

# 7. The effects of SAP implemntation on management accounting an empirical investigation

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## THE EFFECTS OF SAP IMPLEMENTATION ON MANAGEMENT ACCOUNTING: AN EMPIRICAL INVESTIGATION

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### ABSTRACT

*In this digital era, the main problem of a company is accounting information systems which are not optimal. Accounting information systems are an elements that are not easy to be managed, because the accounting information systems in a company are varied and complex. If the accounting information systems can be well managed, then the operational activities of a company will run properly. This research aims to examine the influence of SAP in management accounting. It used questionnaires with convenience sampling technique to gain 60 respondents. Statistic method that was used to test the hypothesis was Structural Equation Model (SEM) using PLS. The result of this research shows that SAP implementation has a significant positive effect on management accounting technique, management accountants' role and operational factors; but SAP does not have a significant positive effect on the ability required by management accountants. The implication of this research might strengthen the point of view of the organizations towards SAP that would positively influence on management accounting.*

**Type of Paper:** Empirical

**Keywords:** Accounting Information Systems, SAP, management accounting technique, the role of management accounting, operational factors, management accountants' ability



## **1. Introduction**

A competition in the business is getting complex; companies are trying to increase their consumers by giving fast services and lower cost comparing with their competitors. One of many ways to reach the success can be done by integrating information systems and improving the efficiency of the information systems to produce more efficient management processes in business processes (Azis, 2010)

In this digital era, information systems based on technology is primary needs for companies, yet many companies have not integrated the information systems. Recently, they are still using activities from an individual worker in each department. Hence, many companies need longer time in the data-providing coordination comparing with the companies that have been integrated some functions; for instance, finance department that receives information related with accounting will support decision making in the future. Therefore, accounting information systems will run efficiently (Robinson, 2007).

To operate enterprise companies efficiently and effectively, the managements require detail information related to the company operations such as the number of materials that should be provided, where are the materials from, how many equipment that has been used, and how many employees who deserve to be employed. Those issues will be encountered by the management if it has received exact information that will be used as a basic policy, meaning that the management has to receive information related to operational inputs and outputs or in other words, the management has to receive information related to the company for the basic operation; and without the information about inputs and outputs, the management will not be able to take a good decision (Pramana, 2014).



One of many ways to improve the quality of accounting information systems and integrate them is implementing SAP (*System Application and Products*). The use of SAP in makes some information more adequate. Azis (2010) finds that using SAP may improve the quality of information from quarterly reports, annual reports, and financial reports.

The existence of SAP also makes management accounting jobs easier in terms of companies' resources, for the management is able to gain accurate and qualified information from other departments or a division to another division in a real time, proven by a research held by Grabski, Leech, and Sangster (2011). They reveals that SAP makes the role of accountants easier, hence management accountants can handle another job, minimize the time-consuming and budgeting processing, and make decision without reducing the quality. Based on the research held by Grabski et al. (2011), it shows that SAP helps the calculation technique of management accounting, improves operation activities, and improves the ability of management accountants, and then the company's resources will be well planned.

The problem in this research is: Does SAP have effect on management accounting at Krakatau Steel (KS) Group? This research is conducted at Krakatau Steel Group because of the first Indonesian Public Company that implemented SAP. The purpose of this research is to describe there are any influence from the SAP implementation on management accounting at KS Group, there for the organization will get a description related the influence and implementation of SAP on management accounting. This reasearch is so important because it can give illustration to Implementator of SAP that SAP can contribute on management accounting.

## **2. Theoretical Framework and Development of Hypothesis**

SAP is *software Enterprise Resources Planning* (ERP), meaning that software of accounting information systems application to assist companies in planning and



executing operational activities more efficient and effective. SAP consists of numbers of application modules that have ability supporting all transactions needed to be done by a company and each application works relatively one to another. All the application modules in SAP can work integrated or connected each other (Wawan & Falahah, 2007).

Management accounting is a type of information that uses money as an assessment; and it is used to help the management in executing management of the company or finance information that is known as an output from the management accounting which is used by internal organization users (Mulyadi, 2003). The organization can be defined as a group of people who are gathered because of common goals. The goals that direct the organization works is called by organization targets. According to Garrison and Noreen (2001), it is not all organization which has same targets, yet most of the organization has targets to earn benefits.

### **2.1. Management Accounting Technique**

Based on the research held by Todorovi and Jovanovi (2016), the management accounting technique as mentioned earlier is a method that is usually used by companies such as Activity Based Costing, Balance Scorecard, Controlling Management, techniques of Supply Chain Management and Target Costing. Activity Based Costing is costing information systems that provide complete information related to activities allowing company members to manage the activities (Mulyadi, 2003).

Balance Scorecard is a management system, assessment, and control fast, accurately, and comprehensively which is able to give understanding to the manager related to business performances. Assessing work performances using Balanced Scorecard evaluates business units based on four perspectives, namely: financial, customers, internal business process, and learning and growing processes. Through this cause and effect mechanism, the financial perspective becomes an operational standard for other



three perspectives (Kaplan & Norton, 1992). According to Suadi (2001), management controlling system is a system which consists of several sub systems that are bound each other, such as programming, budgeting, accounting, reports, and responsibilities to assist the management to influence other people in the company, so that they are willing to reach the company goals through certain strategies effectively and efficiently.

Supply Chain Management is series of approach that are used to integrate suppliers, producers, warehouses, and stores effectively so that the inventories can produced and distributed in accurate amounts, right locations, and precise time, hence system total cost can be minimized while the efforts to satisfy needs and service are being done (Levi, 2003). Target costing is costing accounting systems that provide information for the management to allow the management observe the progress to be achieved in product costing reduction to costing target which has been set (Mulyadi, 2003)

### **2.2. The Role of Management Accountant**

Management accounting in an organization has a function as proponent. Management accountants are responsible to identify, collect, assess, analyze, prepare, interpret, and communicate some information needed by the management to make a decision and deliver the information to help managers in achieving organization's goals (Simamora, 1999).

### **2.3. Operational Factors**

Management accounting including in operational activities is called operational management. It is an activity related to the production of goods, services and combinations of both, through transformation process starting from production resources which becomes deserved outputs (Herjanto, 2007). According to the research held by Grabski et al (2011), it explains that operational factors consists of stock level, ordering management and time cycles, supplying good cost, stock rotation timing, total of operational cost, goods' delivery accuracy, productivity, organization's ability to



respond changes, ability to arrange e-commerce, customer services, making decision and planning, data quality or common information, and cash management.

#### **2.4. Management Accountant Ability**

Grabski et al (2011) reveal that a management accountant has communication ability, interpersonal ability, business knowledge ability, accounting ability, ERP technique-ability, consulting ability, and ability to work between functional positions. The communication ability is two-way processes that include one person as a messenger and another person as receiver and behave in accordance with the message (Dredge & Croswhite, 1986). Whereas the interpersonal ability is delivering messages from a person as a messenger and another person or a group of people as the receiver, along with varied effects and chances to give feedback as soon as possible (Devito, 1989). The business knowledge ability is an ability to understand all the activities and efforts to look for benefits by providing goods and services needed by economic systems, some business product goods while others give services (Boone, 2007).

The accounting management is an ability to understand systems and techniques to assess and manage money transactions and give the management result in a form of information to internal parties and external companies (Suparwoto, 1990). The ERP technique ability is very necessary for a management accountant to control resources to be effective and efficient. ERP (Enterprise Resource Planning) is a computer based system which is designed to precede transactions from a company and facilitate in real time way for planning, production, and consumers' response (O'leary, 2000).

The consulting ability is an ability to conduct processes that is usually based on characteristics of the same relationship which is signified by trusting each other and opened-communication, working together to identify problems, joining personal resources to recognize and choose strategies which has possibilities to solve the problems that have been identified, and responsibilities distribution in carrying and



evaluating the programs and strategies that have been planned before. Last but not least, the ability to work between functional positions is an ability to work together although it is not in one division. Therefore, cooperation is very essential because it leads to higher work performances better than work individually (Zins, Kratochwill, & Elliott, 1994).

### **2.5. Development of Hypothesis**

Todorovi and Jovanovi (2016) state that SAP implementation does not have influence significantly to management accounting technique. While, Syida, Suhaimi and Nawawi (2016) reveals that controlling management of a company is influenced by the implementation of SAP; the employees can dedicate their time for analyzing finance and making decision. Based on the explanation above, the hypothesis of the research is formulated as follows:

**H1:** *SAP has a significant positive effect on management accounting technique.*

Grabski et al (2011) proposes that the role of accountants is examined based on time needed to have data, time needed to analyze the data, involvement to make business decision, internal report focus (performance calculation), external environment focus (benchmarking). Based on the research it is proven that SAP implementation give positive influences to the role of management accountants, hence management accountants have more time to handle another job. Based on the explanation above, the hypothesis of the research is formulated as follows:

**H2:** *SAP has a significant positive effect on the role of management accountants.*

SAP has a positive effect on several operational factors. Operational factors of a company defines as a part of management accounting, for arranging operational activities of a company is included in an management accountant's duty (Grabski et al, 2011). It further explains that operational factors of a company consist of stock level, ordering management and time cycles, good-procurement cost, stock rotation timing,





total of operational cost, goods' delivery accuracy, productivity, organization's ability to respond changes, ability to arrange e-commerce, customer services, making decision and planning, data quality or common information, and cash management. On a research conducted by Mesjasz-Lech (2015), shows that SAP can improve customer service systems. In line with Mesjasz-Lech, in their research, Musyoka and Josphat (2014), proves that ERP has significant relationship to customer services to improve the efficiency of procurement function. Based on the explanation above, the hypothesis of the research is formulated as follows:

**H3:** *SAP has a significant positive effect on operational factors.*

Grabski et al. (2011) explains that when SAP is implemented, it will affect abilities needed by management accountants, for instances communication ability, interpersonal ability, business knowledge ability, accounting ability, ERP technique-ability, consulting ability, and ability to work between functional positions. Based on the explanation above, the hypothesis of the research is formulated as follows:

**H4:** *SAP implementation has a significant positive effect on abilities needed by management accountants.*

Based on the hypotheses mentioned above, therefore the research model is presented in Figure 1.

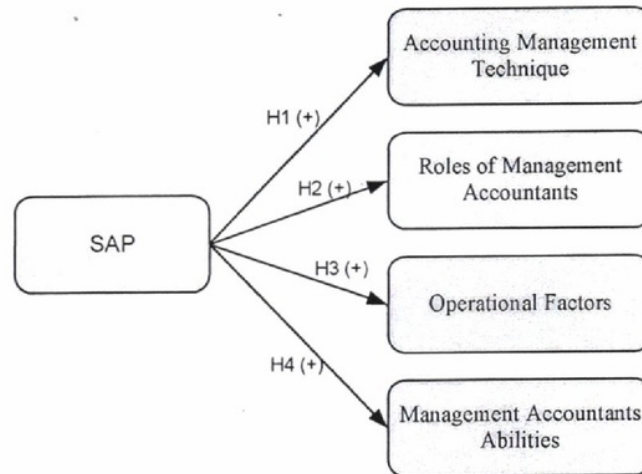


Figure 1 Research Model of the effects of SAP

### 3. Research Methodology

This research uses quantitative approach. According to Sugiyono (2012), quantitative research is used to examine a certain population or sample. It employs survey method and questionnaires technique. The research instruments that are measured with Likert scale 1-7. In addition, convenience-sampling technique is used to collect data from sample.

This research used Structural Equation Model (SEM). According to Ghazali (2006), SEM approach is a group of statistical techniques that allow a test of chain relationship simultaneously. This research used *Partial Least Square* (PLS). PLS is an alternative method from SEM that is used to overcome relation problems between variables with small-sized data samples which rate between 30 until 100 (Hair, 2010). The software that was used in this research was *SmartPLS 3.0*. Table 1 illustrates the definitions of variables and item measurements based on the research questionner by Grabski et al. (2011).

**Table 1.**  
**Operational Definitions and Measurements**

No	Variables	Definitions	Items
1.	Management Accounting Technique	Method that is usually used by companies, such as balance scorecard, activity based costing, controlling management, supply chain management costing, and target costing.	<ol style="list-style-type: none"> <li>1. Balance Scorecard</li> <li>2. Activity Based Costing</li> <li>3. Controlling Management</li> <li>4. Supply Chain Management Technique</li> <li>5. Target costing</li> </ol>
2.	Roles of Management Accountants	Management accountants' duty to gain data and analyze data in a short time, management accountants are more involved in business decision, they focus on internal reports and benchmarking.	<ol style="list-style-type: none"> <li>1. Gaining data</li> <li>2. Analyzing data</li> <li>3. Business decision</li> <li>4. Internal reports</li> <li>5. Benchmarking</li> </ol>
3.	Operational Factors	Companies' operational activities related to finance, productions, and marketing.	<ol style="list-style-type: none"> <li>1. Stock level</li> <li>2. Order management</li> <li>3. Procurement costing</li> <li>4. Stock rotation</li> <li>5. Operational costing</li> <li>6. Goods delivery</li> <li>7. Productivity</li> <li>8. Responding changes</li> <li>9. E-Commerce</li> <li>10. Customer service</li> <li>11. Planning</li> <li>12. Data quality</li> <li>13. Cash management</li> </ol>
4.	Management accountant abilities	Abilities needed by management accountants in organizing skills.	<ol style="list-style-type: none"> <li>1. Communication</li> <li>2. Interpersonal</li> <li>3. Business knowledge</li> <li>4. Accounting technique</li> <li>5. ERP technique</li> <li>6. Consulting</li> <li>7. Working together between functional positions.</li> </ol>

**Table 1. Continued**

No	Variables	Definitions	Items
5.	SAP	IT and management tools to help companies planning and doing operational activities more efficient and effective.	<ol style="list-style-type: none"> <li>1. Success</li> <li>2. Senior managers' trust</li> <li>3. Main competencies of organizations</li> <li>4. Employee disclosure</li> <li>5. Employee motivation</li> <li>6. Information accuracy</li> <li>7. Information quality</li> <li>8. Senior management supports</li> <li>9. Organization structures</li> <li>10. SAP implementation</li> <li>11. SAP operational-taking over</li> <li>12. Employee Convenience</li> <li>13. Work performances before SAP</li> <li>14. Work performances after SAP</li> </ol>

#### 4. Results

The questionnaires was distributed to three (3) KS group companies, each of them was 40 for PT KS, 15 for PT KITEch and 15 for PT KHI Pipe. From the distribution, the questionnaires which did not return were 5 (7,14%), and the questionnaires which return were 65 (92%), while the questionnaires which did not meet the requirements were 5 (7,14%), hence the questionnaires which could be processed were 60 (85,71%), All of respondent is SAP user. Based on the questionnaires that had been processed, the respondents can be classified into four categories as presented in Table 2.

**Table 2 Respondents**

		<b>Total</b>	<b>Percentage</b>
Gender	Male	26	43,33%
	Female	34	56,66%
Age	20-30 years old	22	36,66%
	30-40 years old	20	33,33%
	40-50 years old	14	20,29%
	50-60 years old	4	6,66%
Last Education	Senior high school	4	6,66%
	Diploma	15	25%
	Bachelor	39	65%
	Master	2	3,33%
Education Background	Science and Techniques	15	25%
	Business	45	3,33%

Based on the table above, it shows that females dominated the respondents (56.66%), the most respondents' age rated between 20-30 years old (36,66%), the classification of last education of the respondents mostly were bachelor (65%), while the classification of education background of the respondents mostly were business (75%).

#### **4.1. Validity and Reliability Test**

To test the validity, this research used convergent and discriminant validity. Convergent validity from measurement and reflective model, the indicator used were tested based on correlation between item score/ score components with score constructs which were counted by LSP. Reflective measurement can be considered high if its correlation is more than 0.70 comparing with the construct that will be measured. Fornell and Larker (1981), recommends AVE value is greater than 0,50. The detail analysis of Item Loading and Average Variance Extracted (AVE) can be seen in Table 3.

**Table 3**  
*Item Loadings and Average Variance Extracted (AVE)*

Construct	Items	Loading	AVE	Construct	Items	Loading	AVE
Management Accounting Technique (TA)	TA1	0,764	0,694	Operational Factors (FO)	FO1	0,764	0,589
	TA2	0,885			FO2	0,728	
	TA3	0,850			FO3	0,725	
	TA4	0,816			FO4	0,718	
	TA5	0,845			FO5	0,741	
Roles of Accountants (PA)	PA1	0,897	0,696		FO6	0,755	
	PA2	0,935			FO7	0,840	
	PA3	0,762			FO8	0,819	
	PA4	0,743			FO9	0,683	
	PA5	0,818			FO10	0,778	
SAP (SA)	SA1	0,752	0,559		FO11	0,822	
	SA2	0,714			FO12	0,817	
	SA3	0,662			FO13	0,767	
	SA4	0,794		Management Accountants Abilities (KB)	KB1	0,839	
	SA5	0,771			KB2	0,830	
	SA6	0,870			KB3	0,820	
	SA7	0,873			KB4	0,844	
	SA8	0,832			KB5	0,816	
	SA9	0,744			KB6	0,755	
	SA10	0,694			KB7	0,740	
	SA11	0,684					
	SA12	0,750					
	SA13	0,607					
	SA14	0,671					

Table above shows that AVE on construct TA, PA, FO, KB, and SA has AVE and loading factor with value was greater than 0.5. It means that the indicators used in this research were valid or had been met convergent validity.

To assess discriminant validity, it needed to compare square root of Average Variance Extracted (AVE) value in each construct with the correlation between other constructs in the model. If the square root value of AVE in each construct is greater than correlation value between other constructs in the model, then it can considered that the discriminant validity value is good (Fornell and Larcker, 1981). Reliability test was measured using two criteria; namely: composite reliability and cronbach alpha. Reliability level can be accepted if the composite reliability value >70 and cronbach

alpha value  $\geq 0,60$  (Ghozali, 2006). Table 4 shows square root of Average Extracted (AVE), Composite Reliability and Cronbach Alpha.

**Tabel 4**  
*Square Roots of AVE, Composite Reliability and Cronbachs Alpha*

	FO	KB	PA	SA	TA	Composite Reliability	Cronbach's Alpha
FO	0,768					0,949	0,943
KB	0,369	0,807				0,929	0,920
PA	0,505	0,373	0,834			0,919	0,906
SA	0,391	0,234	0,377	0,748		0,946	0,941
TA	0,532	0,162	0,511	0,400	0,833	0,919	0,889

Based on table above, constructions in the model were considered having accepted discriminant validity if the square root from AVE was a bigger construct which correlated with other constructs. Table 4 shows that the validity discriminant of the constructs met the requirements, it meant that all of the constructs were different each other. It can be seen also that all of the constructs from all statements in the variables of operational factor (FO), management accountants abilities (KA), roles of accountants (PA), SAP, and management accountant technique, the composite reliability  $\geq 0.70$  and the value of cronbach alpha  $\geq 0,60$ ; hence it can be concluded all of the constructs had good reliability.

#### 4.2. Hypothesis Test

Hypotheses were tested by seeing path coefficient and statistical T-test from inner weight that can be seen in Table 5. This research used T table with value 1,67. If the value of statistical T is greater than 1,67, so it can be considered that there are an influence between the variables, as presented in Table 5.

**Table 5. Results**

	<b>Descriptions</b>	<b><math>\beta</math></b>	<b>t</b>	<b>Meanings</b>
H1	SAP has a significant positive effect on management accounting technique.	0,424	2,218	Accepted
H2	SAP has a significant positive effect on the role of management accountants	0,385	1,776	Accepted
H3	SAP has a significant positive effect on operational factors.	0,430	1,941	Accepted
H4	SAP has a significant positive effect on abilities needed by management accountants.	0,266	0,963	Not Accepted

Table above explains that there are three hypotheses which were accepted and one were not accepted, while the path coefficient from four hypotheses were positive. First hypothesis is SAP has a significant positive effect on management accounting technique, second hypothesis explains that SAP has a significant positive effect on the role of management accountants, third hypothesis is SAP has a significant positive effect on operational factors, first to third hypothesis are accepted. The last hypothesis explains SAP has a significant positive effect on abilities needed by management accountants is not accepted.

### **5. Discussion**

The first hypothesis explains that SAP has a significant positive effect on management accounting technique; the result is in line with the research conducted by Grabski et al. (2011), that SAP has a significant positive effect on accounting technique; the research conducted by Syida (2016), explaining that SAP has a significant positive effect on management accounting technique especially on controlling management; and based on research conducted by Akkermans, Bogerd and Wassenhove (2003), proposing that SAP implementation has a significant positive effect on management accounting technique especially the supply chain management. It happens because SAP implementation makes Activity Based Costing calculation, supply chain management,



and target costing easier in Krakatau Steel Group, hence the employees do not need longer time to think and calculate.

The second hypothesis has conformity with the research conducted by Grabski et al. (2011), that SAP has a significant positive effect on the role of management accountants, but in other side the research conducted by Todorovi and Jovanovi (2016), reveals that SAP does not have a significant positive effect on the role of management accountants in managing and analyzing data in a short period of time, so that management accountants can handle other jobs. SAP also has effect on role of management accountants especially internal report on company, it means management accountants have more important role when SAP has been implemented.

Whereas based on the third hypothesis, there is conformity with the research done by Grabski et al. (2011) that SAP has a significant positive effect on operational factors; also, in the research done by Mesjasz-Lech (2015); proposes that SAP has a significant influence on operational factors especially on the customer service systems; in the research held by Musyoka and Josphat (2014) supports this research and believes that SAP has a significant positive effect on operational factors especially on procurement. This happens because the SAP implementation makes management accounting easier in maintaining operational activities. Krakatau Steel Group is a manufacturing company; in hence it has to maximize operational activities.

Based on the fourth hypothesis, it can be seen that the hypothesis is in the opposite side with the research conducted by Grabski et al. (2011), that SAP has a significant positive effect on management accountant ability, however there is a conformity with Todorovi and Jovanovi (2016), that proposes SAP does not have a significant positive effect on abilities needed by the management accountants and there is no drastic improvement on the management accountants ability. This happens because by SAP implementation,



the whole management accountant ability does not need to be improved as well because the ability is covered by SAP.

## **6. Conclusion**

SAP has a significant role, for it can integrate information between departments so that it supports business process activities. SAP has a significant positive effect on management accounting technique. This means that SAP facilitates in terms of management accounting technique, such as a activity based costing, supply chain management technique, controlling management, balance scorecard, and target costing; in hence the company does not need manual calculation, again it is because all of the needs are facilitated by SAP, and so are the roles of management accountants. By implementing SAP, it helps management accountants to take role so that they minimize the time allocation and analyze data, improve their involvement in making business decision; therefore the management accountants may use their time to handle other jobs.

In terms of operational factorial, by implementing SAP, it can improve operational activities, for instance procurement costing, stock rotation timing, total operational cost, level of stock, delivery management, productivity, and cash management. The reason is Krakatau Steel Group is a manufacturing company that has to prioritize operational activities. In contrast, related with management accountant ability, implementing SAP does not have a significant positive effect on their ability, such as communication ability, interpersonal ability, business knowledge ability, accounting ability technique, consulting ability, and ability to work between functional positions, for those abilities can be improved by their own, not by the systems, except ERP technical ability.

The implication of this research is that the researcher wants to give knowledge for the employees and strengthen the point of view or paradigm that SAP can empower

management accounting at Krakatau Steel Group and especially help management accountant parties, such as management accounting technique, management accountant duty, operational factors and abilities needed. This research implies that SAP users are more needed by the company because it is proven that SAP affects management accounting and SAP must be used by certified users. The result of this research hopefully enrich knowledge for the other researchers and for an ongoing study, therefore SAP has a good point of view.

The limitation of this research is the size of the samples was relatively small, that was only 60 respondents. Therefore it cannot describe the whole condition generally, and the suggestion for future research that have more respondent so can describe the whole condition generally.

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## Appendix

### Cara mengisi jawaban



Beri tanda centang (√) pada kotak (□) yang sudah disediakan salah satu jawaban yang ada menurut pendapat anda tentang pertanyaan tersebut.

#### Informasi Demografi

1. Jenis kelamin :

- Pria
- Wanita

2. Kelompok usia :

- Kurang dari 20 tahun
- 20+ s/d 30 tahun
- 30+ s/d 40 tahun
- 40+ s/d 50 tahun
- 50+ s/d 60 tahun
- Lebih dari 60 tahun

3. Apakah pendidikan terakhir anda :

- Sekolah Menengah Atas atau yang sederajat
- Diploma atau yang sederajat
- Sarjana atau yang sederajat
- Master atau yang sederajat
- Doktoral atau yang sederajat
- Profesi
- Lain-lain. Harap sebutkan \_\_\_\_\_

4. Latar belakang pendidikan :

- Sains dan Teknik (Komputer, Matematika, Fisika, Kimia, Teknik)
- Seni, Sosial dan Humaniora (Sosial, Politik, Budaya, Psikologi, Bahasa, Seni)
- Kesehatan (Kedokteran, Farmasi, Keperawatan, Kesehatan masyarakat)
- Bisnis (Manajemen, Akuntansi, Keuangan, Ekonomi, Pemasaran)
- Hukum
- Pendidikan
- Lain-lain. Harap sebutkan \_\_\_\_\_

#### Dampak Enterprise Resource Planning









14. Menurut anda, sudah kah sistem SAP sukses dalam hal mengukur kinerja yang di adopsi oleh organisasi anda untuk mengukur kesuksesan organisasi ?

Deskripsi	Tak satupun	←		Cukup	→		Meluas
	1	2	3	4	5	6	7
a. Ketika awal implementasi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Pada saat sekarang	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Peran Akuntan Manajemen**

1. Peran apa yang akuntan manajemen perankan dalam implementasi sistem SAP ?

(akuntan manajemen didefinisikan secara luas dan tidak hanya akuntan yang menyediakan, menganalisis, mengkomunikasikan informasi tetapi juga akuntan proyek atau konsultan akuntan bisnis internal yang terlibat dalam menolong bisnis )

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2. Perubahan lain apa dalam peran akuntan manajemen setelah diimplementasikannya sistem SAP ?

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3. Menurut anda, apa manfaat atau perbaikan yang harus ditambah pada sistem akuntansi manajemen dampak dari implementasi SAP (jika ada)?

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4. Menurut anda, apa kerugian atau masalah yang terjadi pada sistem akuntansi manajemen dampak dari implementasi sistem SAP ?

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# 7. The effects of SAP implementation on management accounting an empirical investigation

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## Berita Acara Hasil Pengecekan Keaslian Karya Ilmiah Atas Nama Dekar Urumsah, Drs.,S.Si.,M.Com.,Ph.D. Untuk kenaikan Jabatan Dari Lektor (200 AK) ke Lektor Kepala (400 AK)

Pada tanggal 20 Februari 2019 telah dilakukan pengecekan *Originality* atau *Similarity* terhadap karya Ilmiah Dosen Tetap Universitas Islam Indonesia:

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NIP/NIDN/NIK : -/0528026801/933120101

Prodi : Akuntansi

Fakultas : Ekonomi

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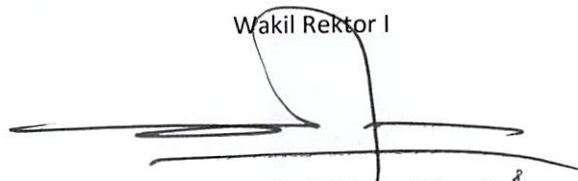
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