Financial Management Information System: An Empirical Evidence

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Abstract:

This study aims to determine the factors that affect the effectiveness of financial information systems implemented by private universities in the educational process, through the dimensions of manager role, knowledge manager, and technological sophistication.

The research uses quantitative and descriptive approaches. The population in this study is Private Universities in Cimahi, Indonesia. Testing of research data is done through validity test with Rank Spearman correlation coefficient and reliability test with Cronbach Alpha coefficient. Meanwhile, to analyze the data multiple descriptive regression analysis (multiple regression analysis) is used.

The results showed what has been done then it concluded that the role of managers, knowledge owned by managers and the sophistication of information technology owned by private universities can affected the performance of the university. The role of manager and the technological sophistication significantly influence the effectiveness of financial information systems while managers' knowledge has no significant effect.

The most important recommendation of this research is the importance of reconsidering the selection of technical specifications that meet the needs of more and more data in addition to ongoing training for financial managers.

Keywords: Role of manager, knowledge manager, technological sophistication, financial management information system, private university, Indonesia.

JEL Classification: D80, D83.

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1. Introduction

Higher education governance is a highly relevant issue for the protection of human rights, democracy and the rule of law. According to the fundamental ideas and assumptions of reform thinking, universities and colleges must be externally controlled, their activities should be formally evaluated, they must be responsible for their performance, they must be controlled by market forces and not by the government or the State. Management must be run by professional leaders and managers. Effective governance is a blend of authority and harmonious authority and a balanced balance of trust and control where democratic, autocratic management styles and laissez faire are handled according to the needs of society and within the limits of the law.

As demand for higher education continues to grow and as governments recognize the existence of universities as well as their role in promoting economic development, it becomes increasingly important to ensure that higher education systems are managed in an effective way. The higher education system is also increasingly more complex due to the growing number of public and private institutions so that its task of managing and monitoring the sector becomes more specialized. The tertiary education system appears to be eliminated due to the growing number of institutions, to the inevitable rise in participation rates (and the demand for this is for continue in the context of knowledge economy). In parallel, it is recognized that the state is not the best mediator of how private universities should operate.

The quality of the education system in Indonesia should be improved so that the quality of education will be more qualified by producing graduates who are able to face the developments in the new era. Higher education is a continuation of secondary education held to prepare learners to become members of the community who have academic and professional ability that can apply, develop, and create science, technology, and art. The role of universities as a place for the intellectual life of the nation becomes an increasingly important need in society.

The fact that the quality of education in Indonesia is still low, is seen from the low order of the best universities in the world and the high levels of unemployment among graduates in Indonesia. One of the efforts to improve the quality of education is by applying good governance in universities or good university governance (GUG). Simply GUG is the application of the basic principles of the concept of "good governance" in universities by applying the values on educational development, academic scholarship, and human development as a whole.

The law of the national education system provides that the management of higher education in Indonesia may be managed by foreign parties. This condition causes intense competition among higher education managers to compete in Indonesia. Some private universities experienced a decrease in the number of enthusiasts who

culminated in financial problems and ended with the closure of the private university. Quality in relevance to improve the competitiveness of college graduates is a must. The role of universities in preparing the nation's competitiveness through the era of global competition is an emergency. In general, the quality of higher education in disadvantaged or alienated countries, is still out of the social and economic needs as well as the cultural needs of the society. The problem of college quality is only a symptom that needs to be thoroughly studied to get the root of the problem.

Factors related to the quality of the relevance of education at universities, related to aspects of the system and resources, are human resources (faculty and staff), infrastructure, and financial resources. In private university management, there is a trade-off between the increasing number of students, the cost of education, and the quality of education. The lower the quality of education, will lead to the decrease in the number of students and eventually the smaller financial resources owned. The smaller the financial resources owned the smaller the quality of education of a private university. If this happens, it will result in the worsening of education in private universities.

The development of the era of globalization and advancement of information technology today makes the level of competition in the world getting higher (Raymond, 1990). Effective management system will cause university to become a leader in the competition of education industry. The successful implementation of the management system, including financial governance, is influenced by many things and can be grouped into two main aspects, namely aspects of personnel and system aspects. In-depth assessment of the role of both aspects of successful implementation of good financial governance in the private university needs to be done.

One that can support the aspect in supporting the financial management of the organization (in this case private universities) is the utilization of information technology (Susanto, 2008). Private universities which mastered information technology will be able to improve its competitiveness. The more sophisticated the information technology, the faster and more complete the information that can be achieved. However, advanced information technology is not accompanied by management participation and managerial capabilities in management, utilization, and results of information technology in an effort to improve the optimal competitiveness.

The development of the era of globalization and the advancement of information technology today makes the level of competition getting higher (Raymond, 1990). The knowledge management scorecard is used to evaluate and assess whether the management of higher education has been well managed (Hartikayanti, 2014). With the use of this software, the university manager will be able to take immediate action if objectives are not met. The exchange of information between managers from

various work units can be done using this program. Thus, learning about the effective management of the university will be easily communicated between managers. One part of the knowledge management scorecard is measuring the achievement of financial goals. Information about finance resulted from the financial accounting information system of a university. Nurluoz and Birol (2011) disclosed that the use of knowledge management in an organization will help in improving the effectiveness of organizational management.

Referring to the development of its financial performance, many private universities that have not met expectations with indicators of infrastructure facilities owned still lack sufficient needs. Meeting the needs of these infrastructure facilities requires information financial accuracy generated by the accounting information system. Indivati and Nuyman (2015) stated that management information systems has not been effective to support the performance of lecturers. The application of good financial governance to private universities is one of the things that need to be considered well.

Internal funding and governance are key components of the strategic private college steering capacity (World Bank, 2016). Due to changes in the funding model and the governance approach at the system level, various developments within the institution can be observed for both areas in the recent past. In many countries, among them mostly Europeans, there is a general shift toward an output-oriented steering approach supported by increased institutional autonomy. Institutions respond to this new approach by adjusting their internal funding models and governance arrangements. Regardless of the differences between countries and institutions related to their history and characteristics, a more general line of development can be identified - as are good practices on how institutions can react to emerging challenges.

Private universities are expected to meet policy objectives in a cost-effective way across the European higher education system. Since the internal allocation model is designed to provide incentives for revenue growth and cost control, set targets, and fund strategic priorities, they play a key role in the efforts of private universities to meet these expectations. A well-functioning internal funding model can be tailored to external revenue streams and reflects national goals, thereby increasing incentive compatibility between institutional direction and policy objectives. Therefore, system-level funding, especially performance-based funds, has been considered an important force in shaping the internal allocation model of private universities (World Bank, 2016).

2. Literature Review

In order to realize good university governance, things that challenge private universities include how to grow new sources of productive funding, financial governance, greater freedom in formulating curricula, other matters related to the academic field, public accountability and so on. New ideas began to emerge as to how the concept of organizing a college institution is considered ideal enough to face these new challenges. The concept, regardless of its form, should pay attention to the involvement and fulfillment of the needs of all stakeholders associated with higher education institutions, given the ideal role of higher education for a nation that is vital in spawning its best sons and noting that the college environment is a relative community critical to the problems surrounding. The management of the college fund must be followed by an overall budget transparency to the public based on the principles of fairness, accountability, and honesty as described in the Law on National Education System No. 12/2012. The principle of accountability and transparency is the basic principle to bring a college towards good governance. Understanding the basic principles of GUG will spur the search for the best form of a college closest to the academic community.

The specialty of higher education institutions than any other institution lies in its basic functions, namely in terms of education, instruction, and discovery or innovation. These functions define the role of universities in society. Discourse which often raised in the implementation of higher education is about academic excellence and management of universities, including terms of financing.

There is a general understanding or agreement about the importance of autonomy in achieving academic excellence (i.e. in terms of teaching and research) for universities, but the same is not true in terms of managerial and financing issues. Differences in this view are usually related to the importance of high-performance for the community and the high cost of organizing higher education. The current trend, the high cost of higher education is usually considered to burden the state and the society so that universities are considered better trying to find sources of self-financing.

Good University Governance is a concept that is currently being mainstream in the implementation of universities is the concept of good university governance. This concept is actually derived from a more general concept of governance, namely good governance. Governance is the whole set of decision-making processes/policies and the whole set of processes in which the decision is implemented or not. Good governance requires eight common characteristics, namely participation, consensus orientation, accountability, transparency, responsiveness, effective and efficient, equity and inclusiveness, and law enforcement (Sulistiana *et al.*, 2018; Denisova *et al.*, 2017).

The effectiveness of organizational management is seen as a qualified success in accordance with the desired expectations. To achieve these successes many parties use the means of information technology to produce information. Information and communication technology is seen as something that can lift the image of the nation, the countries in the world are vying to advance the technology, information, and communication (Jones *et al.*, 2017). Information technology is a technology used to

process data including processing, obtaining, compiling, storing, and manipulating data in various ways to produce quality information. Relevant, accurate, and timely information that is used for personal, business, and governance is a strategic information for decision making (Nurluoz and Birol, 2011; Hawajreh and Sharabati, 2012; Allahawiah *et al.*, 2013; Al-Mamary *et al.*, 2014; Vahid and Mohammadrahim, 2015).

The effectiveness of information systems can be seen from the nature of the information generated with the characteristics presented at the right time, easy to understand, precise format, consistent and in accordance with needs (Onaolapo and Odetayo, 2012). This is also supported by the results of research which state that the utilization of information technology will be able to support the effectiveness of business management (Harash *et al.*, 2014). Utilization of technology in universities is also indicated useful in supporting the management of universities (Al-Mobaideen *et al.*, 2012).

Effectiveness is always associated with the relationship between the expected results and the results achieved. Effectiveness can be seen from different viewpoints and can be assessed in various ways and closely related to efficiency. Characteristics of effective information systems can be seen from data security, time (speed and accuracy), accuracy, a variation of report/output, and its relevance to user needs (Susanto, 2008). Implementation of information systems will be highly dependent on user satisfaction (Hartikayanti, 2011).

Ratnaningsih and Suaryana (2014) reveals that the sophistication of information technology, management participation, and accounting knowledge manager gives a positive and significant influence on the effectiveness of accounting information systems. Ratnaningsih and Suaryana (2014) also provides evidence that private universities with advanced information technology, management participation, and high manager knowledge can improve the effectiveness of corporate information systems.

The complexity of the accounting information system process requires the experience of a financial manager in AIS and training in AIS, both of which are user related constructs that determine the successful application of accounting information systems (Sabherwal *et al.*, 2006; Fitriati and Mulyani, 2015). Training and education of developers, managers, and users of accounting information systems (training and education developers, owners and users) is a critical determinant of the successful application of accounting information systems in the company, because the complexity of accounting information systems and diverse financial transactions that occur in all parts of the company requires careful and continuous management, in order to produce valid financial statements (Onaolapo and Odetayo, 2012; Hla and Teru, 2015; Iskandar, 2015).

On the other hand, the knowledge of accounting managers and manager participation in the implementation and development of accounting information systems has a strong relationship with the effectiveness of accounting information systems (Hartikayanti *et al.*, 2018; Vahid and Mohammadrahim, 2015; Nurluoz and Birol, 2011). Knowledge of accounting managers influences accounting information systems and gives a significant impact on the quality of information (Sabherwal *et al.*, 2006; Allahawiah *et al.*, 2013). Companies that use accounting information systems can effectively benefit from the opportunity to do things first (faster), more correctly (effectively) and cheaper (efficient) than their competitors (Hawajreh and Sharabati, 2012).

Good organizational management may not work if the managers do not contribute to the organization's operations. Managers should provide high support for any activities undertaken by the organization. Gilbert *et al.* (2009) states that the role or participation of management will be seen when the person performs management functions in planning, organizing, implementing, and controlling.

Manager's basic skills in business management to effectively manage and motivate his team. The main role of a manager is to lead, motivate, and encourage employees to work together in achieving organizational goals. To achieve goals, managers must plan, organize, and control available resources including human resources. For this a manager needs to have certain skills and qualities, so he is able to do his job with his best ability. Some of the skills that managers must possess are interpersonal skills, communication, decision making, and leadership skills and technical skills (Gilbert *et al.*, 2009; Ghosh and Das, 2015; Tache *et al.*, 2017).

A manager must be able to handle problems and work with people of different temperaments, backgrounds, and educational qualifications (Sabherwal *et al.*, 2006). He must be well aware of what can motivate his team members to be the best in themselves. A manager must be good at building relationships with his subordinates and being fair to them, so there is no feeling of pain among team members. A manager must have good team-building skills as well. It is important that a manager has good communication skills. A manager who is a good communicator can very well explain the vision and strategy for his team. Good communication skills are crucial to the function of streamlining their work teams and assisting in decision making as well. As a communicator, a manager must be a good listener as well. He must respect the point of view and opinion of his subordinates. Strong communication skills can help in building long-term relationships with team members, will also be appreciated and trusted by his subordinates.

The role of a manager is necessary to make the right decisions every day. Therefore he must be a fast, excellent thinker in the logical and critical thinking skills to solve problems and make profitable decisions (Hartikayanti, 2012). In a critical situation, a manager must know how to stay calm, so that he is able to make the most appropriate decisions. Leadership skills are a must for all managers. A leader is a

person who can motivate, guide, and lead his team members, providing them with the right resources to achieve their goals. A leader recognizes the strengths and weaknesses of team members and allocates tasks that are appropriate to them. A good leader is the one who empowers his team members to act independently if the situation demands. A manager must have all the leadership skills to be successful.

With regard to funding, it reads that universities can obtain funding sources from communities whose management is based on the principle of public accountability. Higher education, such as primary and secondary education, according to the National Education System Law, education is a shared responsibility between the government, parents and the community. This means that the public has the right to establish and manage high education according to the prevailing laws and regulations.

Traditionally, the role of university institutions focuses on the transfer or conservation of knowledge and is expected to be a community that holds values that are considered ideal or upheld by a nation. It is also expected to become a community which capable in protecting itself from environmental values that may be corrupt. This is what underlies the need for independence status or college autonomy. In addition, a freedom or independence is also required to support the realization of innovation or the development of thought and science. The freedom also then touched the individuals included in the community, because in essence, innovation and thought were not produced by the institution, but by the individuals in it (Fielden, 2008; Zaman, 2015).

The output of universities is expected to be not only qualified and ready-to-work human resources, but more than that, being the nation's agents capable of managing and directing changes in the nation. On the basis of such a goal, the management of a university institution cannot be equated with the management of a country or a corporation. There are certain corridors related to values, both in terms of academic and social values that must be maintained within them. While other things in the implementation should be placed as a means or tool to support the achievement of these basic goals. In addition to the shift from centralization to decentralization which brings many changes as well as how to improve the quality of human resources in the face of free competition of the 21st century.

3. Methods

The research uses quantitative and descriptive approach. The population in this study is Private Universities in Cimahi, Indonesia. Respondents in this study are the managers at the top level to middle management who interact directly in the utilization of information technology and private finance problems totaling 83 people. Testing of research data is done through validity test with Rank Spearman correlation coefficient and reliability test with Cronbach Alpha coefficient while to

analyze the data multiple regression analysis is used. Hypothesis testing is done by t test.

4. Results and Discussion

Based on the empirical study we have contacted Table 1 presents the multiple regression coefficients.

Table 1. Multiple Regression Test Results

7 4.	ts Co Error 373 160		.111 .	Sig. 912
7 4.	373		.111 .	912
2 .1	160	272 3	270	001
	100	.212 3.	.319 .	001
4 .1	196	.053	686 .	495
5 .1	117	.631 8.	.500 .	000
	5 .	5 .117	5 .117 .631 8	

Based on the above, we have obtained the regression equation as follows:

$$Y = -0.487 + 0.542X_1 + 0.134X_2 + 0.995X_3$$

It means that there is a positive relationship of manager role variable, knowledge manager, and information technology sophistication with effectiveness of information system. To know the relationship simultaneously between manager role variables, knowledge manager, technology sophistication with effectiveness of information system we have used ANOVA analysis as follows in Table 2:

Table 2. ANOVA Analysis

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	5874.834	3	1958.278	62.224	.000b
Residual	2486.226	79	31.471		
Total	8361.060	82			

a. Dependent Variable: effectiveness of financial information system,

The coefficient of determination is high as shown in Table 3.

Table 3. Determination Coefficient Test Results

Model Summary ^b								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson			
1	.838a	.703	.691	5.610	1.526			

a. Predictors: (Constant), Role of manager, knowledge manager, technological sophistication b. Dependent Variable: effectiveness of financial information system,

b. Predictors: (Constant), Role of manager, knowledge manager, technological sophistication

Based on the above Tables, it can be concluded that the effectiveness of financial information systems is influenced by the role of managers, management knowledge and technological sophistication, although knowledge owned by managers/financial managers have no significant effect.

The management of an institution, whether business or non-business requires leaders of institutions to become centers of power that motivate and encourage their subordinates to work in accordance with the duties and functions imposed upon them. The level of support provided by top management for an organizational information system can become a very important factor in determining the success of all activities related to the information system.

This means that almost all of the private universities role of managers, in this case, the private universities managers, are less able to perform their role in the utilization of IT in finance. Often the operators of the private universities finance management perform the work only on a routine basis without a return directive from their superiors. So, in the application of IT-based financial management model in the next year's research period should be given insight to the private universities managers to be able to provide direction in optimizing the use of IT in finance.

Presentation of effective financial information must meet the process of data processing and presentation of the information completely. To know the exact process of data processing and presentation of complete information will require adequate knowledge as well. This knowledge will be more precisely known in advance by the superiors who then provide precise and complete directions to subordinates as operators who for the next will be periodically presented in a manner relatively similar to the previous directives.

Unlike the conditions in the manager role indicator, the average manager, average knowledge of best value is only in the working experience factor and understanding of rules and procedures. While in other factors the highest average score only reaches a score of four. This again shows the operator's habits become a very important role in the management of financial data, while other factors are not too concerned, except when there is a mutation of employees in the field of a financial manager, the knowledge, and training factors will be absolutely necessary.

Financial management in a university both public universities and private universities at this time is generally assisted information technology with a variety of software purchased or built alone. The use of information technology in supporting the information system has an effect on almost every aspect of business management, including management. Trust is required by users of information systems technology so that users feel that the information system technology applied can improve individual performance in running activities within the company, especially universities.

In line with Hartikayanti *et al.* (2018) that the sophistication of technology in the present has a rapid development even able to produce a wide range of technology systems designed to assist human work in producing the best quality information. The diversity of technologies makes it easy for users to implement. Universities that have advanced information technology (computerized and integrated) and supported by modern technology support applications are expected to have a positive impact on the company's performance by producing timely, accurate, and reliable financial reports. Some research on the implementation of previous information systems that have been done by some researchers found a positive and significant relationship between the influence of information technology sophistication on the alignment or conformity of information technology with business strategy.

As stated in the previous paragraph, the hardware condition is considered to be in sufficient condition, while the condition of software and databases that still need to be corrected related to information system response which is considered still less quickly because the software is too heavy or inadequate database capacity. Submission of hardware specifications in the future will depend on the development of each private university that will affect the data development. The effectiveness of financial information systems will depend on the satisfaction of users of information in the environment of an organization. While the diversity of information will depend on the diversity of dynamics of academic atmosphere in each private universities environment. Based on the above analyses it appears and it can be assumed that there is a positive relationship between manager's role, knowledge manager, and information technology sophistication with the effectiveness of information system.

5. Conclusions

Based on the results of data analysis research that has been done it can be concluded that the role of managers, knowledge owned by managers and the sophistication of information technology owned by private universities can be characterized in good condition. Partially the role of manager and technological sophistication significantly influence the effectiveness of financial information systems while knowledge managers have no significant effect. The role of managers, knowledge managers, and technological sophistication affect the effectiveness of financial information systems in private universities.

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