

# Integration of accounting information systems, accounting & control systems organizational performance (Empirical Study On Companies In Indonesian Stock Exchange)

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**Abstract-** *The aim of this research is to investigate the influence between accounting information system integration and organizational performance that was test through accounting system control as variable intervening. The research respondents were 447 companies that listed in Indonesian Stock Exchange. Data gathering used census method about 179 respondents were returned and 176 respondents complete that used in data analysis. Data analysis used Structural Equation Model (SEM) by using Warp PLS 3.0. theory for this research was resources based view. The result research showed that the influence of accounting information systems integration and organisational performance were not significance and showed positive relationship. The result research on the influence accounting information systems integration and accounting system control, showed that significance and have positive result. The firms used accounting information systems integration increase accounting systems control process. Furthermore, influence of accounting systems control and organizational performance showed the positive and significance result. The findings showed evidence that the use of accounting information system integration for companies indirectly capable increase organizational performance through accounting systems.*

**Keywords-** *Accounting Information Systems Integration; Organizational Performance; Accounting Systems Control.*

## 1. INTRODUCTION

Integration of accounting information system provides the infrastructure is any potential for finding and testing the assumptions used and the relationship managers to change from an abstract summary of the data into a more detailed record of the activities of the organization. Integration of accounting information systems in the company can be use as Enterprise Resource Planning or ERP (O'Brien and Maracas, 2010) [28]. Overview of information technology used in the practice of control systems described by Granlund (2007) [17] which states that information technology has an influence on the practice of control systems. Further explanation derived from the COSO (Committee of Sponsoring Organizations) defines internal control as a process implemented by the board of directors, management and directed to provide reasonable assurance that the control objectives have been executed. Control objectives relate to: the effectiveness and efficiency of operations, reliability of financial reporting, compliance with laws and regulations (COSO, 2011) [12]. Chapman and Kihn (2009) examined regarding technology and control, the results of the study suggest that investment in the integration of information systems and management

control systems, can be obtained by using the budget system as a tool to control and monitor the system integration process. Budget is possible use as a "control" and has a direct influence on the success of the system and the performance of the company (Chapman and Kihn, 2009).

Control system is performed using the budget as a means of controlling includes the part of management control system that is kind of interactive control system (Abernethy and Brownell, 1999; Tekavčič, Peljhan and Sevic, 2008). To further control variables were performed using the budget system in this study will be mentioned as a control system of accounting or accounting system control. Based on the resource-based view (RBV), the ability of competing companies is a function of the value of the unique resources and capabilities of the company (Wernerfelt, 1984), and RBV also believes that the capability as one of the main sources, the company then the sustainability of competitive advantage can be achieved (Peteraf and Barney, 2003) [32]. Henri (2006) [19] add capabilities as one of the company's strategy of sustainability of competitive advantage that can contribute to the company's performance.

Study the effect of accounting information systems integration, and control of accounting systems on firm performance still showed inconclusive results and against (Grabski and Leech, 2007 [15]; Kallunki, Laitinen and Silvola, 2011 [21]; Nicolaou and Bhattacharya, 2006; Orlikowski, 1991; Poston and Grabski, 2001; Ravichandran and Lertwongsatien, 2002; Rom and Rohde, 2007) Some research shows evidence that the use of accounting information system integration has a strong positive effect on firm performance. But the study results (Caglio, 2003; Chapman and Kihn, 2009; Chapman, 2005; Chapman and Chua, 2003; Dechow and Mouritsen, 2005; Granlund and Malmi, 2002; Quattrone and Hopper, 2005[34]), accounting information system integration is not so influential in the control and performance of the company.

This research was conducted on companies listed in Indonesia Stock Exchange. The selection of the study population was conducted for the purpose of data collection so that maximum results can be avoided. There are three problems such as whether accounting information system integration effect on the accounting control system; whether the accounting system controls affect the company performance; whether accounting information system integration directly affect the company performance.

## 2. THEORITICAL REVIEW

### 2.1 Resource Based View Theory

Resource Based View (RBV) theory comes from the idea of Penrose (1959). Penrose (1959) describes the company as a collection of resources. Penrose (1959) revealed that the company's development is facilitated and constrained by the management who are looking for the best use of available resources. Barney (1991), gives a perception with descriptions and arranged appropriately regarding resources including assets, capabilities, processes, attributes, and includes knowledge held by a company. These resources can be used to formulate and implement competitive strategies.

RBV theory consists of two basic statements are expressly that a variety of resources (resource heterogeneity) and do not move resources (resource immobility). Resources diverse resources and capabilities that are owned by companies of various types and resources are not engaged ie different resources as possible to the company's long - term (Mata, Fuerst and Barney, 1995). RBV requires resources to be more valuable if the resource has the following criteria ; rare , unique , sustainable , can not be imitated , not replaceable and can not be moved place ( Carmeli and Thisler , 2004; Pearce and Robinson , 2008) , a unique resource company which is a source of strategic advantage among other resources information systems, resource management knowledge and control system resources.

Some researchers have used the Resource Based View to discuss the issue of the contribution to the business value of information technology (Melville, Kraemer and

Gurbaxani, 2004; Wade and Hulland, 2004). Wade and Hulland (2004) identified eight of resources such as resource information system consists of three main categories. The first category, external resources or Outside in Resources) externally oriented and establish relationships with business partners and understand competitors or external relationship management and market response.

The second category, the resources of the or Inside Resources which is used from within the company to respond to market needs (infrastructure information systems and technical expertise of the information system, information system development and operating cost effectiveness of information systems). The third category, rotating power source (Spanning Resources) including internal and external analysis capabilities (business partner information systems and information systems planning and change management). Still little empirical research that examines the relationship between resources and performance of enterprise information systems.

### 2.2. Hypotheses Development

#### 2.2.1. Integration of Accounting Information Systems Accounting and Control Systems

Integration of accounting information systems provide functionality implications for the development of control systems that provide information to the user. This can contribute to the practice of internal transparency directly (Kallinikos, 2005) [20]. Chapman and Kihn (2009) demonstrated the integration of accounting information systems contribute their global transparency as an attempt to map the extensive process, and run the accounting structure that is often reported on aspects of accounting information systems integration (Bashein, Mark and Finley, 1997) [5]. Integration of accounting information systems that increase will affect the control of the company's accounting system. From the description above, the proposed hypothesis is as follows:

*H1 : Integration of accounting information system has positive effect on the control of the accounting system.*

#### 2.2.2. Control Systems Accounting and Corporate Performance

Resource Based View theory states that the company has the resources that are able to achieve a competitive advantage, and the power source for superior long-term performance (Barney, 1991; Grant, 1991; Penrose, 1959; Wernerfelt, 1984) Furthermore, Barney, Wright and Ketchen (2001) shows a view of the literature Resource Based View of company where the potential of the integration of the accounting information system has an influence on performance.

Research Mahama (2006) examined the performance measurement system has positive effects on the performance of the company , because the performance measurement system is part of the management control system , so in this study can be considered a variable control system that made use of the budget also affect the performance of the company.

Results of research conducted by Chapman and Kihn (2009) obtain evidence that the control system affect the performance of the company. So the hypothesis of this study are as follows:

*H2 : Control of accounting systems positively affect the performance of the company.*

**2.2.3. Accounting Information System Integration with Corporate Performance**

The main postulate of the theory of the Resource - based View is the resources and capabilities of the company's core sustainability can generate competitive advantage that can improve the performance of the company (Roy and Aubert, 2000). It can be focused on the company's strategic considerations when developing and using " skills or knowledge sets " which consists of organizational information systems (Quinn and Hilmer, 1994)

Increasing the value added arising from the use of information technology resources (Integration of information systems) and process control has a significant influence on the performance of the company (Kallunki, Laitinen and Silvola, 2011). Results of research conducted by (Tsai, Li, Lee and Tung, 2011) [41] proved the ERP system has a significant influence on the performance of the company, either directly or through knowledge management. So the hypothesis of this study is as follows:

*H3 : Integration of accounting information system has positive effect on firm performance.*

**3. RESEARCH METHOD**

**3.1. Population and Sample**

This research was conducted on companies listed in Indonesia Stock Exchange. Analysis unit for this research are companies which is listed in Indonesian Stock Exchange. This research used census method to all population about 447 companies. This research used survey method by sent the questionnaire to the respondents. Data collecting was done through postal delivery.

**3.2. Variables Measurement**

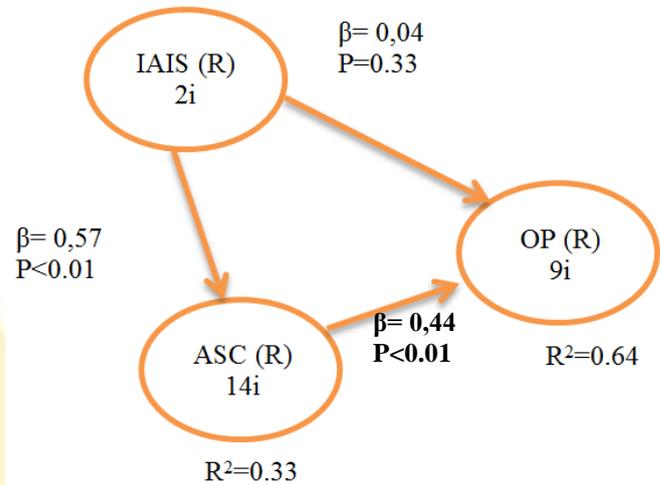
There are three variables in this research such as integration of accounting information systems, accounting systems control and organizational performance. To measure integration of accounting information systems and accounting systems control use Chapman and Kihn (2009). The instrument use to measure organizational performance which was built by Govindarajan (1984) [14].

**4. RESULTS**

Data analysis was conducted by applying Structural Equation Modeling (SEM) with Warp PLS.

Based on the figure 1, it can be seen that all relationships between the independent and dependent variables showed a positive and significant results at a confidence level  $P < 0.01$  unless the relationship between the independent variables with the integration of information systems and firm performance relationship is not significant.

**Figure 1 The Result Research from Warp PLS**



**Table 1. The Result Research**

Hypothesis	Hypotheses	Result
H1	Integration of accounting information system has positive effect on the control of the accounting systems.	Supported
H2	Control of accounting systems positively affect the performance of the company.	Supported
H3	Integration of accounting information system has positive effect on firm performance.	Not Supported

**5. DISCUSSION**

**5.1. Integration of Accounting Information Systems Accounting and Control Systems**

Research hypothesis which states that there is a positive effect of the integration of accounting information system of accounting system controls received empirical support. The results of this study indicate that the higher the level of use of accounting information systems integration applied in the company will lead to higher levels of management accounting systems undertaken by the company. Conversely the lower level of the use of accounting information systems integration will lead to lower levels of management accounting systems undertaken by the company

Based on the results of empirical research data processing show that the accounting information system integration path analysis has estimated coefficient on the control system of accounting for 0.573. These results meant that the integration of good accounting information systems and produce information in accordance with the expectations of users supported by the presence of a good control system. The results of data processing with WarpPLS 3.0 shows that the relationship between accounting information system integration and control of the accounting system is a very strong positive and

statistically significant (  $0.573$  ,  $p < 0.001$  ). These results provide support for the first hypothesis.

Arguments over the acceptance of this hypothesis is as follows; companies that use accounting information system integration is believed to have a high level of understanding of how to control the accounting system to help companies improve performance. Control of the accounting system requires every piece of information systems to be able to give the best results that provide all the information required by the company in a way that is true and accurate.

According to the resource-based view theory, resource accounting system controller will be a set of control systems by providing information and decision support systems are able to detect unwanted deviations and activities that affect deviations (eg. in the production process) without the involvement of others.

Flamholtz , Das and Tsui (1985) added a control system as: " the efforts of the organization to improve the understanding of individuals and groups that behave the same way towards achieving organizational goals . So the control system run by the organization to act as a " technique and process for achieve goal congruence can be designed for all levels of influence behavior : individuals , small groups , formal and organizational sub- units as a whole ( Flamholtz , Das and Tsui, 1985) [13].

## 5.2. Accounting and Control Systems Company Performance

Research hypothesis which states that there is a positive influence between accounting systems control the performance of the company received empirical support . The results of this study indicate that the higher the level of control that is applied in the accounting system in the company will make the performance of the company increased . Conversely the lower the level of control the accounting system used by the company will make the performance of the company to be down.

The results of empirical studies show that the control system of accounting in the path analysis has estimated coefficient on the performance of the company amounted to  $0.438$  . These results meant that a good accounting system controls and produce information in accordance with the expectations of users will get a positive response and is able to improve the performance of the company . Referring to the results of data processing with Warp PLS 3.0 shows that the relationship between the control system and the accounting firm performance is positive and statistically highly significant (  $0.438$  ,  $p < 0.001$  ) . These results provide support for the hypothesis two.

Arguments over the acceptance of this hypothesis is as follows ; control of the company accounting system that uses accounting information systems integration boost company performance. Company performance increases due to the control of the accounting system, the company is able to minimize risks in the failure of the implementation of accounting information systems integration . In this case control study accounting system is

an extension of the shape of the budget system (Chapman and Kihn, 2009) [9]. So as to control the accounting system of the company can improve the performance of the company in the form of improvements, internal transparency, global transparency and flexibility.

According to the theory of resource-based view ( Andreu and Ciborra , 1996; Barney , Wright and Ketchen , 2001; Chapman and Kihn , 2009; Wade and Hulland , 2004) in general , information technology has changed the way companies view of the use of information systems as one of the strategies to win the competition . Control of the accounting system is a corporate strategy that is unique and rare in the utilization of information resources in the form of control systems. Control of accounting systems play a role in optimizing the costs and benefits of the integration of accounting information systems that were able to provide fast and accurate information for making business decisions that have an impact on improving the performance of the company.

## 5.3. Accounting Information System Integration with Corporate Performance

Research hypothesis which states that there is a positive effect of the integration of accounting information systems on firm performance is not support empirically . The results of this study indicate that the higher the level of use of accounting information systems integration applied in the company will not directly cause an increase in the company's performance. Conversely the lower level of the use of accounting information systems integration it will not lead directly into the low performance of the company.

The results of empirical research shows that the accounting information system integration path analysis has estimated coefficient on the performance of the company amounted to  $0.035$  . These results meant that the success of the system is perceived by companies to encourage improved performance of the company, by acquiring a positive response and successful in supporting business decision-making process Warp PLS results indicate that the relationship between accounting and information systems integration firm performance is positive but not statistically significant at (  $0.035$  ,  $p = 0.335$  ) . These results do not provide support for the third hypothesis , in other words the eighth hypothesis is rejected.

Arguments over the rejection of this hypothesis is as follows ; accounting information system integration is not a variable that directly affect the performance of the company , so to influence the accounting information system integration with the company's performance proved the need for mediating variables so that the accounting information system integration can still affect the performance of the company through the intervening variables.

According to the theory of resource-based view (Andreu and Ciborra, 1996; Bradford and Florin , 2003; Chapman and Kihn, 2009; Melville, Kraemer and Gurbaxani , 2004; Newell , Huang , Galliers and Pan , 2003; Nicolaou and Bhattacharya , 2008; Salina and Wan Fadzilah , 2010 ;

Salina and Fadzilah Wan , 2008 ; Tsai , Li , Lee and Tung , 2011 ; Wade and Hulland , 2004 ; Wier , Hunton and HassabElnaby , 2007 ; Zhu , Li , Wang and Chen , 2010 ) stated resource owned company in the form of accounting information systems integration affect the company's performance improvement through , variable mediating is accounting control systems.

This study provides empirical evidence that the accounting information system integration through the success of the system , accounting and management control systems contribute to mutual knowledge of each other , forming a compatible models that can be used by many other companies as a model to improve the performance of the company . This study gives almost the same results with the results of Poston and Grabski (2001) who conducted research on the company ERP users . The results show that there is a significant improvement over the performance of companies that use ERP , which according to Poston and Grabski (2001) [15] takes a standard unit of time that an implementation of information systems showed improvement on the performance of the company.

Need long-term and thorough research of the newly established companies and start implementing their accounting information systems integration to see the impact on the performance of the company directly. The empirical results are consistent with research (Kallunki , Laitinen and Silvola , 2011) [21] that there is no significant relationship between ERP Systems and financial and non-financial performance of the company.

## 6. CONCLUSION

The empirical findings show that the accounting information system integration and significant positive effect on the control of the accounting system . The higher the level of use of accounting information systems integration applied in the firm will lead to higher levels of management accounting systems undertaken by the company. Conversely the lower level of the use of accounting information systems integration will lead to lower levels of management accounting systems undertaken by the company

Control of accounting systems and significant positive effect on firm performance . The higher level of control of the accounting system applied in the company will make the performance of the company increased . Conversely the lower the level of control the accounting system used by the company , the increase in performance of the company to be low.

The results showed integration of accounting information systems but not significant positive effect on firm performance. The higher the level of use of accounting information systems integration applied in the company will not directly lead to an increase in the company's performance . Conversely the lower level of the use of accounting information systems integration it will not lead directly into the low performance of the company

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