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INDIRECT COST ANALYSIS OF THE CONSTRUCTION PROJECT OF SPORTS FACILITIES IN KANOR SUB-DISTRICT, BOJONEGORO DISTRICT WITH LINEAR REGRESSION METHOD

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Abstract

The calculation of indirect costs carried out by contractors so far has no reference or there is no standardized design to be a benchmark. For this reason, researchers will analyze the primary and secondary data of this study to determine the indirect costs of direct costs or against the contractors' contracts. This study analyzes the amount of indirect costs in the Kanor District Sports Facilities Development project of Bojonegoro Regency and looks for a relationship between indirect costs and bid prices with time performance on the Kanor District Sports Facilities Development project of Bojonegoro Regency. This research method uses data processing and indirect cost RAB making. and using analysis methods with linear regression statistical analysis. Indirect costs in the Kanor District Sports Facilities Development project are allocated to 4 (four) main things, namely tax and insurance costs (61.49%), risk costs (7.21%), and overhead costs (8.62%), general costs (8.325) quality costs 4.36%) where the percentage is calculated from the total amount of indirect costs. From the linear regression analysis it can be concluded that indirect costs affect the project work time. Bid price has no effect on project work time. Indirect costs and bid prices affect the time of work.

Keywords: *Indirect Cost, Project, Linear Regression, Direct Cost, Bid Prices*

1. INTRODUCTION

Development that continues to progress in all fields, both material and spiritual, related to human resources, especially development in East Java Province, one of which is the city of Surabaya which has great potential, has the potential to become a strategic area targeted by domestic and foreign investors for investment in the form of development. Construction development is an organized effort to achieve major goals, objectives, and expectations using available rules and resources, adjusted to a certain period of time (Nuswantoro, 2019). In construction development all elements will be very influential in achieving these goals, especially the construction cost element.

In any Construction project there are several important project parameters and cost tops the list as the most important parameter. Because every decision has implications on cost directly or indirectly. Cost is important for contractors (Saini et al., 2021). In obtaining a project the contractor will go through a tender process in which there is an important stage, namely the bidding stage. In the auction the contractor is faced with two contradictory conditions, namely if he becomes the lowest bidder, the profit obtained is very small but the chances of winning the tender are getting bigger, while if the proposed

bid is high, the profit obtained is large but the chances of winning the tender are small because it can be won by a bidder with a lower price.

Price quotes in the implementation of the Kanor District Sports Facilities Development projects, Bojonegoro Regency, where the winning contractor reduced the cost of the cost budget plan set by the owner decreased by up to 20%. In this case, it will be a question for policy makers, where in the work item of the cost budget plan, indirect costs should be a calculation that should not be omitted in the price bid reference. In this study, researchers will calculate how much indirect costs incurred by the contractor, and what indirect costs are very influential in the performance of the project work time. Construction cost elements include direct and indirect costs. Direct costs are costs that are directly related to the amount of work, such as salary/labor costs, material costs, and equipment costs. Indirect costs are those costs that are not directly related to the amount of work but have a significant impact on the completion of project work such as overhead costs, profit, incidental costs, etc (Moselhi, 1997).

By considering indirect costs to be a factor in the competitiveness of the company, it is clear that overhead costs or also indirect costs must be adequately managed so that the company remains eligible to participate in tenders at an acceptable price (Saini et al., 2021). The construction cost estimate is divided into two parts, the first part being the conceptual cost estimate, viz. The cost calculation is based on the concept of the building to be built. The second is a detailed cost estimate based on a comprehensive building plan document. Detailed estimates include an engineer's estimate, in which the designer estimates construction costs based on bidding documents, which serve as the basis for evaluating bids from potential contractors to determine the best bidder. And the contractor's bid estimate is an estimate based on the contractor's bidding documents to determine the cost of the proposed project (Salim, 2020).

In general, contractors who can estimate costs more accurately will be more successful at managing construction cost uncertainty. using minimizing the risk of changes in construction costs, the costs incurred to manage risks can be reduced so that the bid price becomes more competitive. This tender is an important aspect of the economic cycle as well as the construction sector in order for the company to survive (Soemardi & Kusumawardani, 2010). The direct cost of a construction project can be estimated by calculating the amount of work and project costs based on the unit price of the construction. In addition, indirect costs have not been clearly calculated for each construction project. However, indirect costs must be estimated to allocate indirect costs to construction work, such as unexpected costs in construction projects.

Indirect costs are that part of the financing of a construction project that is not directly related to the sum of the physical components that make up the end result of the project but contributes to its completion. Estimating indirect costs is less straightforward than estimating direct costs by referring to drawings and specifications. The common practice of contractors in Indonesia to determine the amount of indirect costs is to calculate the percentage of direct costs based on the experience of previous projects. Indirect cost estimates made by each contractor during the construction project budget design process are considered to lack proper procedures for determining the amount of indirect cost variables. Each contractor has its own level of indirect cost allocation, which

varies depending on the experience of each contractor. Based on this research, the idea arose to analyze the factors that influence contractors in determining indirect cost estimates in the cost budget (hereinafter referred to as RAB) of a construction project.

In Indonesia, studies on the calculation of indirect costs in construction activities, especially related to their influence factors, are still very rare. (Howay et al., 2022).. Some previous studies describing how indirect costs affect project value show that large, medium, and small contractors have the same tendency. Contract value is negatively correlated with the proportion or presentation of indirect costs. This suggests that these contractors behave optimistically towards the amount of indirect costs. There is only a difference in the percentage and extent of the contract. In this situation, it can be concluded that each contract value has a nominal base of indirect costs, as well as additional costs whose value increases with the contract value (Soemardi & Kusumawardani, 2010).

In the indirect cost study, the project quality cost was 0.54% of the contract value, or 3% of the indirect cost. In this project, the risk cost is 5.17% of the contract value, or 32% of the indirect cost. Direct and indirect costs were 84.16% and 16.16% of the contract value, respectively (Nurdiana, 2015). In subsidized housing projects, the most dominant indirect cost components are project profit at 8%, facilities and infrastructure costs at 5%, overhead costs at 4%, and contingencies at 2%. As a result, the decrease in project profit by 2% from the planned and the presence of unexpected costs led to the identification and estimation of indirect costs in the construction project, so that the project could make a profit (Basrin & Fahriana, 2021). A study conducted on road contractors found 51 variables that affect indirect cost estimation for road construction. These factors were divided into four groups, each consisting of 11 factors for project factors, 20 factors for organizational factors, 13 factors for government regulatory factors, and seven factors for environmental factors (Adianto et al., 2022). And another study mentioned that small entrepreneurs use percentages (%) and specific values to estimate indirect costs.

Small business owners do not fully understand the components of indirect costs. As indicated by the tendency to use a smaller contractor model, the ratio of indirect costs to contract value is positively correlated with contract value (Salim & mughni, 2020). This study builds on previous research and takes the relationship with the direct cost price calculated by the contractor. The calculation of indirect costs carried out by contractors so far has no reference or there is no standardized design to be a benchmark. For this reason, researchers will analyze the primary and secondary data of this study to determine the indirect costs of direct costs or the contractors' contracts. This study examines the contractor's practice of estimating indirect costs with the aim of better understanding the characteristics of indirect cost estimation models and modeling with linear regression to better understand the effect of indirect costs and bid prices on project execution time.

From the results of this research analysis, we hope to obtain data or designs that can be used as a reference for planning the right cost budget, and from the data can be known the relationship between indirect costs and bid prices and also the implementation time carried out by the contractor. Based on the background that has been stated above, the

purpose of this research problem is to calculate the amount of indirect costs in the project Development of Sports Facilities Kanor District Bojonegoro Regency. As well as calculating the relationship between indirect costs and bid prices with the performance of the project time Development of Sports Facilities Kanor District Bojonegoro Regency.

2. RESEARCH METHODS

The research subject data that was successfully obtained asamana data - the following data: Contractors who handle the Kanor District Sports Facilities Development project, Bojonegoro Regency. The sample method used is Non- Probability Sampling. The object of this research is the mechanism for determining the indirect cost components used by the contractor of the Kanor District Sports Facilities Development Project, Bojonegoro Regency. The location of this research is in the project Development of Sports Facilities Kanor District Bojonegoro Regency.

In this study using a Likert scale. The Likert scale is used to measure the attitudes, opinions, and perceptions of a person or group of people about social phenomena. The Likert scale used with a score range of 1-5. The data collection techniques used in this study are questionnaires and information collection by conducting direct questions and answers with parties who have direct contact. Data analysis techniques in this research include analysis of research subjects, indirect cost component analysis and classical assumption test. In this linear regression test, researchers used SPSS (Statistical Product and Service Solutions) software to speed up the process and minimize errors. Before analyzing with SPSS software, researchers tabulated data with Microsoft Office Excel.

3. RESULT AND DISCUSSION

3.1. Indirect Cost Component Analysis)

Indirect costs are all project costs that are not directly related to construction in the field but these costs must exist and cannot be separated from the project (Nugraha et al., 1985). The costs included in indirect costs are overhead costs, contigencies, profits, taxes and others. The indirect costs in this project are divided into project profit, quality costs, risk costs, company overhead costs, and other costs (Nurdiana, 2015).

a. Cost of Quality

The cost of quality in this project is taken from primary data, namely interviews and review of treasurer's expenses with the following data:

Table 1. Quality Cost Analysis Results

Description	% Cost
Tender Process Cost OHS Cost	0.17%
Contract manufacturing cost Quality	0.48%
Control Salary	1.91%
Testing fee	0.51%

Total Cost of Quality	4.49 %

The table above shows that in the Kanor District Sports Facilities Development project, Bojonegoro Regency, quality costs are divided into 4 (four), namely the cost of the tender process (0.17%), the cost of k3 (1.42%), the cost of making contracts (0.48%), the cost of quality control salaries (1.91%), and testing costs (0.51%).

b. Cost of Risk

The cost of risk is determined from the losses that may occur due to the risks that arise in the project. This risk cost needs to be determined in order to know how much impact is caused if the identified risk occurs. Below is presented the risk cost (%) on the Kanor District Sports Facilities Development project, Bojonegoro Regency.

Table 2. Risk Cost Analysis Results

Risk Category	Risk	Causes	% Risk Cost
Time Risk	ImplementationDelay	Weather Factors Design changes Internal payments from office to field are late	2%
OHS Risks	High risk of occupational accidents	Building Height	0.1%
Risk of Work Add less	Work completion added Less	Documents do notsupport Owner approval is not final	0
Contractual Risks	Owner's latepayment and penalty Late payment	Contract Article stating1/mile late fee	0

Based on the table above, it is known that the cost of risk in this project is divided into 4 (four) categories, namely cost due to time risk (2%), cost due to OHS risk (0.1%), cost due to risk of work added less (0%), and cost due to contractual risk (0%).

c. Overhead Costs

Overhead costs are those costs that are not part of the actual cost of construction, but are charged to the contractor to support the project (Magaline & Haryono, 2015). Overhead costs are grouped into two types, namely office overhead costs and project overhead costs. Office overhead costs are an allocation of head office expenses to the project. Where head office overhead costs are costs that are not directly involved in construction projects contained in the head office, which are charged to each project with

a certain loading rate. Meanwhile, project overhead costs are costs that occur at the construction site, but are not directly related to work items (Magaline et al., 2015). The value of project overhead costs to the total value of the project is in the range of 0.1% - 4%, 4.1% - 8%, and 8.1% - 12%. (Hartanto et al., 2022). Overhead costs in this project amounted to (7%) of the total indirect costs. These costs consist of office overhead costs (3%) and project overhead costs (4%).

d. Fees Taxes, Insurance and Guarantee Fees

Tax costs consist of income tax of 2.5%, value added tax of 11% and the cost of making a guarantee document of Rp. 10,000,000 while insurance costs of Rp. 7,000,000, if the percentage of tax, insurance and guarantee costs is (63%) of indirect costs.

e. RAB Calculation of Indirect Costs

From the analysis of indirect cost calculations carried out through interviews with the treasurer and also seeing expenses. Then the indirect costs of the Kanor District Sports Facilities Development project can be described as follows:

Table 3. Calculation of Indirect Costs

No.	Description	Percentage	Value	Description
1	Contract Value		IDR 6,965,316,123	
2	Profit Plan	5%	IDR 348,265,806	**director interview**
3	Project Budget Plan		Rp 6,617,050,317	
4	Direct Costs		**IDR5,151,570,995**	
5	Indirect Cost		**IDR 1,465,479,322**	
6	**tax**			
a	Income tax	2,50%	IDR 219,627,085	**Treasurer Interview**
b	Value Added Tax	11%	IDR 690,256,553	**Treasurer Interview**
c	Wage Tax	-		
			IDR 909,883,638	
7	**Guarantee Fee**			
a	offers		IDR 2,500,000	
b	Implementation		IDR 2,500,000	
c	Payment		IDR 2,500,000	
d	Down Payment		IDR 2,500,000	
			IDR 10,000,000	
8	Insurance			

No.	Description	Percentage	Value	Description
a	Project Insurance		**IDR 3,500,000**	
b	Workers Insurance		**IDR 3,500,000**	
			IDR 7,000,000	
9	General Costs	1,80%	**IDR 125,375,690**	Treasurer Interview
a	Vehicle operation	0,20%	**IDR 13,930,632**	
b	Operational Equipment	0,50%	**IDR 34,826,581**	
c	Vehicle maintenance	0,05%	**IDR 3,482,658**	
d	Equipment Maintenance	0,05%	**IDR 3,482,658**	
e	Household supplies cost	0,20%	**IDR 13,930,632**	
f	Retribution/License	0,50%	**IDR 34,826,581**	
g	Project success cost	0,00%	**Rp...**	
h	Project security costs	0,30%	**IDR 20,895,948**	
	more			
10	Risk	1,56%		
a	Time Risk	0,5%	**IDR 34,826,581**	
b	OHS Risks	0,06%	**IDR 4,179,190**	
c	Unexpected Costs	1%	**Rp 69,653,161**	
			IDR 108,658,932	
11	Overhead		**IDR 238,791,897**	
	a. office			
1	Directors	0,500%	**IDR 34,826,581**	Treasurer Interview
2	salary Office employees	0,10%	**IDR 6,965,316**	treasurer interview
3	Office rent	0		
4	Office supplies cost	0		
			IDR 41,791,897	
	b. project			
1	Project Administration Fee		**IDR 5,000,000**	Treasurer Interview
2	Electricity, water and telephone		**IDR 49,000,000**	Treasurer Interview
3	site engineering salary		**IDR 38,500,000**	Treasurer Interview

No.	Description	Percentage	Value	Description
4	Engineering Salary		**IDR 31,500,000**	Treasurer Interview
5	Executive Salary		**IDR 31,500,000**	Treasurer Interview
6	Surveyor Salary		**IDR 28,000,000**	Treasurer Interview
7	project office		**IDR 5,000,000**	Treasurer Interview
8	Warehouse		**IDR 5,000,000**	Treasurer Interview
9	Employee camp fees		**Rp...**	Treasurer Interview
10	Project stationery costs		**IDR 3,500,000**	Treasurer Interview
			IDR 197,000,000	
12	Cost of Quality			
a	Training Costs		**Rp...**	
b	Tender Process Cost		**IDR 2,500,000**	Treasurer Interview
c	OHS Cost		**IDR 20,803,850**	Treasurer Interview
d	Contract manufacturing cost		**IDR 6,965,316**	Treasurer Interview
e	Quality Control Salary		**IDR 28,000,000**	Treasurer Interview
f	Testing fee		**IDR 7,500,000**	Treasurer Interview
g	Maintenance period cost		**-**	
			IDR 65,769,166	
		Total	**IDR 1,465,479,322**	

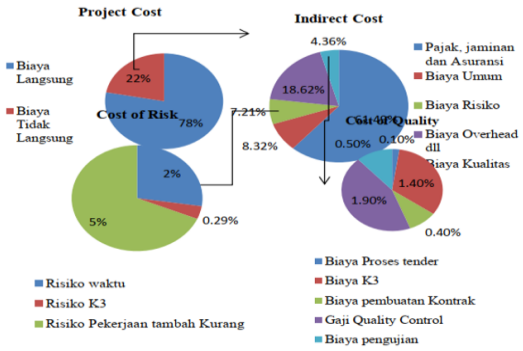

Figure 1. Project Cost Chart

Figure 1 shows the project costs in detail, especially the indirect costs. Indirect costs in the Kanor Sub-district Sports Facilities Development project are allocated to 4 (four) main things, namely tax and insurance costs (61.49%), risk costs (7.21%), and overhead costs (8.62%), general costs (8.325) quality costs 4.36%) where the percentage is calculated from the total amount of indirect costs. If calculated further, it can be concluded that the Kanor District Sports Facilities Development project budget consists of:

a. Contract Price Rp. 6,965,316,123
b. Profit plan IDR 348,265,806 (5%)
c. Project Budget Plan Rp. 6,617,050,317
d. Direct Cost Rp. 5,151,5170,995 (78%)
e. Indirect Cost Rp. 1,465,479,322 (22%)

3.2. Classical Assumption Test and Linear Regression Analysis

This test is intended to analyze several assumptions of the resulting regression equation is valid. Regression analysis has several assumptions that must be met so that the resulting regression equation will be valid if it is used to predict (Hajarisman et al., 2023).(Hajarisman et al., n.d.). The discussion of the assumptions in regression analysis is as follows:

a. Normality Test

The normality test is intended to ensure that the data to be analyzed is normally distributed as a prerequisite for analysis. The normality test in this analysis was carried out with the SPSS program which produced a Normal PP Plot image. The resulting image will show the distribution of dots. If the distribution of the dots is close or close to the straight line (diagonal), it is said that the residual (data) is normally distributed, but if the distribution of the dots is away from the line, it is not normally distributed. This test aims to determine whether the residual variable in the regression model has a normal distribution.

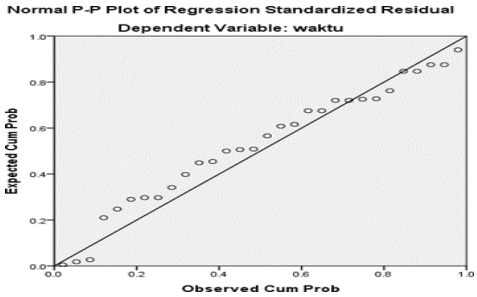

Figure 2. Normal P-Plot of Linear Regression
Source: SPSS Analysis Output, 2023

Table 4. Kolmogorov-Smirnov Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.14467620
Most ExtremeDifferences	Absolute	.116
	Positive	.083
	Negative	-.116
Test Statistic		.116
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Based on the Kolmogorov-smirnov sample test, the significant value of 0.2 is greater than 0.05, it can be concluded that the data is normally distributed.

b. Multicollinearity Test

This test is a form of assumption testing in multiple regression analysis. The multicollinearity assumption states that the independent variables must be free from multicollinearity symptoms. To test the presence or absence of multicollinearity, the Tolerance value or VIF (Variance Inflation Factor) is used. The provisions used are if the VIF is greater than 0.05, then multicollinearity can be considered statistically significant.

Table 5. Coefficientsa Multicollinearity Test Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearityy Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-3.136	4.036		-.777	.444		
Indirect costs	.325	.145	.319	2.247	.033	.941	1.062
bidding price	.829	.214	.550	3.875	.001	.941	1.062

a. Dependent Variable: time

The multicollinearity test aims to test whether the regression model finds a correlation between independent variables (independent) to detect the presence or absence of multicollinearity in the regression model if the tolerance is below 0.01 or VIF is above 10, there is multicollinearity based on the table below:

Table 6. Multicollinearity Conclusion

Variable	Tolerance	Vif	Criteria
X1 (IndirectCost)	941	1.062	No multicollinearity
X2 (bid price)	941	1.062	No multicollinearity

c. Heteroscedasticity Test

This assumption test is an assumption in regression where the variance of the residuals is not the same for one observation. Symptoms of the same residual variance from one observation to another are called homoscedasticity. The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance and residuals from one observation to another. The regression model is said to occur heteroscedasticity if the data is scattered around the number zero (0 on the Y axis) and does not form a certain pattern or trend.

The heteroscedasticity test is used to determine whether or not there is a deviation from the classical assumption of heteroscedasticity, namely the existence of inequality of variance from residuals for all observations in the regression model. A prerequisite that must be met in the regression model is the absence of heteroscedasticity test symptoms. There are several testing methods that can be used including by looking at the scalterplot. If the dot spreads irregularly and irregularly then there is no heteroscedasticity. Heteroscedasticity testing is done by making a Scatterplot between residuals and predicted values of the dependent variable that has been standardized. The results of the heteroscedasticity test can be seen in the scatterplot image, as in the picture below:

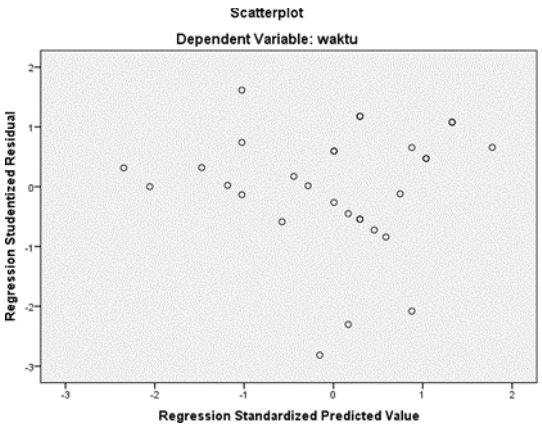

Figure 3. scatter plot results

The picture above shows the distribution of points does not form a certain pattern / groove, so it can be concluded that there is no heteroscedasticity or in other words homoscedasticity occurs.

d. Data Analysis

a) F test

This test is intended to determine whether there is an influence of the independent variables together with the dependent variable. This test is also called the model feasibility test or more popularly referred to as the simultaneous model test. This test identifies whether the estimated regression model is feasible or not. Eligible here means that the estimated model is suitable for use to explain the effect of the independent variables on the dependent variable.

The provisions applied are if the prob. F count (the result output is shown in the sig. column) is smaller than the error level (alpha) 0.05 (which has been determined) then Ho is rejected or it can be said that the estimated regression model is feasible, while if the prob value. F count is greater than the error rate of 0.05, it can be said that H0 is accepted if the value of f count ≤ f table and significance > 0.05. And H1 is accepted if the indirect cost and bid price variables together have an f value ≥ f table and a significance < 0.05.

Table 7. ANOVA Analysis of Variance

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	36.302	2	18.151	12.897	.000[b]
Residuals	37.998	27	1.407		
Total	74.300	29			

a. Dependent Variable: time

b. Predictors: (Constant), bid price, Indirect costs

F count > F table (there is an influence) = 12.897 > 3.32

Judging from the sig value of 0.00 <0.05, it shows that each independent variable together has a significant effect on Y. That indirect costs and bid prices affect the project work time.

b) T test

The t test in multiple linear regression is intended to test whether the parameters (regression coefficients and constants) estimated to estimate the multiple linear regression equation/model are the right parameters or not. The right meaning here is that the parameter is able to explain the behavior of the

independent variable in influencing the dependent variable. The parameters estimated in linear regression include intercept (constant) and slope (coefficient in the linear equation). In this section, the t test is focused on the slope parameter (regression coefficient) only. Thus, the t-test is a regression coefficient test. The conditions used are if the probability value is smaller than 0.05 then H0 is rejected or the regression coefficient is significant, and if the probability value is greater than 0.05 then H0 is accepted or the regression coefficient is not significant.

Table 8. T Test Coefficient Table Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearityy Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-3.136	4.036		-.777	.444		
Indirect costs	.325	.145	.319	2.247	.033	.941	1.062
bidding price	.829	.214	.550	3.875	.001	.941	1.062

a. Dependent Variable: time

Table 9. Conclusion of T Test

Variable	T Count	T Table	Criteria
X1 (Indirect Cost)	2.247	2.052	Influence on Y
X2(bidding price	3.875	2.052	effect on Y

The regression coefficient value of the indirect cost variable (t count) is 2.247 with a t table of 2.052, the significance of the indirect cost variable on the related variable, namely the work time, is 0.033 or smaller than the alpha value of 0.05. The conclusion is that the value of t count > t table and the significance of 0.033 < 0.05 means that the indirect cost variable has a significant effect on time or H1 is accepted and H2 is rejected. While the value of the bid price variable regression coefficient is (t count) of 3.875, with t table 2.052, the significance of the bid price variable on the related variable, namely the work time of 0.001. or smaller than the alpha value of 0.05. So it can be said that the value of t count < t table and the significance of 0.001 <0.05

means that the bid price variable has an effect and is significant to the time ofwork or H1 is accepted and H0 is accepted.

1. Indirect costs affect project work time
2. Bid price affects project work time
3. Indirect costs and bid prices affect project work time

c) Coefficient of Determination

This test is intended to measure how far the independent variable affects the dependent variable.

Table 10. Model Summary[b] , Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.699[a]	.489	.451	1.18631	2.341

a. Predictors: (Constant), bid price, Indirect costs
b. Dependent Variable: time

KD = r2 48.9% almost influential

Table 10. Table Of Coefficients Of Determination Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
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(Constant)	-3.136	4.036	.319	-.777	.444		
Indirect costs	.325	.145		2.247	.033	.941	1.062
bidding price	.829	.214	.550	3.875	.001	.941	1.062

a. Dependent Variable: time

3.3. Regression Equation

$$Y= -3.136 +0.325X1 +0.829X2$$

From the above equation it can be concluded that from each addition of 1 unit of the independent variable will increase the value of the dependent variable by 0.829.

3.4. Discussion

From the regression analysis above, it can be explained that the effect of indirect costs and bid prices on time performance, which is only 48.9%, is

small. According to the researcher's observation, indirect costs have little effect on project time performance. The first analysis of indirect costs should be calculated separately in detail so that the time performance of a project can be accelerated. The more detailed the calculation of indirect costs, the more efficient the time performance can be. Thus the contractor in this project in the future must calculate indirect costs in detail. The second analysis of the bid price has a direct effect on project time performance. Because the bid price in a project does not calculate other costs which other costs can accelerate a time performance. The third analysis of indirect costs and bid prices affects the project work time. The effect caused by indirect costs and bid prices on time performance is 48.9% relatively small.

4. CONCLUSION

From the analysis and discussion above, it can be concluded that: Indirect costs in the Kanor District Sports Facilities Development project are allocated to 4 (four) main things, namely tax and insurance costs (61.49%), risk costs (7.21%), and overhead costs (8.62%), general costs (8.325) quality costs 4.36%) where the percentage is calculated from the total amount of indirect costs. If calculated further, it can be concluded that the Kanor District Sports Facilities Development project budget consists of; contract price Rp. 6,965,316,123, profit plan Rp. 348,265,806 (5%), project budget plan Rp. 6,617,050,317, direct costs Rp. 5,151,5170,995 (78%), indirect costs Rp. 1,465,479,322 (22%).

Indirect costs and bid prices affect project work time. The effect of indirect costs and bid prices on time performance is 48.9%. From the results of the Linear Regression Analysis that has been carried out, the following model of indirect costs, bid prices and time can be generated:

$$Y= a+b1X1 +b2X2$$
$$Y= -3.136 +0.325X1 +0.829X2$$

The model can be used to predict the value of Y at alpha (±) 0.05, if the values of x1 and x2 are known. The regression equation model can be concluded that from each addition of 1 unit of the independent variable will increase the value of the dependent variable by 0.829. and it can be concluded from the hypothesis test (F and T tests) it will be the following hypothesis test is indirect costs affect project work time, bid price affects project work time and indirect costs and bid prices affect project work time.

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