Analysis Of The Impact Of The Covid-19 Pandemic On The Construction Industry Sector (A Case Study Construction Project RSUD Soedono Madiun)

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Abstract

Accelerating infrastructure development in Indonesia is a good thing, but this is not without problems. The COVID-19 pandemic is a problem that has a large and global impact, not least in Indonesia, especially in the construction industry sector. The construction project of the Soedono Madiun Hospital is one of the construction projects that have experienced the direct impact of the COVID-19 pandemic. Therefore, the purpose of this study is to review and analyze the impact of the covid-19 pandemic on construction projects in the case study of the construction project of the Soedono Madiun Hospital, and to find out the biggest impact of the covid-19 pandemic which has the most influence on construction projects in the case study of the construction project of the Soedono Hospital. The research method used to determine the biggest impact of the covid-19 pandemic on the cost and time aspects is the multiple linear regression analysis method with the help of Microsoft Excel. The other data analysis methods used in this study were the validity and reliability tests used in testing the questionnaire. The results of data analysis conducted in this study indicate that there are seven independent variables affect the dependent variable, namely the suitability of planning and project realization with the equation $y = 94.186 - 0.376x_1 - 0.108x_2 - 1.014x_3 + 0.873x_4$ for the time aspect, and the equation $y = 87,009 - 0.0006x_5 - 0.001x_6 - 0.0002x_7$ for the cost aspect. With this equation, it can be seen that the independent variable that has the most influence on the dependent variable on the time aspect is the independent variable X3, namely the change in the time schedule due to delays in the arrival of construction materials by 1.014, while in the cost aspect is the independent variable X6, namely changes in costs due to instability. the price of construction materials is 0.001. So, it is hoped that there will be a project management handling that focuses on the most influential variable, namely construction materials.

Keywords:

Construction Projects, Covid-19 Pandemic, Project Management, Infrastructure, Materials Construction

1. Introduction

As a country that occupies the fourth-highest position in terms of population density, Indonesia is still not fully developed as a developed country. Some of the conditions that make a country not yet fully developed include the following characteristics: low income, low standard of living, low community productivity, high population growth rate, dependence on foreign parties, and high unemployment, the majority of the population depends on the primary and agricultural product sectors, is weak in the aspect of international relations, the lack of capital used for development, the availability of work land and labor is not balanced, the application of technology that is not suitable with the situation and conditions in the local country, and so on. Therefore, various efforts have been made to make Indonesia better, and to make Indonesia a developed country following Indonesia's vision of 2045.

The first requirement for Indonesia to be able to become a developed country is to provide adequate infrastructure to support mobility and support development Antara and Widyastuti (2019). The acceleration of infrastructure development is not only meant to catch up but also to grow new economic centers that can provide added value to regions throughout the country Kusuma (2018). However, in practice, infrastructure development in Indonesia is also inseparable from various problems.

In 2020, Indonesia and other countries around the world will feel the COVID-19 pandemic. This also has an impact on the construction industry sector, namely on infrastructure development in Indonesia. Any impact or influence caused by the problem must be immediately identified and the level of influence analyzed so that the priority of handling problems that occur will be right on target and problems can be resolved immediately. Therefore, the author decided to conduct a study with the title "Analysis of the Impact of the Covid-19 Pandemic on the Construction Industry Sector (A Case Study of the Soedono Madiun Hospital Development Project)".

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In this study, several basic theories and formulas were used as references and writing references, including the suitability of planning and realization of construction projects, validity test Santoso (2012), reliable test Arikunto (1996), multiple regression analysis method Ahmaddien, Iskandar & Syarkani (2019) as stated below:

$$\text{suitability of planning \& realization} = 100\% - \% \text{ difference between realization and planning} \dots\dots\dots(1)$$

$$\% \text{ difference between realization and planning} = \left(\frac{\text{difference duration realization and planning}}{\text{total planning duration}} \times 100\% \right) \dots\dots\dots(2)$$

$$\% \text{ difference between realization and planning} = \left(\frac{\text{difference cost realization and planning}}{\text{total planning cost}} \times 100\% \right) \dots\dots\dots(3)$$

$$r = \frac{n\Sigma xy - \Sigma x \Sigma y}{\sqrt{[n\Sigma xi^2 - (\Sigma xi)^2][n\Sigma yi^2 - (\Sigma yi)^2]}} \dots\dots\dots(4)$$

$$t_{count} = \frac{r \cdot \sqrt{n-2}}{\sqrt{1-r^2}} \dots\dots\dots(5)$$

$$\Sigma ab^2 = \frac{\Sigma xi^2 - \frac{(\Sigma x)^2}{n}}{n} \dots\dots\dots(6)$$

$$at^2 = \frac{\Sigma y^2 - \frac{(\Sigma y)^2}{n}}{n} \dots\dots\dots(7)$$

$$r_n = \left(\frac{k}{k-1} \right) \cdot \left(1 - \frac{\Sigma ab^2}{at^2} \right) \dots\dots\dots(8)$$

$$\Sigma xi^2 = \Sigma xi^2 - \frac{(\Sigma xi)^2}{n} \dots\dots\dots(9)$$

$$\Sigma xi \cdot y = \Sigma xi \cdot y - \frac{\Sigma xi \cdot \Sigma y}{n} \dots\dots\dots(10)$$

$$b = \frac{[(\Sigma x1^2 \cdot \Sigma x2y) - (\Sigma x1y \cdot \Sigma x2x1)]}{[(\Sigma x2^2 \cdot \Sigma x1^2) - (\Sigma x2 \cdot \Sigma x1)^2]} \dots\dots\dots(11)$$

$$a = \frac{\Sigma y - (b1 \cdot \Sigma x1) - (b2 \cdot \Sigma x2) - (b3 \cdot \Sigma x3)}{n} \dots\dots\dots(12)$$

$$Y = a + b1X1 + b2X2 + \dots + bnXn \dots\dots\dots(13)$$

information :

- r : correlation coefficient
- Y : dependent variable
- Xi : independent variable element
- n : number of respondents
- r_n : instrument reliability (coefficient)
- k : number of questions
- Σab^2 : number of item variants
- at^2 : total variance
- ΣXi : total score of the variables reviewed
- Y : dependent variable
- $X1, X2$: independent variable
- a : constant
- $b1, b2$: regression coefficient (increase or decrease value)

2. Methodology

The method used in this study is the multiple regression analysis method as stated in the introduction, but this chapter will explain several things that also support this method, namely research variables, and data collection techniques. The variables used in this study are based on construction project problems that occurred as a result of the COVID-19 pandemic on the Soedono Hospital construction project and can be explained as follows :

1. The independent variable or also known as the independent variable (X) in the form of changes in the time schedule due to the physical distancing policy made by the government (X1), changes in the time schedule due to delays in the arrival of workers (X2), changes in the time schedule due to delay in the arrival of construction materials (X3), changes in the time schedule due to delays in the arrival of construction equipment (X4), budget reduction provided by the government (X5), changes in costs due to instability in construction material prices (X6), changes in costs due to increases in equipment rental prices construction (X7)
2. The dependent variable or also known as the dependent variable (Y) is the suitability of planning and project realization. The suitability of the intended project planning and realization is described in the form of a percentage that represents conformity with the initial planning, in terms of both cost and time aspects.
3. The data collection techniques used in this research are :
4. Literature study, namely collecting data from lecture materials, textbooks, reference books, and journals to obtain information and basic theories related to research

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5. Interviews, namely data collection with questions and answers conducted with Mr. Anang, as the project manager of the contractor implementing the construction of RSUD Soedono Madiun, namely PT. Jaya Semanggi Engineering and 4 other people from the implementing subcontractors (Pak Iqbal, Pak Didik, Pak Udin, Pak Hadi, Pak Joko) to determine construction project problems.
6. Dissemination of Questionnaires, namely data collection by distributing a list of written questions to the parties involved in the construction project of RSUD Soedono Madiun which had been carefully prepared in advance to meet the needs of researchers in obtaining information in the form of data to be processed and analyzed. As for this distribution, it uses the Google Form site tool in its distribution. The google form site that is used can be accessed via the link: bit.ly/ImpactofPandemiPadaConstruction. There are several stages carried out by researchers in distributing questionnaires, namely researchers asking respondents' consent to fill out questionnaires, researchers explaining the purpose and general description of the questions asked, researchers explaining procedures for filling out questionnaires that have been distributed, and providing opportunities for questionnaires to study and ask if there are things that are not understood in the questionnaire, the researcher will collect answers from respondents to be processed and analyzed as material for considering the impact of covid-19 which has the most influence on the construction project of the Soedono Madiun Hospital. Each answer choice listed on the questionnaire has a different weight, this can be explained in the table below:

Table 1. Questionnaire Answer Choice Scores

No	Answer Choices	Score
1	Strongly Agree	4
2	Agree	3
3	Less Agree	2
4	Disagree	1

3. Result and Discussion

The first step in this research is the validity test. In the study, all the questions listed in the questionnaire will pass the validity test stage. The validity test is carried out in several stages. Several of these stages were carried out on all question items that represented the independent variables. Based on the results of the validity test for all questions that represent the independent variables in this study, it can be seen that all statement items have a higher t_{count} value when compared to t_{table} . So, it can be concluded that all question items are declared valid. Because all variables have passed the validity test stage and are declared valid in their calculations, the accuracy level of all variables to be used in this data reveals that the variables are efficient and appropriate, and are suitable for use as research material.

Table 2. Validity Test

Question Number	n	ΣXY	ΣX	ΣY	ΣX^2	ΣY^2	r count	t count	t table	Result
1	17	4316	53	1374	189	112150	0.2002411	0.791562	0.482	Valid
2	17	3891	48	1374	162	112150	0.0672682	0.52224	0.482	Valid
3	17	3376	41	1374	121	112150	0.3992759	1.686668	0.482	Valid
4	17	3909	48	1374	158	112150	0.1875804	0.739624	0.482	Valid
5	17	4492	55	1374	189	112150	0.4237629	1.811962	0.482	Valid
6	17	4265	52	1374	176	112150	0.455785	1.983224	0.482	Valid
7	17	4235	52	1374	164	112150	0.4367461	1.880323	0.482	Valid
8	17	4355	53	1374	181	112150	0.542219	2.4993	0.482	Valid
9	17	4885	60	1374	216	112150	0.5217596	2.368754	0.482	Valid
10	17	4973	61	1374	225	112150	0.5216738	2.368219	0.482	Valid
11	17	4636	57	1374	195	112150	0.4449757	1.924401	0.482	Valid
12	17	4826	59	1374	213	112150	0.6036249	2.932298	0.482	Valid
13	17	4590	57	1374	201	112150	-0.162599	0.638239	0.482	Valid
14	17	4900	60	1374	220	112150	0.5318826	2.432603	0.482	Valid
15	17	4900	60	1374	220	112150	0.5318826	2.432603	0.482	Valid
16	17	4609	57	1374	197	112150	0.0256123	0.496144	0.482	Valid
17	17	4557	56	1374	192	112150	0.3395749	1.398254	0.482	Valid
18	17	3593	44	1374	126	112150	0.3186601	1.302042	0.482	Valid
19	17	3883	48	1374	142	112150	0.0411658	0.797849	0.482	Valid
20	17	3509	43	1374	123	112150	0.2686023	1.07998	0.482	Valid
21	17	4580	56	1374	192	112150	0.5924774	2.848426	0.482	Valid
22	17	4092	50	1374	160	112150	0.426269	1.825049	0.482	Valid
23	17	3895	48	1374	146	112150	0.1442537	0.564598	0.482	Valid
24	17	4100	50	1374	158	112150	0.5365681	2.462644	0.482	Valid
25	17	4580	56	1374	192	112150	0.5924774	2.848426	0.482	Valid
26	17	4177	51	1374	161	112150	0.58671	2.806034	0.482	Valid
27	17	3658	45	1374	131	112150	0.1832971	0.722142	0.482	Valid
28	17	4100	50	1374	158	112150	0.5365681	2.462644	0.482	Valid

The reliability test was carried out after conducting the validity test. Broadly speaking, this reliability test is carried out in three stages, starting from finding the value of r_n as the alpha coefficient, comparing it with the value of r_{table} , then determining the reliability decision of each data being tested. Based on the results of the reliability test for all questions that represent the independent variables in this study, it can be seen that all statement items have a greater r_n value when compared to r_{table} . So, it can be concluded that all question items are declared reliable. Because all variables have passed the reliability test stage and are declared reliable in the proof and calculations, the accuracy of all the variables that will be used in this data reveals that the variables can be trusted and deserve to be used as research material.

Table 3. Reliability Test

Question Number	n	ΣXY	ΣX	ΣY	ΣXi²	ΣYi²	Σab²	at²	r count	r table	Result
1	17	4316	53	1374	189	112150	1.3979239	64.61592	1.0146	0.482	Reliable
2	17	3891	48	1374	162	112150	1.5570934	64.61592	1.012	0.482	Reliable
3	17	3376	41	1374	121	112150	1.3010381	64.61592	1.0162	0.482	Reliable
4	17	3909	48	1374	158	112150	1.3217993	64.61592	1.0158	0.482	Reliable
5	17	4492	55	1374	189	112150	0.650519	64.61592	1.0266	0.482	Reliable
6	17	4265	52	1374	176	112150	0.9965398	64.61592	1.021	0.482	Reliable
7	17	4235	52	1374	164	112150	0.2906574	64.61592	1.0324	0.482	Reliable
8	17	4355	53	1374	181	112150	0.9273356	64.61592	1.0222	0.482	Reliable
9	17	4885	60	1374	216	112150	0.2491349	64.61592	1.033	0.482	Reliable
10	17	4973	61	1374	225	112150	0.3598616	64.61592	1.0313	0.482	Reliable
11	17	4636	57	1374	195	112150	0.2283737	64.61592	1.0334	0.482	Reliable
12	17	4826	59	1374	213	112150	0.4844291	64.61592	1.0293	0.482	Reliable
13	17	4590	57	1374	201	112150	0.5813149	64.61592	1.0277	0.482	Reliable
14	17	4900	60	1374	220	112150	0.4844291	64.61592	1.0293	0.482	Reliable
15	17	4900	60	1374	220	112150	0.4844291	64.61592	1.0293	0.482	Reliable
16	17	4609	57	1374	197	112150	0.3460208	64.61592	1.0315	0.482	Reliable
17	17	4557	56	1374	192	112150	0.4429066	64.61592	1.0299	0.482	Reliable
18	17	3593	44	1374	126	112150	0.7128028	64.61592	1.0256	0.482	Reliable
19	17	3883	48	1374	142	112150	0.3806228	64.61592	1.0309	0.482	Reliable
20	17	3509	43	1374	123	112150	0.8373702	64.61592	1.0236	0.482	Reliable
21	17	4580	56	1374	192	112150	0.4429066	64.61592	1.0299	0.482	Reliable
22	17	4092	50	1374	160	112150	0.7612457	64.61592	1.0248	0.482	Reliable
23	17	3895	48	1374	146	112150	0.615917	64.61592	1.0272	0.482	Reliable
24	17	4100	50	1374	158	112150	0.6435986	64.61592	1.0267	0.482	Reliable
25	17	4580	56	1374	192	112150	0.4429066	64.61592	1.0299	0.482	Reliable
26	17	4177	51	1374	161	112150	0.4705882	64.61592	1.0295	0.482	Reliable
27	17	3658	45	1374	131	112150	0.6989619	64.61592	1.0258	0.482	Reliable
28	17	4100	50	1374	158	112150	0.6435986	64.61592	1.0267	0.482	Reliable

Furthermore, the calculation of the percentage of suitability of the planning and project realization that will be used as the dependent variable in multiple linear regression analysis with an error correction factor of 5% as follows:

$$\begin{aligned}
 \text{Suitability of Planung\&Realization} &= 100\% - \% \text{ Difference Planung\&Realization} \\
 \text{Suitability of Planung\&Realization} &= 100\% - \left(\frac{\text{difference planning\&realization}}{\text{total planning cost}} \times 100\% \right) \\
 \text{Suitability of Planung\&Realization} &= 100\% - \left(\frac{\text{Rp } 239.513.965,69}{\text{Rp } 1.974.688.896,95} \times 100\% \right) \\
 \text{Suitability of Planung\&Realization} &= 100\% - 12,1292\% \\
 \text{Suitability of Planung\&Realization} &= 87,8708\% \\
 \text{Suitability of Planung\&Realization} &= 100\% - \% \text{ Difference Planung\&Realization} \\
 \text{Suitability of Planung\&Realization} &= 100\% - \left(\frac{\text{difference planning\&realization}}{\text{total planning duration}} \times 100\% \right) \\
 \text{Suitability of Planung\&Realization} &= 100\% - \left(\frac{4 \text{ weeks}}{32 \text{ weeks}} \times 100\% \right) \\
 \text{Suitability of Planung\&Realization} &= 100\% - 12,5\% \\
 \text{Suitability of Planung\&Realization} &= 87,5\%
 \end{aligned}$$

The next stage is multiple linear regression analysis. Multiple linear regression analysis is used to determine the effect of time changes on the time schedule due to the physical distancing policy made by the government (X1), changes in the time schedule due to delays in the arrival of workers (X2), changes in the time schedule due to delays in the arrival of construction materials. (X3), changes in the time schedule due to delays

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in the arrival of construction equipment (X4), budget reduction provided by the government (X5), changes in costs due to instability in construction material prices (X6), changes in costs due to increases in construction equipment rental prices (X7) on the dependent variable (Y) in the form of the suitability of planning and project realization. Several stages are carried out in making multiple regression linear analysis calculations, which can be described as follows: :

Determine the value of constants and regression coefficients

The calculation is divided into two, namely the cost and time aspects. While the value of each variable to be calculated is taken from the sum of the scores from the answers to the questionnaire questions that support these variables.

Table 4. Recapitulation of Total Variable Values and Multiplication of Time Aspects

N	Y	x1	x2	x3	x4	x1 ²	x2 ²	x3 ²	x4 ²	Y ²	X1xX2xX3xX4	X1 Y	X2 Y	X3 Y	X4 Y
1	82.5	12	14	15	14	144	196	225	196	6806.3	35280	990	1155	1238	1155
2	83.5	11	12	14	11	121	144	196	121	6972.3	20328	918.5	1002	1169	918.5
3	84.5	16	16	16	16	256	256	256	256	7140.3	65536	1352	1352	1352	1352
4	85.5	13	15	15	15	169	225	225	225	7310.3	43875	1112	1283	1283	1283
5	86.5	13	12	12	12	169	144	144	144	7482.3	22464	1125	1038	1038	1038
6	87.5	7	15	16	15	49	225	256	225	7656.3	25200	612.5	1313	1400	1313
7	88.5	8	13	13	16	64	169	169	256	7832.3	21632	708	1151	1151	1416
8	89.5	14	15	10	10	196	225	100	100	8010.3	21000	1253	1343	895	895
9	90.5	13	9	15	16	169	81	225	256	8190.3	28080	1177	814.5	1358	1448
10	91.5	12	15	16	16	144	225	256	256	8372.3	46080	1098	1373	1464	1464
11	92.5	7	11	12	13	49	121	144	169	8556.3	12012	647.5	1018	1110	1203
12	82.5	16	16	16	16	256	256	256	256	6806.3	65536	1320	1320	1320	1320
13	83.5	13	9	12	12	169	81	144	144	6972.3	16848	1086	751.5	1002	1002
14	84.5	16	16	16	12	256	256	256	144	7140.3	49152	1352	1352	1352	1014
15	85.5	10	10	11	10	100	100	121	100	7310.3	11000	855	855	940.5	855
16	86.5	5	8	16	16	25	64	256	256	7482.3	10240	432.5	692	1384	1384
17	87.5	4	6	12	14	16	36	144	196	7656.3	4032	350	525	1050	1225
Σ	1473	190	212	237	234	2352	2804	3373	3300	127696	498295	16387	18335	20505	20284

Tabel 5. Recapitulation of Total Variable Values and Multiplication of Cost Aspect

N	Y	x5	x6	x7	x5 ²	x6 ²	x7 ²	Y ²	X5xX6xX7	X5 Y	x6 Y	x7 Y
1	82.871	12	15	13	144	225	169	6867.603	2340	994.45	1243.065	1077
2	83.871	15	12	11	225	144	121	7034.345	1980	1258.1	1006.452	922.6
3	84.871	9	8	8	81	64	64	7203.087	576	763.84	678.968	679
4	85.871	9	8	7	81	64	49	7373.829	504	772.84	686.968	601.1
5	86.871	14	15	16	196	225	256	7546.571	3360	1216.2	1303.065	1390
6	87.871	13	15	15	169	225	225	7721.313	2925	1142.3	1318.065	1318
7	88.871	12	12	12	144	144	144	7898.055	1728	1066.5	1066.452	1066
8	89.871	8	13	12	64	169	144	8076.797	1248	718.97	1168.323	1078
9	90.871	9	13	13	81	169	169	8257.539	1521	817.84	1181.323	1181
10	91.871	10	8	8	100	64	64	8440.281	640	918.71	734.968	735
11	92.871	12	12	12	144	144	144	8625.023	1728	1114.5	1114.452	1114
12	82.871	10	11	13	100	121	169	6867.603	1430	828.71	911.581	1077
13	83.871	12	12	12	144	144	144	7034.345	1728	1006.5	1006.452	1006
14	84.871	12	15	15	144	225	225	7203.087	2700	1018.5	1273.065	1273
15	85.871	9	10	10	81	100	100	7373.829	900	772.84	858.71	858.7
16	86.871	13	12	12	169	144	144	7546.571	1872	1129.3	1042.452	1042
17	87.871	12	13	13	144	169	169	7721.313	2028	1054.5	1142.323	1142
Σ	1478.8	191	204	202	2211	2540	2500	128791	29208	16594	17736.684	17564

So the Multiple Linear Regression equation which states the effect of the independent variable on the dependent variable in the aspect of time is:

$$Y = 94,186 - 0,367x_1 - 0,108x_2 - 1,014x_3 + 0,873x_4$$

So the Multiple Linear Regression equation which states the effect of the independent variable on the dependent variable in the cost aspect is:

$$Y = 87,009 - 0,0006x_5 - 0,001x_6 - 0,0002x_7$$

From the recapitulation table above and all calculations that have been done, it can be seen that all independent variables influence the dependent variable. The magnitude of the influence of each independent variable is different. The level of suitability of planning and project realization on the time aspect based on the secondary data discussed in chapter 4.3.1 is 87.5% while the level of the suitability of planning and realization on the time aspect is based on the calculation of multiple linear regression analysis is 76.38%. Meanwhile, the level of suitability of planning and project realization on the cost aspect based on secondary data discussed in chapter 4.3.1 is 87.8708%, while the level of suitability of planning and realization on the cost aspect based on the calculation of multiple linear regression analysis is 99.982%.

It should be noted that the total percentage of the level of conformity of planning and project realization in the time aspect discussed in this chapter when compared with the calculation of the percentage level of conformity with the planning and realization of the project in the time aspect discussed in chapter 4.3.1 can give different results due to the percentage of the total effect of the variable. The freebies discussed in this chapter only pay attention to the impact of the COVID-19 pandemic. So that the researchers did not discuss and calculate other factors that also occurred during the construction of the Soedono Madiun Hospital and allow changes to the level of suitability of planning and realization in the aspect of time as a dependent variable outside the impact of the COVID-19 pandemic, such as delays in the implementation of casting work due to weather, inaccuracy in ordering time, labor capability, equipment breakdown, labor productivity, equipment productivity, and so on in addition to the 4 independent variables (X1, X2, X3, and X4) that affect the time aspect and have been mentioned previously.

Meanwhile, it should also be noted that the total percentage of conformity level of planning and project realization on the cost aspect discussed in this chapter when compared with the calculation of the percentage level of conformity of the planning and project realization on the cost aspect discussed in chapter 4.3.1 may give different results because the percentage The total effect of the independent variables discussed in this chapter only considers the impact of the COVID-19 pandemic. So that the researchers did not discuss and calculate other factors that also occurred during the construction of the Soedono Madiun Hospital project and allow changes to the level of suitability of planning and realization on the cost aspect as a dependent variable outside the impact of the COVID-19 pandemic such as damage to materials in storage areas, shortage of equipment, and so on in addition to the 3 independent variables (X5, X6, and X7) that affect the cost aspect and have been mentioned previously.

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4. Conclusion

Based on the results of research and data analysis that has been done, it can be concluded as follows :

1. The impact of the covid-19 pandemic on construction projects (A case study construction project RSUD Soedono Madiun) are all independent variables. In the time aspect, there is a change in the time schedule due to the physical distancing policy made by the government (X1), a change in the time schedule due to delays in the arrival of workers (X2), a change in the time schedule due to the delay in arrival of construction materials (X3), a change in the time schedule due to delay in the arrival of construction equipment (X4), while in the aspect of costs are a reduction in the budget provided by the government (X5), changes in costs due to instability in construction material prices (X6), changes in costs due to increases in construction equipment rental prices (X7). All of the independent variables that have been mentioned, both those that affect the time and cost aspects, affect the suitability of planning and project realization as the dependent variable (Y)
2. The biggest impact of the covid-19 pandemic that has the most influence on construction projects (A case study construction project RSUD Soedono Madiun) was obtained from the independent variable (X) which has the highest influence on the dependent variable on the time aspect is the independent variable X3, namely the change in time. on the time schedule due to the late arrival of construction materials of 1.014, while in the cost aspect is the independent variable X6, namely changes in costs due to the instability of construction material prices of 0.001. This was obtained through the process of multiple linear regression analysis of the distribution of questionnaires that have been answered by the parties directly involved in the construction project of RSUD Soedono Madiun

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