DETERMINANT FACTORS AFFECTING COSTS OF SALES INFORMATION QUALITY
(Case Study on Five Star Hotels in Semarang,Indonesia)

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ABSTRACT

This research was commenced to find out the effect of information quality determinant factor towards cost of sales information quality. There are five determinant factors included in this research which are commitment of top management, nature of accounting information system, control. input, personal competence, and teamwork. This study is a case study on five star hotels in Semarang, Central Java, Indonesia. Cost-of-sales information quality is critical for those hotels because it has to provide many kind of services even if it is not profitable. It makes the information quality of cost-of-sales become a very crucial factor for decision-making process.

Questionnaire is used as research instrument and filled by head of department, accounting department, and other departments which is related to report-generating process and using the cost-of-sales information. From validity and reliability test, teamwork found to be not reliable variable, therefore this variable is not tested further. The regression analysis shows that the four variables tested can explain 55% from total variance of cost-of-sales information quality. The regression analysis also shows that commitment of top management, nature of accounting information system, and personal competence have positive and significant effect on cost-of-sales information quality. On the contrary, control input has a negative effect on cost-of-sales information quality.

Keywords : information quality, information system, determinant factors

I. Introduction

Cost-of-sales is one of information needed in decision-making process. Hotels use it to calculate selling price with its profit margin. False or incorect cost-of-sales information will lead to a false or improper marketing strategy and company profit. Internally, cost-of-sales information is absolute need because it reflects company operational performance. Many company rely their cost-of-sales accuracy to an expensive computer system, yet the outcomes is far beyon expectation. We learn from so many system failure that there are other factors, many other fundamental factors that affect cost-of-sales information quality produced by the system.

In term of concept, information is differed from data. Data is facts input,recorded, and processed by a system. Information is defined as a series of data that has been organized, and has an utility and benefit. Data as the smallest part is processed withing the system to generate information. This system flow clearly shows that

information quality depend on its data quality. So we can assume that determinant factors on data quality will also affect the information quality. As an information, cost-of-sales also measured by quality dimensions, such as : relevancy, reliability, completeness, timely, understansable, and verifiable. But regarding determinant factors affecting those quality dimension itself, a further research is needed to provide more empiric evidence.

Wang and Strong (1996) found four important data quality dimensions which is intrinsic data quality, contextual data quality, representational data quality, and accesibility data quality.Those dimensions are used to measure data quality. Saraph, et al in Xu (2003) revealed some factors affectiong quality management, including the role of top management, role of data quality management, training, system design, process mangement, personal relationship, and supplier quality management. Xu (2003) commenced a research towards 24 factors assumed to affect the data quality. The result identify six determinant factors on data quality including top management commitment, nature of accounting information system, control input, personal competence, teamwork and middle management commitment.

Research on determinant factors affecting cost-of-sales information quality need more empiric result, especially research conducted in hotel industry. Hotels is considered as service business, but actually, it's not just delivers services to customer but also goods such as food and beverage. The quality of cost-of-sales information in hotel is as crucial as it is in trading of manufacturing company.Higher cost-of-sales information quality will support the hotel in its operational performance analysis to reach an optimal profitability.

A qualified information system can be optimized when it supported with a qualified data input. Focusing only to information system quality and not considering the quality of data input could lead to a higher error risk on its final product, in this case, cost-of-sales information. This research is commenced to bring more empirical evidence about the effects of data quality determinant factors, which are top management commitment, nature of accounting information system, control input,personal competence, and teamwork towards cost-of-sales information quality.

II. Literature Review and Hypothesis

Cost-of-sales is defined as price paid to obtain goods to resell (Soemarso, 1996). In manufacture industry, cost-of-sales is the total value of direct cost, direct labour cost and overhead cost per unit. But in hotel industry, the products is not purely service, but a mixture of goods and services. Direct cost and direct labour cost could be found in profit center department, meanwhile the overhead cost appears on administrative department. So when it is faced to the mixture of goods and services, it is difficult to calculate the exact cost-of-sales.

Either, cost-of-sales could be calculated by classifying the cost according to its nature. In service industry like a hotel, cost is divided to three category based on its nature, which are fixed cost, variable cost, and semi-variable cost (Lovelock and Wirtz, 2004). Fixed cost is not affected by selling amount, it will still bear by the company even if the selling number is zero. Variable cost refer to cost arose due to the additional of one unit of service sold. Semi-variable cost will vary in particular level following the variance of business volume.

For calculating cost-of-sales, cost is defined as direct cost if it arose in profit center department, such as front office department, food and beverage department. The

overhead cost is cost arose in cost center department, such as housekeeping department, finance and accounting department. Because it is difficult to trace the overhead cost per unit sold, in hotel industry, cost-of-sales is defined as all cost arose in profit center department.

Saraph. *et al* (1989) in Porter and Parker (1993) tried to identify important factors in quality management using survey and factor analysis. The result identify eight factors affecting quality management including role of top management, role of quality department, employee training, product/service design, supplier quality management, process management, data quality and recording, and employee relationship.

Yusoph and Aspinwall (1999) imply that research on quality determinant factor are focused on major industry. So they conducted research focusing on small and middle businesses and it comes that there are four determinant factors generally comply on small and middle businesses including leadership, management commitment and support; supplier quality management ; human resources management and employee relationship, together with training and education. There are also six factors completing the quality determinant factors on small and middle businesses which are continous improvement ; system and process ; measurement and feedback ; technique and development tools ; resources ; together with work culture and environment.

Porter and Parker (1993) conducted a literature survey and identified determinant factors on quality management including management behaviour, total quality management implementation strategy, total quality management organization, total quality management communication, training and education, employee involvement, system and management process, and quality technology.

Black and Porter (1995) identify not just determinant factor on total quality management, but also level of importance of each factor along with relationship within those factors. The survey indicates there are ten determinant factors on total quality management, which are strategic quality management, consumer satisfaction orientation, human resource and customer management, communication on development information, external affair management, measurement improvement, company quality culture, supplier partnership, operational quality planning, and team structure on development process.

Xu (2003) analyzed determinant factors on data quality in accounting information system. Xu also analyzed user perception towards each factor regarding its importance and actual performance. This research also indentify determinant factor on data quality in accounting information system. There are six critical factor affecting data quality including top management commitment, nature of accounting information system, control input, personal competence, teamwork, and middle management commitment.

Soegiharto (2001) indicates in his research that user involvement in system process designing, development and implementation has a positive correlation with the usage level of the system itself. It also shows that personal capability has an indirect influence towards information system. Management capability influence on accounting information quality is also tested on Yadnyana and Mertha (2008). Their research covers stars hotels in Bali. They defined management capabilty as planning, organizing, directing and controlling. It comes that planning and organizing affecting the accounting information quality.

We can conclude that cost-of-sales information is also a product, an output of particular information system. It will affected by the quality of "goods" input in the process, which is the data itself. Just like another product, either the data or the information has a quality dimension. So we can assume that determinant factors on

data quality will affect the cost-of-sales information quality. It is supported by research result commenced by Xu (2003). Top management commitment, nature of accounting information system, control input, personal competence, teamwork and middle management commitment are proved to affect the information quality.
On hotel organization structure, middle management are usually supervisors responsible for daily hotel operational. So in a hotel, middle management is not involved in cost-of-sales information processing and also not use those information for their daily tasks. For those reason, middle management commitment is excluded from this research, and lead to five proposed hypothesises :

H_1 : top management commitment has a positive and significant influence on hotels cost-of-sales information quality

H_2 : nature of accounting information system has a positive and significant influence on hotels cost-of-sales information quality

H_3 : personal competence has a positive and significant influence on hotels cost-of-sales information quality

H_4 : control input has a positive and significant influence on hotels cost-of-sales information quality

H_5 : teamwork has a positive and significant influence on hotels cost-of-sales information quality

III. Research Design

This research use primary data from survey conducted at five star hotels in Semarang. Questionnaire with 5 Likert scale are filled by head of department, assistant manager, and another party related with cost-of-sales information generating process. Purposive sampling is used to limit this research only at five stars hotels because those hotels need to provide variety of services due to regulation existed, not merely by the profit figure of the service.
Validity test is used to measure questionnaire's validity. Validity test was applied on each construct by looking towards bivariate correlation between each indicator's score to its total construct score. Further, a questionnaire is considered reliable if the respondent's response on particular statement is consistent in a different timeline (Ghozali, 2006). This research used one shot measurement, which is Cronbach Alpha analysis. The reliability test was also applied to each construct.
Before the regression model was tested any further, it must be tested with a series of test including multicolinearity, heterocedasticity, and normality test. Only after the regression model is proved to not have any of multicolinearity between its independent variables or heterocedasticity; and the data was normally distributed, it can be proceed to regression analysis.

IV. Results and Analysis

Two of three five stars hotels in Semarang were participate in this research, represent 66,67% of total population. 28 questionnaires were collected and completely filled

from total 35 questionnaires spread out. Respondent's response is summarized on table 4.1.

Table 4.1
Summary of Questionnaire's Responses

NO	DESCRIPTION	CODE	TOTAL RESPONDENT'S RESPONSE				
			1	2	3	4	5
	Accuracy						
1	The recorded value conforms the actual value : value recorded in the system is the same as value recorded in manual document	ACC1	1	0	1	13	13
2	The recorded value is reliable : no material errors	ACC2	0	0	2	14	12
3	The recorded value is not bias : actually represent company condition	ACC3	0	0	2	14	12
	Timeliness						
4	Information is available when needed : system could generate the information instantly when needed	TIME1	0	1	0	18	9
5	Information is generated on time : delivered on the right time to affect decission making.	TIME2	0	0	4	21	3
6	Information generated is up-to-date : information is still relevant for decission making process	TIME3	0	0	3	15	10
	Completeness						
7	All values for certain variables are recorded : initial information for decission making already recorded	COMP1	0	0	4	18	6
8	Information generated is complete : no essential part missing	COMP2	0	0	6	15	7
9	Information generated comply with information nedded : match to information necessity	COMP3	0	0	2	20	6
	Consistency						
10	Value recorded is equal on each case : value generated by the system is equal even if it be seen by two different party	CONS1	0	1	1	17	9
11	Data value reported is identic all the time : recorded value in the system on particular time will be identical if it was seen in another time period.	CONS2	0	1	5	11	11
	Relevancy						
12	Information generated can be used to evaluate past performance.	RELV1	0	1	1	15	11
13	Information generated can be used to support present decision making.	RELV2	0	1	1	15	11
14	Information generated can be used on future performance predicition.	RELV3	0	0	0	15	13
	How is your company top management commitment towars cost-of-sales information quality ?						
15	Top management realize the importance of information quality	KMP1	0	0	1	16	11
16	Top management supports information system improvement activities	KMP2	0	0	2	12	14
	How is the nature of your company accounting information system ? (System conformity towards the necessity)						
17	Easy to operate	SSIA1	0	0	2	18	8
18	Automatically provide data validation as much as possible : has a system to validate the data value input	SSIA2	0	2	5	14	7
19	It has a sufficient documentation	SSIA3	0	1	6	13	8
20	Easy to modified or upgraded	SSIA4	0	0	6	16	6
21	The information system is stable : not much errors or incosistency within the system	SSIA5	0	0	9	14	5
22	System is up-to-date (following the development of information technology)	SSIA6	0	0	6	14	8
23	Easy to interprate : information and system operation are easy to understand	SSIA7	0	0	1	21	6
24	It has an effective data management, such as database sentralization and data warehouse	SSIA8	0	0	6	17	5

	How is the personal competence affecting information generating process in your company ?						
25	Employee involved in information system is well-trained to operate the system used	KP1	0	0	0	19	9
26	Employee involve in information system is experienced on his working field.	KP2	0	0	1	19	8
27	Employee involved in information system has sufficient technical ability regarding the system operation	KP3	0	1	4	15	8
28	Employee involved in information system has sufficient business ability to analyze information generated by the system	KP4	0	1	9	14	4
	How is the control input in your company to assure the quality of information generated ? (Ensure the information quality on the earlier stage, which is minimize input errors.)						
29	Input value is visually checked by employee.	KI1	0	0	4	17	7
30	Source document is well-designed to ensure complete and accurate recording.	KI2	0	0	4	16	8
31	There is document register to be validate with source document	KI3	0	0	5	14	9
	How is your teamwork affecting a qualified information generating process ? (Working as a team and have a good communication within the team)						
32	Inter-departmental, and inside the department itself	TEAM1	0	0	3	19	6
33	Inter-function, such as between accounting and IT	TEAM2	0	0	1	20	7

Notes :
Code : marking code of each question number
1 – 5 : response score

Validity test conclude that all indicators used for measuring the variables are valid. But a different outcomes came from reliability test. In this research, reliability is measured using Cronbach Alpha. Differ from other four variables, it appears that construct for variable teamwork is not reliable because cronbach alpha score is less than 0,60. Table 4.2 shows the summary of reliability test.

Table 4.2
Reliability Test

Factor	Cronbach Alpha
Cost-of-sales Information Quality	0,819
Top Management Commitment	0,8889
Nature of Accounting Information System	0,8592
Personal Competence	0,7878
Control Input	0,7862
Teamwork	0,2998

Therefore this variable will not be tested any further and hypothesis H_5 will be also not tested.
Regression analysis is done after the regression model proved not to have multicolinearity and heterecedasticity. The data is also normally distributed. Following table shows the regression analysis result.

Table 4.3
Regression Analysis Result
$KIHPP = \beta_0 + \beta_1 KMP + \beta_2 SSIA + \beta_3 KP + \beta_4 KI + e$

Variabel	Koefisien (β)	t	Sig
KMP (β_1)	0,300	1.805	0,084
SSIA (β_2)	0,458	2.625	0,015
KP (β_3)	0,302	1.972	0,061
KI (β_4)	-0,239	-1.480	0,153
F	:		7.018
Sig. F	:		0,001
R^2	:		0,550

Description :
KMP : top management commitment
SSIA : nature of accounting information system
KP : personal competence
KI : control input

Top management commitment represent awareness of top management towards information quality importance. This commitment can be seen through management point of view on information system development. Their support to improve information system quality shows the level of awareness. Top management commitment define major things on information system implementation. It will define what kind of information system will be used, and also directing system development to be adjusted with information needed on each hotel. Their concern toward information quality can be seen through employee training programs, not just to operate the system, but also to assess information quality produced by the system. In accordance with Yadnyana and Mertha (2008), the ability of top management to plan and organize system development activity affected the information quality itself.

Nature of accounting information system is measured by its simplicity, its flexibility to be modifed, documentation capability and others. This research shows that if suitable accounting information system is used, it will affect the information quality positively. The same result also stated at Xu (2003). Thoroughly analysis should be done to meet many characteristics such as easy to use, have a validation system on input, also a reliable documentation. The possibility of modification and maintain the system stabil to follow the technology improvement are also considered. Not to mention that the system should be able to produce an interpretable result, and has an efective data management.

The third variable, personal competence, represent employee ability regarding system operation. It covers whether the employee is well-trained to operate the system, employee experience on system handling, employee technical ability on system operation, and their ability to analyze the information produced by the system. The higher personal competence to be, the higher information quality will be produced. It is in accordance with Xu (2003) which imply that personal competence is one of data quality determinant factors that affect the information quality. Soegiharto (2000) also found that personal competence has a positive effect, although it is proved not significant. This result also in accordance with Saraph, et al (1989) in Porter and

Parker (1993) which indicates employee training as one of eight important variable affecting quality management. Yusoph and Aspinwall (1999) together with Porter and Parker (1993) also indicate that employee training and development is one of quality determinant factors.

Personal competence is considered critical because the human resource is also a component of an accounting information system. Even if the system has a reliable validation system, there are errors type that could be only detected by the human resource. Higher personal competence will assure higher validation on information produced and at the end increase the information quality. Personal competence also mean that the employee is well-trained to operate the information system. Employee experience laso affected employee assignment in using the information system. Two other factors need to be developed are employee technical ability along with their business ability according to analyze the system's result. Many of the users do not have sufficient technical ability. Majority depend on IT (Information Technology) department or EDP (Electronic Data Processing) personnel. Development on technical ability will enable system user to handle minor problems by themselves and understand the system thoroughly. Employee business ability is seen through their ability to analyze the information produced by the system. It has to be considered that errors not just probable in data-input stage, but also probable in processing stage. However, the process still have to depend on system stability. Therefore employee ability to analyze the result, to re-validate the information, is absolutely needed.

Differ to previous three variables, the last variable which is control input, showed to have a negative and insignificant effect towards information quality. It is contradicted with Xu (2003) where control input is identified as one of data-quality determinant factors and at the end affect information quality. Review thoroughly on questionnaire's answer, the respondents indicates that althought the control input in their hotel is weak, they considered the cost-of-sales information produced is reliable. This is not supported with the theory stated that a good control input will assure a good information quality. But it has to be considered that control input meant in this research is manually data validation done by certain employee assigned to input the data. Questions appear on the questionnaire indicates whether there is a manual re-checking process by the employee when they input the data. But now information technology development has widened the definition of control input itself. Control input is not just the manual validation done by the human resource, but also done by the system itself by it programmed validation system. If manual control input is considered practically low, than the accounting information system could provide a secondary control input. In this research, one of nature-of-accounting information system is otomatically provide data validation as much as possible. But this indicator also showned to be practically low. It means that the secondary control input also fail.

When an inputed data has a high error margin, personal competence is needed to assure the information quality produced. This researche result shows that employee is well-trained and also experienced in operating the system. Employee also considered to have a good analysis ability toward the information produced. This enable an improvement and correction in data-processing stage so at the end it can still produce a qualified information. Of course this improvement and correction must be supported by the system flexibility to be adjusted to the company requirements. Therefore eventhough the control input is low, high personal competence and suitable system could still provide a qualified information.

It has to be keep in mind that even an intervention could be done in the middle of data processing, it means there has to be a re-input data activity. It is not ideal for a five

stars hotel where cost-of-sales information is needed everyday. So improvement on control input is necessary to assure high control procedure, whether manual or system-otomatically. Those two types control procedures will prevent different errors on data input process.

V. Conclusion

This research shows that top management commitment, nature of accounting information system, and personal comptence are positively and significantly affect the cost-of-sales information quality in hotel industry. On the contrary, control input showed to have a negative and insignificant effect towards cost-of-sales information quality in hotel industry. Therefore the last variable, control input, need to be re-tested in other research, considering this research is limited to its population and sample so the result of control input can not be generalized.

Now hotels industry should focusing their efforts to those factors proved to be determinant factor on data quality which is basically affect the information quality they used for decission making, in this case, cost-of-sales. Top management support is absolutely needed as initial step to its information system development. Also important for management to choose the most suitable system to their information requirement. Therefore the quality of information generated by the system will be higher. Management also required to continously improve their personal competence, especially their competence to interprate the result.

Eventhough this reseach shows that in practically low control input, the system still could produce a qualified information, it doesn't mean that this variable could be neglected. Errors on earliest stage, which is data input, bring a higher error risk on the result generated, and also increase the possibility of re-input data process. At the end it will decrease the effectivity and efficiency of the system itself.

This research is opened for further research because some of its limitation. This research only focusing on five stars hotels and maybe considered not enough to generalized the whole hotel industry. This research also limited to cost-of-sales information quality as its independent variable, meanwhile there are other costs which have an important role in decission making, such as overhead cost.

For further research could be considered to expand the research sample, not just limited to five stars hotel but totality of hotel industry. Expantion also possible on information quality covering, not just limited to cost-of-sales but also covers another operational costs appear on cost center.

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APPENDIX 1

Please note the following definition before filling the questionnaire

Cost of sales :
All costs incured on profit center department.
Profit center department :
Department which has revenue and cost posts, such as : room division, food and beverage division.
Information quality :
Information produced by the information system has quality dimensions which are accurate, timely, complete, and consistent.

QUESTIONNAIRE

Name :
Position :
Company :

SECTION I : COST-OF-SALES INFORMATION QUALITY

How do you asses cost-of-sales information quality in your company ?

Accuracy

a.The recorded value conforms the actual value : value recorded in the system is the same as value recorded in manual document

1	2	3	4	5

Very disagree — Agree

b. The recorded value is reliable : no material errors

1	2	3	4	5

Very unreliable — Very reliable

c. The recorded value is not bias : actually represent company condition

1	2	3	4	5

Bias — Not bias

Timeliness

a. Information is available when needed : system could generate the information instantly when needed

1	2	3	4	5

Very disagree — Agree

b. Information is generated on time : delivered on the right time to affect decission making.

1	2	3	4	5

Very diasgree — Agree

c. Information generated is up-to-date : information is still relevant for decission making process

1	2	3	4	5

Very diasgree — Agree

Completeness

a. All values for certain variables are recorded : initial information for decission making already recorded

1	2	3	4	5

Very disagree — Agree

b. Information generated is complete : no essential part missing

1	2	3	4	5

Very diasgree — Agree

c. Information generated comply with information nedded : match to information necessity

1	2	3	4	5

Very diasgree — Agree

Consistency

a. Value recorded is equal on each case : value generated by the system is equal even if it be seen by two different party

1	2	3	4	5

Very diasgree — Agree

b. Data value reported is identic all the time : recorded value in the system on particular time will be identical if it was seen in another time period.

1	2	3	4	5

Very diasgree — Agree

Relevancy

a. Information generated can be used to evaluate past performance.

1	2	3	4	5

Very diasgree — Agree

b.Information generated can be used to support present decision making.

1	2	3	4	5

Very diasgree — Agree

c. Information generated can be used on future performance predicition.

1	2	3	4	5

Very disagree — Agree

SECTION II : DETERMINANT FACTORS

How is your company top management commitment towars cost-of-sales information quality ?

a. Top management realize the importance of information quality

1	2	3	4	5

Very diasgree — Agree

b. Top management supports information system improvement activities

1	2	3	4	5

Very diasgree — Agree

How is the nature of your company accounting information system ?
(System conformity towards the necessity)

a. Easy to operate

1	2	3	4	5

Very disagree — Agree

b. Automatically provide data validation as much as possible : has a system to validate the data value input

1	2	3	4	5

Very diasgree — Agree

c.It has a sufficient documentation

1	2	3	4	5

Very disagree — Agree

d.Easy to modified or upgraded

1	2	3	4	5

Very disagree — Agree

e.The information system is stable : not much errors or incosistency within the system

1	2	3	4	5

Very disagree — Agree

f.Sistem tersebut up-to-date (mengikuti kemajuan teknologi)

1	2	3	4	5

Very disagree — Agree

g. Easy to interprate : information and system operation are easy to understand

1	2	3	4	5

Very disagree — Agree

h. It has an effective data management, such as database sentralization and data warehouse

1	2	3	4	5

Very disagree — Agree

How is the personal competence affecting information generating process in your company ?

a. Employee involved in information system is well-trained to operate the system used

1	2	3	4	5

Very disagree — Agree

b. Employee involve in information system is experienced on his working field.

1	2	3	4	5

Very disagree — Agree

c. Employee involved in information system has sufficient technical ability regarding the system operation

1	2	3	4	5

Very disagree — Agree

d. Employee involved in information system has sufficient business ability to analyze information generated by the system

1	2	3	4	5

Very disagree — Agree

How is the control input in your company to assure the quality of information generated ?
(Ensure the information quality on the earlier stage, which is minimize input errors.)

a. Input value is visually checked by employee.

1	2	3	4	5

Very disagree — Agree

b. Source document is well-designed to ensure complete and accurate recording.

1	2	3	4	5

Very disagree — Agree

c. There is document register to be validate with source document

1	2	3	4	5

Very disagree — Agree

How is your teamwork affecting a qualified information generating process ?
(Working as a team and have a good communication within the team)

a. Inter-departmental, and inside the department itself

1	2	3	4	5

Very not cooperative — Very cooperative

b. Inter-function, such as between accounting and IT

1	2	3	4	5

Very not cooperative — Very cooperative

Are you willing to participate on further interview if a confirmation on your answers is needed ?

☐ Yes, I Will ☐ No, I will not

APPENDIX 2

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	KI, KP, KMP, SSIA[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: KIHPP

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.741[a]	.550	.471	3.7145

a. Predictors: (Constant), KI, KP, KMP, SSIA

b. Dependent Variable: KIHPP

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	387.343	4	96.836	7.018	.001[a]
	Residual	317.336	23	13.797		
	Total	704.679	27			

a. Predictors: (Constant), KI, KP, KMP, SSIA

b. Dependent Variable: KIHPP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	24.483	7.822		3.130	.005		
	KMP	1.350	.748	.300	1.805	.084	.711	1.407
	SSIA	.597	.227	.458	2.625	.015	.643	1.555
	KP	.770	.390	.302	1.972	.061	.833	1.200
	KI	-.733	.495	-.239	-1.480	.153	.753	1.329

a. Dependent Variable: KIHPP

Coefficient Correlations[a]

Model			KI	KP	KMP	SSIA
1	Correlations	KI	1.000	-.073	-.153	-.341
		KP	-.073	1.000	-.204	-.179
		KMP	-.153	-.204	1.000	-.334
		SSIA	-.341	-.179	-.334	1.000
	Covariances	KI	.246	-1.404E-02	-5.658E-02	-3.848E-02
		KP	-1.404E-02	.152	-5.966E-02	-1.587E-02
		KMP	-5.658E-02	-5.966E-02	.559	-5.674E-02
		SSIA	-3.848E-02	-1.587E-02	-5.674E-02	5.173E-02

a. Dependent Variable: KIHPP

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index
1	1	4.965	1.000
	2	1.204E-02	20.304
	3	9.797E-03	22.512
	4	7.079E-03	26.484
	5	6.279E-03	28.119

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		(Constant)	KMP	SSIA	KP	KI
1	1	.00	.00	.00	.00	.00
	2	.01	.01	.02	.42	.56
	3	.02	.69	.04	.23	.18
	4	.00	.28	.90	.02	.20
	5	.96	.01	.05	.34	.06

a. Dependent Variable: KIHPP

Residuals Statistics[a]

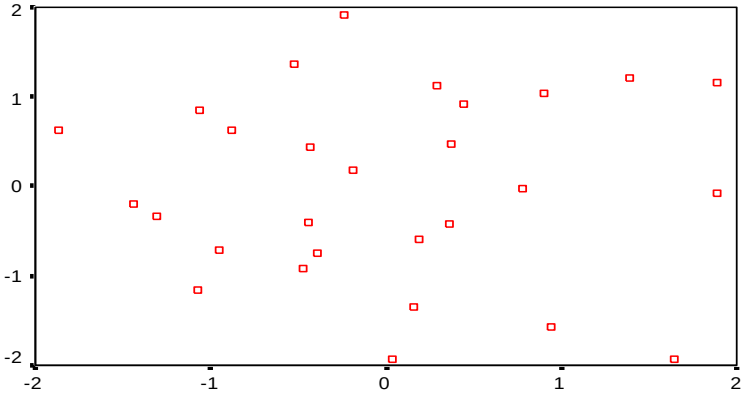
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	52.0462	66.2594	59.1071	3.7876	28
Std. Predicted Value	-1.864	1.888	.000	1.000	28
Standard Error of Predicted Value	.8600	2.5288	1.5058	.4514	28
Adjusted Predicted Value	51.2935	67.1956	59.2562	4.0166	28
Residual	-6.3179	6.7870	8.628E-15	3.4283	28
Std. Residual	-1.701	1.827	.000	.923	28
Stud. Residual	-1.937	1.911	-.016	1.041	28
Deleted Residual	-9.7518	7.4269	-.1491	4.4338	28
Stud. Deleted Residual	-2.071	2.038	-.022	1.074	28
Mahal. Distance	.483	11.550	3.857	2.904	28
Cook's Distance	.000	.639	.066	.131	28
Centered Leverage Value	.018	.428	.143	.108	28

a. Dependent Variable: KIHPP

CHARTS

Scatterplot

Dependent Variable: KIHPP



One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		28
Normal Parameters[a,b]	Mean	1.995691E-08
	Std. Deviation	3.3440921
Most Extreme Differences	Absolute	.080
	Positive	.063
	Negative	-.080
Kolmogorov-Smirnov Z		.424
Asymp. Sig. (2-tailed)		.994

a. Test distribution is Normal.

b. Calculated from data.