of computer-based AIS on Indonesian sugar industries is categorized moderate that indicates conditions are not classified as poor or not is also quite good. The results showed that managerial style and implementation of computer-based accounting information system (CBAIS) have a significant effect on managerial performance of Indonesian sugar industries.

Keywords : Managerial Style, Implementation, Computer Based Accounting Information System (CBAIS), Managerial Performance, Indonesian Sugar Industries

Introduction

National sugar industries are difficult to compete in the ASEAN Economic Community in 2015, particularly with Thailand, said Chairman of the Association of Indonesian Sugar Expert, Subiyono. Thailand is capable of producing 10.61 million tons of sugar per year, while Indonesia is only able to produce 2.55 million tons per year. Thailand is able to export sugar to various countries as many as eight million tonnes per year, of which 30 percent are exported to Indonesia. According to him, the consumption sugar in Indonesia around three million tons per year, while the national sugar production is only about 2,5-2,7 million tonnes per year that are still importing 300-500 thousand tons. (<http://www.pabrikgulamini.com/year-2015-sugar-national-more-difficult-compete/>).

The last few years, Indonesia is experiencing a crisis of national sugar. Sugar crisis is indicated by the amount of sugar imported mainly illegal imports. The national sugar crisis occurred because of sugar factories are currently facing various problems, one of which is low performance of sugar industries either in manufacturing or management. The poor performance of sugar industries needs the efforts to increase its. One thing that needs to address this problem is to improve management of existing sugar industries. Through this, their performance will increase and also national sugar production, so Indonesia will be able to meet the needs of domestic sugar without depend on imported sugar (Cahyadi, Nur, 2005). Therefore, it is necessary that the National Sugar Revitalization Program not only technical aspects and technological, but also need to reform managerial aspects through management aspects and accounting information system.

The accounting is information system and one of key factor affecting of the company performance. The accounting produces useful accounting information for management in decision making. With accounting information, management using accounting information to know and solve problems that can affect the performance of company, as well as to make planning and controlling of organization to achieve goals effectively and efficiently. A Manner or style of management in using accounting information and the level of implementation of accounting information system play an important role in achieving corporate goals.

Until now there hasn't been much research on aspects of management and accounting in the Indonesian sugar industries. Some researches namely research's Wichman (1984) which states that the problems in the application of accounting in the companies. Peacock (1985) concluded that the lack of accounting knowledge caused many owners of small companies failed. Low leadership's knowledge led to many small companies use of public accounting (Holmes and Nicholls (1988, 1989). In addition to consider characteristics of the SIM (Management Information System) measurement, managers must also consider their managerial style (Naranjo-Gil, David,

2010).

There is a strong belief that the traditional information systems are not appropriate for managing organizations. New innovations in information systems have been developed that focus on integrating financial and non-financial measures in order to improve the quality of information for managers. In this case, an increase in information and communication technology to deliver an organization to adopt a system of information management more innovative to improve flexibility and productivity. (Walker and Carayon, 2009; Simons, 2005; Naranjo-Gil, David, 2010). Information management system that is more innovative, namely through computer-based accounting information systems (CBAIS).

A research by Darmansyah, Asep, et al. (2014) concluded that the application of CBAIS on Indonesian sugar industries is still categorized as moderate. Meanwhile, the application of CBAIS significantly affect on quality of accounting information, and quality of accounting information is significantly influential to managerial performance of sugar industries. To win the competition in the international sugar market, according Darmansyah, Indonesian sugar industries need to have a high managerial performance. Therefore, national sugar industry revitalization program and other programs that include short, medium and long, must be accompanied by improving quality of information systems and information technology through the application of CBAIS.

1.1 Problem Formulation

The research problems can be formulated as follows:

- (1) How do managerial style of using management accounting information and application of CBAIS have positive influence on managerial performance simultaneously.
- (2) How does managerial style of using management accounting information have positive effect on managerial performance partially.
- (3) How does implementation of CBAIS have positive impact on managerial performance partially.

Literature Review

The accounting information system (AIS) includes financial accounting information system and management accounting information system. Management accounting information is output of the system of management accounting information. Managers use certain ways in using management accounting information or called the managerial style of using management accounting information. There are two manager styles : diagnostic style and interactive style (Simons, 2000).

Diagnostic style reflects monitoring of organizational outcomes to correct deviations from preset standards of performance. It emphasizes organizational monitoring and efficiency. Instead, the interactive style for managing hospital is defined as the formal information systems managers use to involve themselves regularly and personally in the decision activities of subordinates. The defining feature of interactive style is the continuous interaction and exchange of information between organizational members, across levels and functions which at the end encourages organizational learning and creative responses to environmental changes (Naranjo-Gil, David, 2010).

Managers with an interactive style will require a design of management information system (MIS) advanced to cope with uncertainty and to optimize decision-making. Managers with a more interactive style will be more inclined to use a wider management accounting information, in order to encourage participation and coordination of tasks, and vice versa, managers who adopt diagnostic style will tend to use less sophisticated MIS (Naranjo-Gil, David, 2010).

Managerial performance is defined as management know-how, which is assumed to reflect management-specific skills and knowledge, without regard to the kind of business. Several managerial functions will be included to represent the management performance of entrepreneurs, i.e. managing innovation, people-orientation in managing employees, leading change, and others (Kariv Dafna, 2008).

The research's Safar (2008), entitled: "Impact of Human Capital in Banking Performance : Analytical Study of Opinions of a Jordanian Commercial Banks 'sample', which aims to determine impact of human capital on bank performance. The results of the study revealed that the commercial management attention in achieving a successful performance, creativity and innovation are main variables, while manager knowledge is a secondary variable. Naranjo-Gil, David, (2010) produced findings are positive effect on the performance of an interactive managerial style and sophisticated management information system. The sophisticated management information system (MIS) which is supported by human resources, hardware, software, data base management, procedures and communication network technologies are very adequate in support of CBAIS, because the AIS is part of the MIS.

Hypohthesis 1 : Managerial style of using management accounting information and application of CBAIS have positive effect on managerial performance simultaneously.

Managers with a diagnostic style in using management accounting information is limited only to perform budgeting and as a mean of realization of the budget, without reference to the company's strategic objectives.

While managers with an interactive style of using management accounting information more widely as a mean of control to stimulate accountability, coordination, motivation, as a learning machine and assist management in solving problems (Albernethy dan Brownell, 1999; Naranjo dan Hartmann, 2006).

The style of using management accounting information more widely and is associated with the company's strategic objectives (interactive style) will encourage a more comprehensive work management and attention to business opportunities in the present and the future with a more thorough and accurate. Managerial aspects of the organization gets the emphasis and attention more closely and in detail so that it is possible produce more effective managerial performance in achieving corporate goals (Albernethy dan Brownell, 1999; Naranjo dan Hartmann, 2006).

Shadare, Olusevi A., (2011) investigated the influence of management style and demographic characteristics (gender, educational achievement and work experience) on managerial efficiency in work organizations in Nigeria. The adopted research design is the descriptive survey method. A set of questionnaire titled "Management style and managerial effectiveness scale (MSMES)" which was developed by Jordan (1997) was utilized for data collection. The findings revealed that management style was found to have significantly influenced on managerial efficiency.

Hyphotesis 2 : Managerial style of using management accounting information has positive impact on managerial performance partially

Accounting information systems (AIS) is a system that processes inputs into outputs used by management to achieve the goals. Inputs include data from operating activities, the process includes the collection, measurement, storage, analysis, reporting, and management of information. Outputs include various types of financial reports. (Hansen and Mowen, 2004). The development of computer-based AIS in a business organization is particularly relevant to the research Sulub, Saed Ahmed. He recommends retaining the highest levels of computerized accounting information systems through keeping up human resources, hardware and equipment, software, and developing work procedures with the development of computerized accounting information systems (2013).

Sophisticated accounting information systems need to provide a set of computers to process and store data, build a network that connects the computer to facilitate the sending of data and information, provides a set of software (software) and human resources qualified and trained to make the system ready for operation .Using the computer in the accounting information system has solved many problems faced the manual system; it reduces time and effort which are necessary for processing the operations , retrieving data plus creating a kind of self control on the input processes (Dalci & Tams : 2009).

As interesting results we have found that there is a positive relationship among the SMEs that use AIS for fiscal and bank management and better performance measures (Grande, Elena Uequia., et al. 2011). Given the increasing complexity and interdependence of managerial tasks in organizations in recent years, the role of integrative management accounting information (MAI) becomes very important for managerial performance. Integrative MAI provides managers with the information required for the effective coordination of interdependent sub-units within complex organizations. Very few studies, however, have examined the role of integrative MAI, particularly how it influences managerial performance (Salmon, Suzanne, 2013).

Makhadma's study (2007) entitled by : "impact of accounting information system on investment decisions : an applicable study on Jordanian companies", aimed at investigating the impact of accounting information system on investment decisions in area of the computerized accounting system through revising the accounting information system and showing types of investments decisions and linking between them in light of computerized accounting system. The results revealed the following factors as appropriate timing ,ability of prediction, inverse feed, honest expression, neutrality , comparative and software used in the companies affect the process of investment decisions except neutrality and comparative factors as it was found that all the qualitative characteristics of the accounting information were available in great extent in the computerized accounting information system. The study came up with some recommendations that enhance using the computerized accounting system and so the efficiency of taking investment decisions will be increased .

The study of Rahahleh& Siam(2007) entitled by: "Evaluation of Computerized Accounting Information System Effectiveness in the Jordanian Commercial Banks", aimed to evaluate the effectiveness of computerized accounting information system effectiveness in the Jordanian commercial bank under the technological development through a set of standards that reflect the efficiency of thesesystems performance represented in quality, flexibility, simplicity, and reliability, and to achieve the study's objectives , questionnaire was developed and distributed to the financial managers and the employees in the financial departments in the public management of the Jordanian commercial banks listed in Amman stock exchange . forty questionnaires out of forty five were retrieved and analyzed . the results showed the computerized accounting information system in

the Jordanian commercial banks are of a high degree of quality and reliability while their degree of flexibility and simplicity was moderate.

The study of Nofan, Hamid Mohammed Al-Oleemat, (2014) entitled by : “Impact of Computerized Accounting Information Systems’ Effectiveness in Increasing the Efficiency of Human Capital : Field Study in The Financial Department in The Public Jordanian Universities.” The study aimed to identify the positive impact of Computerized Accounting Information System’ effectiveness in increasing the efficiency of human capital in the financial departments in the public Jordanian universities. The significance of the study lies in addressing a very important issue concerning the significance of computerized accounting information system and their ability in raising the efficiency of human capital which affects positively the outputs of the computerized accounting information systems applied in the financial departments in the Jordanian public universities. The results showed positive impact of computerized accounting information system regarding factors of human capital (knowledge, creativity, skills) in the Jordanian public universities as the management of the Jordanian public universities provide the most necessary requirements to increase the efficiency of the computerized accounting system to ensure the good quality of the outcomes.

A Research by Grande, Elena Urquia; Estebanez, Raquel Perez; Colomina, Clara Munoz, (2011). The aim of this study, based on empirical evidence, to measure the relationship between the use of Accounting Information Systems (AIS) by Small and Medium Enterprises (SMEs) in Spain, and the improvement of the company's performance and productivity. The study found that there is a positive relationship between SMEs using AIS for fiscal management and banking with better performance measures.

Hypothesis 3: The use of computer-based information systems have positive influence on managerial performance

3. Methodology

3.1 Research Methods

This research is an explanatory research and applied research. Explanatory research aims to describe the relationship between two or more symptoms or variable (Leedy and Ormrod, 2005), whereas applied research emphasis on problem solving (Cooper and Schindler, 2006). The study used survey method with descriptive and verificative research conducted by cross sectional. The unit of analysis is sugar industries. The research subjects are administrators / top managers sugar industry in Indonesia. The object of study includes : The style of using of management accounting information, computer-based accounting information systems, and managerial performance.

The study population is the sugar industries in Indonesia were 58 industries/sugar mills, which consists of 53 sugar mills owned governmentand 5 sugar mills owned national privately. Most of the sugar mills in operation in Java, some scattered in the province of South Sulawesi, Gorontalo, North Sumatra, South Sumatra and Lampung. Respondents were administrators / top managers of sugar industry in Indonesia. Respondents determined as census that covers all administrators /top managers sugar industries in Indonesia.

3.2 Operationalization of Variables

3.2.1 Managerial Style Use of Management Accounting Information

Managerial style use of management accounting information is how managers use management accounting information in performing management functions. Measurement construct managerial style use of management accounting information using the references used by Albernethy, et al (1999) and Naranjo et al (2006). Operationalization and measurement of managerial style use of management accounting information listed in Table 1.

Table 1. Operationalization and Measurement of Managerial Style Use of Management Accounting Information

Variable	Dimension	Indicator	Measurement	Scale
Managerial Style Use of Management Accounting Information	Diagnostic Style	Negotiation and tolerance in goal setting	Level negotiation and tolerance in goal setting	Ordinal
		Decentralization of program and budget	Level of involvement and lower managers flexibility in programming and budgeting	Ordinal
	Interactive Style	Communication methods of vision and mission of the organization	Availability medium to deliver the vision and mission of the organization to lower management	Ordinal
		The use of non-financial performance measures	Availability of non-financial performance measures	Ordinal

3.2.2 Computer Based Accounting Information Systems (AIS)

Computer-based AIS is AIS that using thr computers with other supporting factors that enable information system run more modern and sophisticated. Measurement construct this variable using the concepts put forward by Sead, (2009) and Susanto, Azhar (2013). Operationalization and measurement of computer-based AIS listed in Table 2.

Table 2 Operationalization and Measurement of Computer Based Accounting Information Systems (AIS)

Variable	Dimension	Indicator	Measurement	Scale
Computer Based Accounting information systems (AIS)	manual	Hardware and software	The type and power of work	Ordinal
		Brain ware	Level of education and work experience	Ordinal
		Procedure	Efficiency and effectiveness	Ordinal
	computerization	Database and database management	Completeness and data security	Ordinal
		Network communication technology	Extent / scope of the communication network	Ordinal

3.2.3 Managerial Performance

Managerial performance is a measure of effectiveness and efficiency of managers that reflect the level of knowledge and expertise of managers in managing employees and other organizational resources to achieve organizational goals. Operationalization and measurement variables of managerial performance is listed in Table 3.

Table 3. Operationalization and Measurement Variable Managerial Performance

Variable	Dimension	Indicator	Measurement	Scale
Managerial Performance	Managerial Performance	Planning	- Work program - Realization of work	Ordinal
		Organizing	- Division of tasks / jobs - Work relationship - Work facilities	Ordinal
		Supervision	- Implementation of work - Complaints of work	Ordinal
		Coordinating	- Coordination with other managers that same level - Coordination with subordinate	Ordinal
		Controlling	- Use of resources - Provision of sanctions or rewards	Ordinal
		Representation	- Communication with public	Ordinal
		Investigation	- Measurement results of the work	Ordinal
		Valuation	- Staff / employee - Financial statements	Ordinal

3.3 Data Collection Technique

The data consist of primary and secondary data. Primary data were obtained directly from respondents through questionnaires to each sugar mill head office via electronic mail and via postal mail. Secondary data were obtained from the Central Bureau of Statistics, literature and publications on the internet. A total of 58 questionnaires distributed to 58 sugar mills offices in Indonesia, only 38 questionnaires returned or the rate of return as much as 65.52%.

3.4 Data Analysis Technique

Data analysis was performed through descriptive statistics and inferential statistical analysis. Descriptive statistical analysis used to determine the state of managerial style of use management accounting information, the application of computer-based accounting information system and managerial performance Indonesian sugar industries. Inferential statistical analysis using path analysis to test the research hypothesis. Inferential statistical analysis using SPSS for Windows 20.00. The structure in the research variables are described as follows.

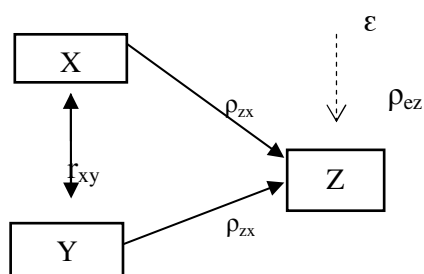


Figure 1. Flowchart of Research

Where :

X : Managerial style of use management accounting information

Y : Computer-based AIS

Z : Managerial Performance

ε : Other variables that are not included in this study

ρ_{zx} : Path coefficient from X to Z

ρ_{zy} : Path coefficient from Y to Z

ρ_{ze} : Path coefficient of ε to Z

While the form of the equation for the path diagram above is :

$$Z = \rho_{zx} X + \rho_{zy} Y + \rho_{ze} \varepsilon$$

4. Result and Discussion

Table 4. Age of Respondents

No	Age (year)	f	%
1	< 30	3	7,89
2	31-40	11	28,95
3	41-50	15	39,48
4	51-60	8	21,05
5	> 61	1	2,63
	Total	38	100,00

Based on the table 4 above shows that age of respondents ranged from 39 to 62 years, mostly aged between 41-50 years is 15 people (39.48%), and at least of them more than 61 years old that is 1 person (2.63%) . From the above data shows that the manager / administrator of the sugar industries in Indonesia are mostly classified as productive age. Thus the manager has great potential to work productively.

Table 5 shows that the lowest educational level of the manager / administrator Indonesian sugar industries is the baccalaureate, and the highest is the graduate degree.

Table 5. Respondents Education

No	Education	F	%
1	Baccalaureate	1	2,63
2	Graduate Degree	35	92,10
3	Master	2	5,27
	Total	38	100,00

Besides formal education, the respondents have also non-formal education in the form of training that includes training in management / leadership, accounting and finance, and the other as shown in Table 6.

Table 6. Type of Training Affiliated Respondents

No	Types of training	F	Total	%
1	Management and leadership	38	38	100,00
2	Accounting and finance	22	38	57,89
3	Others	9	38	23,68

Based on the table above shows that the type of management and leadership training has been followed by all 38 respondents, or 100%. Accounting and finance training followed by 22 respondents or almost 58%, and other training followed by 9 respondents or approximately 24%. It can be concluded that all managers never get management training and leadership, and only some managers who had received training and financial accounting.

The state of the respondents according to work experience are presented in Table 7.

Table 7. Work Experience as Manager

No	Duration of work (year)	F	%
1	< 5	6	15,79
2	6-10	26	68,42
3	11-15	4	10,53
4	16-20	2	5,26
	Total	38	100,00

Based on the table above shows that of the 38 respondents, most or approximately 84% of managers have work experience as a manager / administrator in the sugar industry for 6 years and over, and only about 16% have less than 5 years working experience.

4.2 Descriptive Analysis

Descriptive analysis is done by presenting the frequency distribution table of respondents who constitute the study variables. From the table it can be obtained the value of the total score for each variable and its category.

4.2.1 Variable X (Managerial Style of Use Management Accounting Information)

The manager/administrator of Indonesian sugar industries is in the category of managerial styles inclined interactive with an actual score of 1,271 and expected score of 1,672. The managerial style that inclined interactive shows that managers of Indonesian sugar industries have a tendency to use management accounting information as a strategic management tool, but not in total and routine. In other words most of the issues related to decision-making leads to a continuous improvement in the long term, and a small portion is oriented short-term operational efficiency.

Based on the profile of the respondents previously, the emergence of a managerial style that inclined interactive closely related to the profile manager in which more than 95% of them have university degrees education level and above, 100% had received training manajemen / leadership and more than 80% of them have managerial experience of more than 6 years as manager. However, managerial style is not entirely within the ideal criteria interactive style. For that there are managerial aspects that still need to be upgraded so that the increased managerial style into a fully interactive style.

4.2.2 Variable Y (Application of Computer-Based Accounting Information Systems)

The result shows that category of the application of computer-based accounting information systems is the medium category with actual score of 856 and ideal score of 1,216. This category indicates that factors supporting the implementation of computer-based AIS has not been applied in appropriate conditions. Computer hardware and software that is used is still old type with a slow strength. Although there is a small part of sugar industries have used the latest computers and software, but human resources still do not have sufficient expertise to operate the latest them. Procedures, database management systems and network communication technology is also still limited and simple.

4.2.3 Variable Z (Managerial Performance)

The performance of managerial Indonesian sugar industries in the medium category with actual score of 1,858 and expected score of 2,432. This category due to the overall aspect of managerial performance is not optimal applied, especially the weakest aspect is the control and assessment of employee performance. The result of this study are still better than the research Cahyadi, Nur (2005) which states that the performance of managerial several sugar industries, namely performance Candi Baru is at 12.99%, Lestari 14.79%, and Ngadirejo 12:14%, so it can be stated that the performance of three sugar industries are less good.

4.3 Inferential Analysis

4.3.1 Simultaneously Effect of Managerial Style of Use Management Accounting Information and Application of Computer-Based AIS to Managerial Performance of Indonesian Sugar Industries

- H_0 : Managerial style of use management accounting information and application of computer-based AIS have no effect on managerial performance Indonesian sugar industries ($H_0 = \rho_{zxy} = 0$).
- H_1 : Managerial style of use management accounting information and application of computer-based AIS positive effect on managerial performance Indonesian sugar industries ($H_1 = \rho_{zxy} > 0$).

Table 8. Magnitude Coefficient Line

Variable	Path coefficient
Managerial style use of management accounting information (X) on managerial performance Indonesian sugar industries (Z)	0,433
Application of computer-based AIS (Y) on managerial performance Indonesian sugar industry (Z)	0,509
ϵ	0,362

Based on the Table 8 above, obtained equation model lines as follows:

$$Z = 0,433 X + 0,509 Y + 0,362$$

Table 9. Effect of Managerial Style of Use Management Accounting Information and Application of Computer-Based AIS on Managerial Performance Indonesian Sugar Industries

Alternative hypothesis	F Calculate	Df	F Tabel	Decision	Conclusion	R	R ²
X and Y simultaneously positive effect on Z	30.878	db ₁ = 2	4.115	H_0 rejected	Significant	0.799	0.638
		db ₂ = 35					

From the above table, managerial style of use management accounting information and application of computers-based AIS simultaneously have a positive and significant impact on managerial performance. It is showed that value of F calculate (30.878) > F table (4.115). The magnitude of the effect simultaneously managerial style of use management accounting information and application of computer-based AIS on managerial performance Indonesian sugar industry amounted to 63.8%. Based on these results as well, the above equation model is proper used to predict the performance of managerial Indonesian sugar industries through managerial style of use management accounting information and computer-based AIS. Any increase in the managerial style of use management accounting information (X) of an unit will improve managerial performance (Z) of 0.433 units, and any increase in the application computer-based of AIS (Y) of an unit will improve managerial performance (Z) amounted to 0,509 units. So that together each increase of one unit of the two variables would improve managerial performance by 0.942 units. In addition, the influence of changes of both of them together on managerial performance is equal to 63.8% is adequate and can be used as a reference for improving managerial performance, and only 36,2% which is determined by other factors outside the model.

4.3.2 Partially Effect of Managerial Style of Use Management Accounting Information on Managerial Performance of Indonesia Sugar Industry

- H_0 : The managerial style of use management accounting information has no effect on the managerial performance of Indonesian sugar industries ($H_0 = \rho_{zx} = 0$).
- H_1 : The managerial style of use management accounting information has positive influence on managerial performance of Indonesian sugar industries ($H_1 = \rho_{zx} > 0$).

Tabel 10. The Effect of Managerial Style Using Management Accounting Information on Managerial Performance of Indonesia Sugar Industries

Alternative hypothesis	t calculate	Df	t table	Decision	Conclusion
X is partially positive effect on Z	3.845	df = 35	1.691	H ₀ rejected	Significant

Table 10 indicates that at the level of 5% with $df = nk-1 = 35$, $t_{table} = 1.691$ and obtained $t_{calculate} (3.845) > t_{table} (1.691)$, so that partially the managerial style of use management accounting information has positive and significant effect on the managerial performance. The style of use management accounting information is closely related to level of knowledge and expertise as well as managerial experience as managers. The Manager who has knowledge, expertise and adequate managerial experience will not use management accounting information only as a planning tool and operational control, but more than that will use it as a strategic management tool, or it is interactively managerial style. To encourage the improvement of managerial style to be the interactive style need to increase knowledge, insight, expertise of managers.

4.3.3 Partially Effect of Implementation of Computer-Based AIS on Managerial Performance of Indonesia Sugar Industries

- H₀: The application of computer-based AIS has no effect on managerial performance of Indonesian sugar industries ($H_0 = \rho_{zy} = 0$).
- H₁: The application of computer-based AIS has positive effect on managerial performance of Indonesian sugar industries ($H_1 = \rho_{zy} > 0$).

Tabel 11. The Effect of Application of Computer Based AIS on Managerial Performance of Indonesian Sugar Industries

Alternative hypothesis	t calculate	Df	t table	Decision	Conclusion
Y is partially positive effect on Z	4.518	df = 35	1.691	H ₀ rejected	Significant

Table 11 indicates that at the level of 5% with $dk = nk-1 = 35$, $t_{table} = 1.691$ and obtained $t_{value} (4.518) > t_{table} (1.691)$, so that partially the implementation of computer-based AIS has positive and significant effect on the performance of managerial. The implementation of computer-based AIS on Indonesian sugar industries is still medium categorized, so it is still open opportunity to improve managerial performance of sugar industry of Indonesia by enhancing quality of the factors supporting the implementation of the computer-based AIS.

4.3.4 The Contributions of Managerial Style of Use Management Accounting Information and Application of Computer-Based AIS on Managerial Performance

Tabel 12. The Contributions of Managerial Style of Use Management Accounting Information and Application of Computer-Based AIS on Managerial Performance of Indonesian Sugar Industries

Direct Impact	Effect of Indirect, through			Total
	X	Y	sub-Total	
X	18,79%	-	9,54%	28,3%
Y	25,95%	9,54%	-	35,5%
Influence variables X and Y				63,8%
The influence of external variables (ϵ)				36,2%
Total				100,0%

Table 12 shows that the managerial style of use management accounting information affects directly and indirectly on managerial performance by 28.3%. The application of computer-based AIS impact directly and indirectly on managerial performance by 35.5%. The total effect of managerial style of use management accounting information and the application of computer-based AIS on managerial performance amounted to 63.8%, and remaining of 36.2% are influenced by other variables not included in the model. The table indicates also that variable which has the greatest influence on managerial performance is the application of computer-based AIS.

5. Conclusions

Based on the results of research and discussion those have been described, some things can be summarized as follows:

- (1) The managerial style of use management accounting information on Indonesian sugar industries is categorized tend to be interactive, which reflects the managers use accounting information management tend to involve regularly and personally the staff and subordinates in decision making activities. The managers also tend to use management accounting information as a tool of strategic management to ensure continuous improvement in the long term.
- (2) The application of computer-based AIS on Indonesian sugar industries is categorized moderate that indicates conditions are not classified as poor or not is also quite good. This is because the Indonesian sugar industries still use outdated components AIS.
- (3) The managerial performance of Indonesian sugar industries is medium category. This shows not maximal knowledge and expertise of managers in managing employees and other resources of organizations to achieve organizational goals efficiently and effectively.
- (4) Simultaneously, the managerial style of use management accounting information and application of computer-based AIS have positive and significant impact on managerial performance of Indonesian sugar industries. The magnitude of the effect simultaneous of them on managerial performance of Indonesian sugar industries amounted to 63.8%.
- (5) Partially, the managerial style of use management accounting information has positive and significant effect on managerial performance of Indonesian sugar industries. Influence directly and indirectly managerial style of use management accounting information on managerial performance of Indonesian sugar industries amounted to 28.3%.
- (6) Partially, the implementation of computer-based AIS have a significant positive effect on managerial performance of Indonesian sugar industries. Influence directly and indirectly the application of computer-based AIS on managerial performance of Indonesian sugar industries by 35.5%.
- (7) The variable which the greatest influence on managerial performance is the application of computer-based AIS.

6. Recommendations

- (1) Encourage the improvement of managerial performance of Indonesian sugar industries through managerial aspects, the managers of Indonesian sugar industries should use an interactive style of use management accounting information. Therefore it is necessary to increase knowledge and expertise of managers through training management and leadership held on an ongoing basis.
- (2) Improve quality of the application of computer-based AIS through improving quality of factors namely hardware, software, brain ware, database management, procedures and communication network technologies, with emphasis on brain ware and network communication technology. Improving quality of brain ware done through personnel training in understanding and expertise the use of computer-based AIS as good and right in order to create a system harmonization. While the improvement of network technology communication is done through the development of on-line information system that links information between locations (plant and / or plantation) with headquarters, or between units in one location of industry.
- (3) In case of limited available resources, the national sugar industry revitalization program should give priority to develop a program of computer-based AIS rather than increase a managerial style.
- (4) The need to study further by adding other variables in the path equation model that will provide additional influence on managerial performance of Indonesian sugar industries.

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