Volume 3, No. 1 January 2024 (47-63)
p-ISSN 2980-4868 | e-ISSN 2980-4841
https://ajesh.ph/index.php/gp

ANALYSIS OF SERVICE USER SATISFACTION WITH THE PERFORMANCE OF SUPERVISORY CONSULTANTS BASED ON IMPLEMENTATION ALLOCATIONS IN THE HOUSING AND SETTLEMENT AREA ACTIVITIES OF EAST JAVA PROVINCE

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ABSTRACT
To improve housing and settlement facilities in East Java Province, the government collaborates with service providers, including supervisory consultants. This research aims to enhance project management performance and customer satisfaction in the PRKP sector. The study's objectives include identifying key variables in project management performance, measuring customer satisfaction levels, and proposing improvements to boost satisfaction. The research process consists of several stages, such as background analysis, problem and objective formulation, literature review, preliminary survey, data collection, data testing, and data analysis. The analysis methods involve the customer satisfaction index and importance-performance analysis. The results show a high customer satisfaction index (CSI) value of 93.55%, indicating satisfaction. The importance-performance analysis (IPA) reveals an overall gap score of -13 and an overall conformity percentage of 94.61%, suggesting dissatisfaction with the project management performance of the supervisory consultant. The IPA identifies crucial variables to maintain, such as Integration Management, Scope Management, Schedule Management, Resource Management, Communication Management, and Procurement Management, while Cost Management, Quality Management, Risk Management, and Stakeholder Management need improvement.

Keywords:*Customer satisfaction, project management, supervisory consultant*

INTRODUCTION

The definition of a project is work that is unique and temporary. Projects are carried out to achieve planned goals and produce the desired results or benefits (output), (and are usually limited by costs and time. Time and costs are the main foundation of a project (Turner, 2016). Therefore, projects are often said to be successful if they achieve goals and results desired within a time scale and budget in accordance with the initial agreement (A. et al., 1995).

The development of the construction services business world is currently required to

always improve and maintain the quality and quantity of performance of the various parties involved in a construction project (Salleh, 2009). A construction project is a series of activities to achieve a goal (building or construction) within certain time, cost and quality limits. Construction projects require resources, namely man (people), materials (building materials), machines (equipment), methods (implementation methods), money (money), information (information), and time (time) (Agyekum, 2012). A construction project is a series of activities related to efforts to construct a building, including basic work in the fields of civil engineering and architecture, although it often also involves other disciplines such as industrial, mechanical, electrical, geotechnical and landscape engineering.

The types of construction projects are housing or residential construction projects, which are housing or settlement development projects based on development stages that are simultaneous with the provision of supporting infrastructure(Lizarralde, 2011). Building construction is the type of construction project that is most often carried out. This type of building construction focuses on construction considerations, practical technology, and regulatory considerations. And the third is a civil engineering construction project (heavy engineering construction), which is the process of adding infrastructure to a built environment. Usually the project owner is the government, both at the national and regional levels of this project, design elements, financial and legal considerations remain important considerations, even though this project is more non-profit and prioritizes public services.

Management is the process of planning, organizing, leading and controlling the activities of members and other resources to achieve predetermined organizational goals(Kwan et al., 2005). Meanwhile, project management is management that is applied to achieve a certain result, or, project management is a science and art of planning, organizing, directing, coordinating and controlling. towards people and goods to achieve certain goals of a project (Soeharto, 1997)

Management in managing construction work activities is very necessary considering that businesses in the construction sector are currently growing rapidly (Walker, 2015). Construction management is an organization or individual that is multi-disciplinary. Construction Management can be a business entity which requires human resources who are experts in their respective fields which include POAC (Planning, Organizing, Actuating and Controling) in a systematic and measurable manner.

In carrying out management on a project, we must understand the stages of the project management process, namely: Initiation Stage, in this stage the problem to be resolved will be defined. (Duda et al., 2015)The planning and design stage, namely defining goals and planning the activities needed to achieve the goals and scope of the project. The implementation stage, namely to integrate people and other resources to carry out the project management plan. The supervision and control stage, in this stage aims to measure and monitor progress to identify deviations from the project management plan so that corrective action can be taken if necessary to achieve project goals(Rosenau & Githens, 2011). Closing stage, in this stage the final results of the project and its documentation are

handed over to the owner.

The Public Housing Service for Settlement Areas and Human Settlements of East Java Province has the authority to realize the development of better housing infrastructure and utilities in East Java Province. This development activity needs to be carried out to improve the quality of facilities and utility infrastructure such as roads, channels, culverts and taluds(Khanal et al., 2007). So it is hoped that it can also increase community accessibility and mobility in carrying out economic, educational and other activities.

In implementing these project activities, the government, especially in the Housing and Settlement Area Sector of East Java Province, collaborates with service providers consisting of planning consultants, contractors and supervisory consultants(Anvuur et al., 2006). Cooperation between the government as the project owner and the service provider is outlined in a work agreement or contract, which contains a cost plan, technical specifications and implementation time, which means the project must be completed within the specified time. The success of infrastructure and utility development projects carried out by the government is largely determined by the role of the construction actors involved, and one of them is the consultancy service provider (supervising consultant). The involvement of supervisory consultants is very important in the implementation of project development, this aims to be able to control the implementation of work, to be able to establish communication links between the highest level and the lowest level, so that each work implementation can produce good and quality productivity. To achieve this goal requires the performance of supervisory consultants who are able to adapt to field and work conditions. (Putra et al., 2021)

Based on the background description above, this research was conducted to try to answer the question of how far service users are satisfied with project management performance. This research will also provide an understanding of how project management is implemented by supervisory consultants(Wirabakti et al., 2014)

This research aims to overcome several problems related to project management performance and customer satisfaction in project activities in the Housing and Settlement Areas of East Java Province. Research questions include identifying consultant performance variables, evaluating the level of customer satisfaction with the performance of supervising consultants, and identifying project management variables that need to be improved or maintained to increase customer satisfaction. This research is expected to contribute as a reference for other researchers in the field of project management and can develop into a basis for evaluating the project management performance of supervisory consultants. The benefits also involve developing knowledge in the field of project management and can assist supervisory consultants in providing satisfaction to customers. The research limitations include adopting variables and project management stages from PMBOK, selecting project owners as service users, focusing on supervisory consultants as service providers, and project samples limited to the Housing and Settlement Areas of East Java Province for the 2023 fiscal year.

RESEARCH METHODS

This research will follow a series of structured stages. Starting with a research background which includes issues regarding the success of development projects and the role of supervisory consultants. The problem formulation and research objectives will then define the research framework related to customer satisfaction and project management performance. The literature study will involve identifying project management performance variables from reliable sources. A preliminary survey will validate performance variables through qualitative research. Data collection involved interviews and questionnaires, with data testing for normality, validity, and reliability. Qualitative data analysis uses the Miles and Huberman model, while quantitative data analysis uses the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA). The discussion analysis stage requires interpretation of the results in specific and general contexts. Conclusions and suggestions are then drawn to direct the research results. The research flow diagram presents a visualization of the research stages from start to finish (Batch & Elmqvist, 2017).

This research aims to evaluatesatisfaction of project owners who fund project activities in the Housing and Settlement Areas in East Java Province, with a focus on the project management performance of supervisory consultants. Research methods are divided into qualitative and quantitative. Qualitative research was conducted to identify project management performance variables by conducting interviews and adjusting theory (PMBOK) with field practice. After identifying variables, quantitative research was carried out with a customer satisfaction survey using a Likert scale questionnaire. Primary data was obtained from interviews with project owners and secondary data from literature. The research location covers the entire area of East Java Province, and the research was conducted in 2023. The sampling technique used purposive sampling with a minimum sample size of two sources for qualitative research and a minimum of thirty respondents for quantitative research. The research instrument is a questionnaire with a Likert scale to measure the level of satisfaction and interest. Normality test, validity, reliability, contingency coefficient, and paired sample t-test were used for data analysis. Qualitative analysis follows the Miles and Huberman (1984) model with a focus on project management stages and performance variables. Quantitative analysis involves the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA) to evaluate the level of satisfaction and identify variables that need to be improved or maintained.

RESULTS AND DISCUSSION

Validity and Reliability Test

From the data tested for normality, the research instrument test can be carried out. The research instrument by distributing questionnaires is largely determined by the respondents' answers. If there are respondents who answer carelessly, then the validity and reliability test results tend to fail and they need to be repeated again. The instrument test in this research

was a validity test using the product moment correlation method and a reliability test using the Cronbach's alpha method. Instrument testing using the product moment correlation method is carried out based on the principle of correlating the score of each project management performance variable with the overall score. This instrument test was carried out to test whether project management performance variables were declared valid or not. This test was carried out based on answers to a questionnaire with a Likert scale filled in by forty respondents. If there are invalid project management performance variables, then what must be done is to discard the invalid variables. If there are too many invalid project management performance variables, then what must be done is to repeat the preparation of the research instrument to the distribution of the questionnaire. This means that the questionnaire is unable to measure the research variables(Spector, 1994).

Validity testing using the product moment correlation method is carried out to test whether project management performance variables are declared valid or not. The r-table value obtained is 0.3008 (df=43-2=41) and the significance level is determined at 0.05 or 5%. Validity test results using SPSS, as in the following table.

Table 1. Validity test of level of importance and level of satisfaction (Analysis Results, 2023)

No	Management Performance Variables Project	Level of Importance		Satisfaction Level	
		Pearson Correlation	Significant	Pearson Correlation	Significant
1	Management Integration	0.728	0,000	0.736	0,000
2	Scope management	0.591	0,000	0.730	0,000
3	Management Timetable	0.787	0,000	0.764	0,000
4	Cost management	0.535	0,000	0.465	0,000
5	Management Quality	0.758	0,000	0.701	0,000
6	Resource management	0.697	0,000	0.675	0,000
7	Management Communication	0.701	0,000	0.748	0,000
8	Management Risk	0.599	0,000	0.689	0,000
9	Management Procurement	0.660	0,000	0.780	0,000

10	Management Stakeholders	0.737	0,000	0.716	0,000

Table 1 is a summary of the validity test using the product moment correlation method. Complete validity test results using the product moment correlation method can be seen in appendix 4 and appendix 5.

Based on the results of the validity test using the product moment correlation method for the level of importance and level of satisfaction, it shows that the r-count value (Pearson correlation) is greater than the r-table with a value of 0.2940 (see r-table in attachment 1) and the significance value is less than 0.05 or 5%. Therefore, the conclusion is that the entirety of each project management performance variable for the level of importance and level of satisfaction is declared valid.

Valid means that each project management performance variable has a close relationship as proven by a significance value with an error rate of 5%. Because all of each project management performance variable is declared valid, there is no need to discard or eliminate project management performance variables or repeat the preparation of research instruments and repeat distribution of questionnaires. So, the instrument in this research can then be tested for reliability using the Cronbach's alpha method.

The instrument test with Cronbach's alpha was carried out jointly between the overall project management performance variables and the interests and satisfaction of the project owner. The principle of instrument testing with Cronbach's alpha is that if questionnaire measurements are carried out repeatedly, they will have consistent results. As with the validity test, if it is not valid, it requires re-drafting and redistributing the questionnaire. Likewise with reliability testing. If the project management performance variable is declared unreliable, then what must be done is to repeat the preparation of the research instrument to the validity test until the resulting data is reliable.

Reliability testing using the Cronbach's alpha method was carried out to test whether this research instrument was deemed reliable or not. This test was carried out based on answers to a questionnaire with a Likert scale filled in by forty-three respondents. The criteria for the Cronbach's alpha method are: if the Cronbach's alpha value is 0.8 to 1.0, then reliability is declared good; if the Cronbach's alpha value is 0.6 to 0.8, then reliability is declared acceptable; and if the Cronbach's alpha value is less than 0.6, then the reliability is declared not good. Reliability test results using SPSS, as in the following table.

Table 2. Reliability test for level of satisfaction and level of importance (Analysis Results, 2023)

	Cronbach's Alpha	N of Items
Interest	0.860	10
Satisfaction	0.880	10

Table 2 shows the results of the reliability test using the Cronbach's alpha method. The "N of Items" value is an attribute or variable of project management performance which is measured by a number of ten variables. The Cronbach's alpha value at the level of importance was obtained at 0.860, which means that reliability was declared good because it was between 0.8 to 1.0. The Cronbach's alpha value for the level of satisfaction was found to be 0.880, which means that reliability is also stated to be good because it is between 0.8 to 1.0. Therefore, this research instrument is declared reliable or consistent for use in research.

What is meant by reliability is that each project management performance variable measured by the level of importance and level of satisfaction has consistent results and can be used for analysis. Because the project management performance variables which are measured by the level of importance and level of satisfaction are reliable, the instruments in this research do not need to repeat the preparation of research instruments, repeat distribution of questionnaires, and carry out validity tests again. So, the instruments in this research can then be used to analyze research data.

Normality test

A normality test using the one sample Kolmogorof-Smirnov method was carried out to test the questionnaire answers from forty-three respondents. The significance level criteria is 0.05 or 5%. If the significance value is <0.05, then the data is not normally distributed. Meanwhile, if the significance value is > 0.05, then the data is normally distributed. Normality test results using SPSS, as in the following table.

Table 3. Normality test with one sample*kolmogorov-smirnov*

Information		**Level Importance**	**ofSatisfaction Level**
N		**43**	**43**
Normal Parameters	Mean	50.9070	50.5116
	Std. Deviation	5.01813	5.07267
Most Extreme Differences	Absolute	0.111	0.129
	Positive	0.111	0.129
	Negative	-0.79	-0.82
Kolmogorov-Smirnov Z		0.111	0.129
Asymp. Sig. (2-tailed)		0.200	0.71

Table 3 shows the results of the normality test with one sample Kolmogorof-Smirnov. The "N" value in table 3 shows the respondents in this study, totaling forty-three respondents. For the importance value, the mean value was 50.90. Meanwhile, the satisfaction score obtained a mean value of 50.51. The standard deviation value for importance is 5.01813. Meanwhile, the standard deviation value for satisfaction is 5.07267.

Based on the normality test with one sample Kolmogorof-Smirnov, the significance level of importance was 0.200 > 0.050 and the significance level of satisfaction was 0.71 > 0.050.

From these two significant results, it can be stated that the data on the level of importance and level of satisfaction are normally distributed. Because the data on the level of importance and level of satisfaction are normally distributed, this data can then be used to test research instruments.

Contingency Coefficient Test

The contingency coefficient test in this study was carried out on forty-three respondents through questionnaire answers with a Likert scale. The contingency coefficient test is used to determine the relationship between the level of importance and the level of satisfaction with overall project management performance.

Each respondent gave an answer regarding the level of importance and level of satisfaction with one variable up to the tenth variable. After that, each respondent's answers were added up and given an average value for the level of importance and an average value for the level of satisfaction. The average value is then cross-tabulated, as in the following table.

Table 4. Crosstabulation of level of importance and level of satisfaction

		Satisfaction Level				Total
		Not satisfied	Quite satisfied	Very satisfied	Satisfied	
Level of Importance	Important	2	3	2	15	22
	Very important	0	5	0	0	5
	Enough	0	5	2	9	16
Total		2	13	4	22	43

CRostabulation is usually called a contingency table. Table 4 shows a contingency table of levels of importance that describes the project owner's expectations with the level of satisfaction that results from project management performance. The meaning of table 4.5 is:

Expectations for project management performance were considered "important" and performance results were "not satisfied" by two respondents;

Expectations for project management performance were considered "important" and the performance results were "quite satisfied" by three respondents;

Expectations for project management performance were considered "important" and the performance results were "very satisfied" by two respondents;

Expectations for project management performance were considered "important" and performance results were "Satisfied" by 15 respondents;

Expectations for project management performance were considered "very important" and the performance results were "quite satisfied" by five respondents;

Expectations for project management performance were considered "quite important"

and the performance results were "quite satisfied" by five respondents;

Expectations for project management performance were considered "quite important" and the performance results were "very satisfied" by two respondents;

Expectations for project management performance were considered "quite important" and performance results were "satisfied" by nine respondents;

A total of twenty-two respondents considered expectations for project management performance to be “important”;

The total expectations for project management performance were deemed “very important” by five respondents;

Total expectations for project management performance were deemed “quite important” by sixteen respondents;

The total results of project management performance were considered "not satisfied" by two respondents;

The total project management performance results were considered "quite satisfactory" by thirteen respondents;

The total project management performance results were considered "satisfactory" by twenty-four respondents;

The total project management performance results were considered "very satisfied" by four respondents; And

The number of respondents was forty-three respondents

After crosstabulating the level of importance and level of satisfaction, the next step is to test the contingency coefficient. The contingency coefficient test has test criteria with a significance value at the 0.05 level. If the significance value is <0.05, then there is a significant relationship between the level of importance and the level of satisfaction. Meanwhile, if the significance value is > 0.05, then there is no significant relationship between the level of importance and the level of satisfaction.

Table 5. Symmetric measures

		Value	Approx. Sig.
Nominal by Nominal	**Contingency Coefficient**	0.521	0.014
N of Valid Cases		43	

Table 5 shows that forty-three respondents' answers were declared valid with a nominal by nominal value of 0.521. Furthermore, the significant value obtained was 0.024. A significant value of 0.024 < 0.050 means that there is a significant relationship between the level of importance and the level of satisfaction. Because there is a relationship between the level of interest and the level of satisfaction, this research can be generalized and further analysis carried out.

Statistical Difference Test

A statistical difference test using the paired sample t-test method was carried out to test the questionnaire answers from forty-three respondents. This test is used to find out

whether there is an average difference between two paired variables. The two variables in question are the same variable but have two data, namely the level of importance and the level of satisfaction with project management performance.

This method has two criteria, namely based on the significance level and based on the t test. Based on the significance level, the sample can be declared to have no difference (Ho) if the significance value is > 0.05. Meanwhile, the sample can be declared to have a difference (Ha) if the significance value is <0.05. Based on the t test, the sample can be declared to have no difference (Ho) if –t-count ≤ t-count ≤ t-table. Meanwhile, the sample can be declared to have a difference (Ha) if – t-count < t-table or t-count > t-table.

Table 6. Paired samples statistics (Analysis Results, 2023)

	Mean	N	Std. Deviation	Std. Error Mean
Interest	1.86	43	0.941	0.143
Satisfaction	3.16	43	1,022	0.156

Table 6 shows the results of descriptive statistics from the sample studied, namely importance which describes the project owner's expectations of project management performance and satisfaction describes the project owner's satisfaction with project management performance. For the importance value, the mean was 1.86. Meanwhile, the mean satisfaction score was 3.16. The number of samples in this study was forty-three respondents. The standard deviation value for importance is 0.941. Meanwhile, the standard deviation value for satisfaction is 1.022. The last one is the standard error of the mean. The mean standard error value for importance is 0.143 and for satisfaction is 0.156.

Based on paired samples statistics, the mean value of importance is 1.86 smaller than the mean value of satisfaction of 3.16. This means that descriptively there is a difference between the level of interest and the level of satisfaction.

Table 7. Paired samples correlations (Analysis Results, 2023)

	N	Correlation	Sig.
Interest & Satisfaction	43	0.075	0.633

Table 7 shows the results of the correlation test or relationship between importance and satisfaction. Based on paired samples correlations with forty-three respondents, it is known that the correlation value is 0.075 and the significance value is 0.633. Because the significance value is 0.633 < 0.05, there is no difference in interest and satisfaction. This means that there is a strong relationship between the interests of the project owner and satisfaction with the results of project management performance.

Table 8. Paired samples test (Analysis Results, 2023)

Paired Differences	t	df	Sig. (2-

								tailed)
	Mean	**Std. Dev.**	**Std. Error Mean**	**95% Confidence Interval of the Difference**				
				Lower	**Upper**			
Importance Satisfaction	–1,302	1,440	0.220	-1,745	0.859	5,931	42	0,000

Table 8 shows an average difference of 1.302 with a standard deviation of 1.440 and a standard error of 0.220. Meanwhile, the lowest confidence interval of the difference is -1.745 and the highest is 0.859.

Table 8 shows the t-count is 5.931. Meanwhile, the t-table at a significance level of 0.05:2 = 0.025 (two-sided test) with degrees of freedom 42 – 2 = 40, then the value obtained is 2.016 (see t-table in attachment 2). Based on the t test obtained is t-count 5.931 > t-table 2.016, so there is a difference in interest and satisfaction. Likewise, with a significance value of 0.000 < 0.050, there is also a difference in interest and satisfaction. Therefore, the conclusion is that "there is a difference" between interest which describes the expectations of the project owner and satisfaction which describes the results of the contractor's project management performance. This can be further proven by the two analyzes in this research.

Customer Satisfaction Index

The customer satisfaction index (CSI) is used to identify the level of importance and level of satisfaction of the project owner. Identification of the level of importance and level of satisfaction with project management performance variables is carried out thoroughly. The calculation of the customer satisfaction index (CSI) is obtained from a comparison between the level of interest and the level of satisfaction of the project owner with project management performance using the formula from number 2.1 to number 2.7.

Table 9. Calculation of customer satisfaction index (CSI)

No	**Variable Performance Project management**	**Mean Importance Score (MIS)**	**Weight Factor (WF)**	**Mean Satisfaction Score (MSS)**	**Weight Score (WS)**
1	Integration management	3.3488	10.6%	3.3721	31.95%
2	Scope management	2.9535	9.40%	3.1395	29.53%
3	Management Timetable	3.4651	11.03%	3.5233	38.88%
4	Management Cost	30465	9.70%	3.0233	29.33%

5	Quality management	3.6279	11.55%	3,256	41.38%
6	Resource management	3.2442	10.33%	3,070	32.922%
7	Management Communication	3.1395	10%	3,209	31.279%
8	Management Risk	3.0465	9.70%	2,953	30.014%
9	Management Procurement	3.0116	9.59%	3,047	28.889%
10	Management Stakeholders	2.5116	8%	3,163	19.535%
Total Weight = ΣWeight Score					**317.75%**
Customer Satisfaction Index = (Weight Total / scale (5)) * 100% 63.55%					

After calculating the customer satisfaction index (CSI) as in table 4.10, the next step is to calculate the scale range. The scale range calculation is used to determine the assessment criteria for project management performance variables. The scale range calculation is carried out using formula number 3.7, which can be seen as follows.

$$\boldsymbol{Rentang\ skala} = \frac{\mathbf{100 - 0}}{\mathbf{5}}\ \boldsymbol{x}\ \mathbf{100\%}$$

= 20%

From the calculation of the scale range above, the customer satisfaction index (CSI) assessment criteria are as in the following table.

Table 10. Range of customer satisfaction index (CSI) scales (Analysis Results, 2023)

No	Index Value	Assessment criteria
1	0.00% < CSI ≤ 20.00%	Very Dissatisfied
2	20.01% < CSI ≤ 40.00%	Not satisfied
3	40.01% < CSI ≤ 60.00%	Enough
4	60.01% < CSI ≤ 80.00%	Satisfied
5	80.01% < CSI ≤ 100.00%	Very satisfied

Based on the results of the customer satisfaction index (CSI) calculation, it can be seen that the CSI value for the overall project management performance variable is 63.55%. This value is in the scale range 80% < CSI 63.55% ≤ 100%, which means the project owner feels "satisfied" with the project management performance of the supervising consultant.

Therefore, based on the results of the customer satisfaction index (CSI) calculation, it is hoped that the supervisory consultant will maintain its performance.

Importance Performance Analysis

Importance Performance Analysis (IPA) analysis is carried out to identify the level of importance and satisfaction of project owners with project management performance variables. The identification process uses gap analysis, calculation of the level of conformity, and Cartesian diagrams. Through gap analysis, the difference between the importance level score and the satisfaction level score is calculated for each project management performance variable. Meanwhile, the level of suitability is measured by comparing the importance level score with the satisfaction level score, then expressed as a percentage.

From the results of the gap analysis and level of suitability, the overall gap score was -13, indicating the level of importance is lower than the level of satisfaction. Even though the conformity level reached 94.61%, which indicates that satisfaction is almost equal to interests, it still has not reached the level of 100%, which indicates that satisfaction equals interests.

These results allow classifying project management performance variables into two quadrants on the Cartesian diagram. By using the average assessment of the level of importance and level of satisfaction, the Cartesian diagram can map each variable into quadrants that reflect improvement priorities. This can be seen in Figure 4.26, where project management performance variables are classified into two quadrants based on importance and satisfaction assessments.

Special Discussion

The discussion specifically is a discussion of the interpretation of the analysis results in this research. Discussion of the interpretation of the analysis results is an effort that is needed to be proposed to the supervisory consultant in order to improve its performance, maintain its performance, increase the interests of the project owner, or increase the interests of the project owner and improve its performance in order to increase customer satisfaction based on the research results. Evaluation of project management performance based on the results of the customer satisfaction index (CSI) and importance performance analysis (IPA) calculations that have been carried out.

Based on the results of the customer satisfaction index (CSI) analysis in this research, it is in the scale range of 60% < CSI 63.55% ≤ 80%, which means that the project owner feels "satisfied" with the performance of project management activities in the Housing and Residential Area Sector in East Java Province. . Therefore, evaluation efforts based on the results of customer satisfaction index (CSI) analysis are expected for supervisory consultants to maintain or improve their performance.

Customer satisfaction index (CSI) analysis is a method that is calculated using the total satisfaction value. Meanwhile, importance performance analysis (IPA) is a method that is calculated by comparing the level of importance which describes the expectations of the project owner with the level of satisfaction which describes the results of project management performance of project activities in the Housing and Residential Areas in East Java Province in more detail.

In the importance performance analysis (IPA) analysis there is a gap analysis and level of

suitability. The measurement of gap analysis and level of conformity in this research was adopted from the definition of customer satisfaction. The definition of customer satisfaction is that if the project management performance of housing and residential area project activities in East Java Province does not match or falls short of expectations, then the project owner feels dissatisfied. Vice versa, if project management performance meets or exceeds expectations, then the project owner feels satisfied.

From the definition of customer satisfaction, gap analysis measurements and the level of conformity can be determined. If the gap score value is less than 0 and the conformity level is below 100%, then the project owner is dissatisfied. Vice versa, if the gap score value is more than 0 and the conformity level is below 100%, then the project owner is satisfied.

Based on the results of the gap analysis and level of conformity in this study, it can be seen that the overall gap score is -13 and the overall percentage of conformity level is 94.61%. The gap score and percentage of overall conformity level means that the project owner, namely the Housing Sector, Public Housing Department, Settlement Areas and Human Settlements, East Java Province, feels "not satisfied" with the project management performance of project activities in the Housing and Settlement Areas Sector in East Java Province. Therefore, evaluation efforts based on the results of the gap analysis results and the level of conformity are expected for the supervisory consultant to improve its overall performance.

There is a difference between the results of the customer satisfaction index (CSI) analysis and the results of the gap analysis and level of conformity. This difference is because in the customer satisfaction index (CSI) analysis the calculation uses a total satisfaction value whose measurement uses a range of scales which are divided into four, namely very satisfied, satisfied, dissatisfied, and very dissatisfied. Meanwhile, in gap analysis the measurement is with the number zero (if the score is below zero, then the project owner is dissatisfied and vice versa) and the level of conformity measurement is measured with a percentage of 100% (if the percentage is below 100%, then the project owner is dissatisfied and vice versa).

Because there are differences, it is necessary to know the results of a more detailed analysis using the importance performance analysis (IPA) method which uses Cartesian diagrams. The Cartesian diagram can classify project management performance variables into four quadrants. This classification is explained in this sub-chapter (see summary in appendix 6).

General Discussion

The general discussion is a discussion of the interpretation of the analysis results in this research. Discussion of the interpretation of the analysis is a necessary effort to be proposed to academics and practitioners for the follow-up of this research in a more general context.

The discussion in this research is the result of ideas to be followed up in a more general context. Follow-up in a more general context can be carried out academically or practically. Academic follow-up can include further research, such as:

1. Analysis of effective and efficient construction services marketing management. Marketing management analysis can be used as research that is more general or broader than this research. This research is needed to retain old customers and/or new customers using the word of mouth method. Meanwhile, marketing management analysis is needed to find new customers using several marketing methods.
2. Analysis of customer satisfaction with each variable of project management performance contained in PMBOK uses the same method as this research, for example: customer satisfaction with time management. This is very necessary for a more in-depth literacy study of each project management performance variable contained in PMBOK.
3. Analysis of customer satisfaction with each variable of project management performance contained in PMBOK by comparing the contract systems used. This research is needed to identify the differences between several contract systems that influence customer satisfaction.
4. Analysis of customer satisfaction with each project management performance variable contained in PMBOK uses a hierarchical method. The hierarchical method is needed to understand the relationship between each
5. each project management variable contained in PMBOK by grouping the variables. Grouping variables based on the similar nature and characteristics of each project management performance variable contained in PMBOK. So, we can see that each project management performance variable contained in PMBOK has similarities or similarities.
6. Analysis of supervisory consultant satisfaction with each variable of project management performance contained in PMBOK uses the same method as this research. Analysis of supervisory consultant satisfaction is needed to identify what variables are needed for sustainable project completion.
7. Planning and designing an information system that integrates each stage and project management performance variable contained in PMBOK. Planning and designing an integrated project management information system can make it easier for stakeholders to manage projects.

Practical follow-up based on this research can do several things, such as:

a. Use this research as consideration for conducting project management evaluations. This project management evaluation is necessary to maintain and increase customer or project owner satisfaction. By maintaining and increasing customer satisfaction, it is hoped that the project owner will become loyal to the contractor he chooses.
b. Conduct customer satisfaction surveys independently and periodically, for example each project owner is given a questionnaire at the time of the handover report and several months after it is operational or occupied. Carrying out customer satisfaction surveys independently and periodically is necessary to carry out regular evaluations that have an impact on customer satisfaction.

CONCLUSION

Based on the results and discussion in the previous chapter, this research concludes several things. First, through quantitative analysis which includes normality tests, validity, reliability, contingency coefficients, and statistical difference tests, along with the use of the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA), ten project management performance variables that are important in Field project activities are identified. Housing and Settlement Areas in East Java Province, namely: (1) integration management; (2) scope management; (3) schedule management; (4) cost management; (5) quality management; (6) resource management; (7) communication management; (8) risk management; (9) procurement management; and (10) stakeholder management.

Second, the Customer Satisfaction Index (CSI) analysis shows a value of 63.550%, within the scale range of 60% < CSI ≤ 80%, indicating the project owner's satisfaction with the project management performance of the supervising consultant. Meanwhile, Importance Performance Analysis (IPA) revealed an overall gap score of -13 and a conformity level of 94.61%, indicating that the project owner was not completely satisfied with the contractor's project management performance.

Third, analysis from Importance Performance Analysis (IPA) provides an understanding of priorities for improvement and development of project management performance variables. Variables that need to be maintained include integration management, scope management, schedule management, resource management, communications management, and procurement management. Meanwhile, the variables that need to be improved involve cost management, quality management, risk management and stakeholder management.

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