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FACTORS THAT INFLUENCE DELAY IN WORK COMPLETION TIME ON SELF-MANAGED PROJECTS

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ABSTRACT

Construction activities carried out in a self-managed manner experienced several problems or obstacles. One of the problems faced is, among others, design changes, changes in material prices, details of costs carried out in the field are not included in the Cost Budget Plan, materials often arrive late from the work plan, work method errors which cause repetitive work, loss of tools and materials at the project location and are still completing the work after the work contract is completed, so this project experiences delays in completing the work even though the work contract has been completed. This research aims to find out what factors influence delays in completion and to find out the dominant factors that influence delays in completion of the project Self-Managed Vocational High School Padang Center of Excellence. This research was analyzed using descriptive statistical analysis methods to determine the dominant factors that influence delays in completing self-managed work. From the results of data analysis using descriptive statistical analysis, it was obtained that there were changes or additions to work during project implementation with factor code (B3) as the dominant factor influencing delays in completing self-managed work.

INTRODUCTION

The Center of Excellence Vocational High School (SMK PK) is one of the main programs of the Directorate General of Vocational Education (Ditjen Vocational Education) of the Ministry of Education and Culture which was launched in 2021. This program aims to develop Vocational Schools with certain specializations in order to improve quality, in line with the spirit of Merdeka Belajar focuses on strengthening human resources and strengthening relations between the world of education and the professional world. Excellent schools can be defined as high quality educational institutions. Implied in it are the expectations of students after they graduate, namely the extent to which graduates from the school have intellectual, moral abilities and skills that are beneficial to society.

Self-management is carried out when the required goods or services are not available or are not in demand by business actors. In simple terms, self-management can be defined as the process of procuring goods or services carried out independently by the owner, starting from planning, monitoring, to carrying out these tasks. The preparation of plans for a construction project is always based on the estimates available at the time of the plan

are arranged. Therefore, problems can arise if there are differences between the plans that have been prepared and the existing reality. As a result, a common impact is delays in project implementation, which is often accompanied by an increase in the costs of implementing the project itself.

In the Padang Center of Excellence Vocational High School Self-Management Project, several problems were found in the field, including design changes, fluctuations in material prices, and details of costs carried out in the field were not included in the Cost Budget Plan. In addition, materials often arrive late on schedule, there are errors in implementation methods which result in work having to be redone, equipment and materials lost at the project site, and work completion that is still ongoing even though the contract has ended. As a result, this project experienced delays in completion even though the contract period had been completed. Several influencing factors caused delays in completing self-management work at the Padang Center of Excellence Vocational School.

The aim of this research is to: 1) To find out the factors for delays in completing self-managed work at Padang Center of Excellence Vocational High School, 2) what are the dominant factors that influence delays in completing self-managed work at Padang Center for Excellence Vocational School.

RESEARCH METHODS

The type of research used is a quantitative method and the data is processed using the SPSS program. The sample selection method uses saturated sampling, where the population is 30 people. The 3 schools are Padang 2 State Vocational High School, Padang 2 State Vocational High School, and PP Lubuk Minturun Vocational High School.

RESULTS AND DISCUSSION

Questionnaire Response Rate Analysis

This analysis aims to determine the percentage of returned questionnaire answers. that the minimum response rate for analysis is 10%, if > 30% is considered good, and if > 70% is considered very good. Analysis of the questionnaire response rate can be seen in Table 1.

Table 1. Questionnaire Response Rate Analysis

No	Respondent Profile	Frequency	Percentage
1.	Gender:		
	Man	28	93%
	Women	2	7%
2.	Respondent's Age		
	< 25 years	2	7%
	25-30 years	10	33%
	31-40 years old	9	30%
	> 40 years	9	30%
3.	last education		
	S1	20	70%
	S2	4	10%
	S3	-	

No	Respondent Profile	Frequency	Percentage
4	D2/d3	1	7%
	High School/Equivalent	6	3%
	Respondent Department		
	Owner/Principal	3	10%
	Project Manager	3	10%
	Site Manager	3	10%
	Planning Team	3	10%
	Tim Supervisor/Facilitator	3	10%
	Foreman/Team Development	3	10%
	Surveyor	3	10%
	Drafter	3	10%

Respondent profile data can be seen in Table 2. There were 30 respondents. The explanation regarding the recapitulation of data results from respondents is as seen in Table 2.

Table 2. Respondent ProfileSource: Research Survey

No	Questionnaire	Number of questionnaires	Presentation	Information
1	Distributed	30	100%	
2	Returned	30	100%	Respon Rate > 10 % > 30% (good) > 70% (very good)
3	Not returned	-		
4	Does not meet the requirements (some points of the statement do not answered)	-	-	
5	Can be analyzed and meet requirements	30	100%	Very good

Source: Research Survey

Validity and Reliability Test Results An instrument is said to be valid if the correlation coefficient (*pearson correlation*) is positive, where rcount > rtable. Reliability testing was carried out to obtain the level of accuracy of the data collection tools (instruments) used. If the questionnaire has been proven valid, then the reliability of the questionnaire is tested. An instrument is declared reliable if it has an r11 value > 0.50. A summary of the validity and reliability test results can be seen in Table 3.

No	Respondent Profile	Frequency	Percentage
1.	Gender :		
	Man	28	93%
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3.	last education		
	S1	20	70%
	S2	4	10%

Table 3. Recap of Validity and Reliability Tests

No	Category	Code	Validity test results			Reliability test results		
			R count	R Table	Conclusion	R11	Coefficient category	Conclusion
1	Financial	A1	.412*	0.361	Valid	0,909	0.6	Reliable
2		A2	.436*	0.361	Valid	0,908		
3		A3	.641**	0.361	Valid	0,906		
4		A4	.438*	0.361	Valid	0,909		
5		A5	.451*	0.361	Valid	0,908		
6		A6	.492**	0.361	Valid	0,908		
7	Management	B1	0,328	0.361	Invalid	0,910	0.6	Reliable
8		B2	.617**	0.361	Valid	0,906		
9		B3	.615**	0.361	Valid	0,906		
10		B4	.672**	0.361	Valid	0,905		
11	Management	B5	0,359	0.361	Invalid	0,909	0.6	Reliable
12		B6	.381*	0.361	Valid	0,909		
13		B7	.694**	0.361	Valid	0,905		
14		B8	.579**	0.361	Valid	0,906		
15		B9	.699**	0.361	Valid	0,904		
16		B10	.459*	0.361	Valid	0,908		
17		B11	.588**	0.361	Valid	0,906		
18	Man	C1	.545**	0.361	Valid	0,907	0.6	Reliable
19		C2	.481**	0.361	Valid	0,908		
20		C3	.525**	0.361	Valid	0,907		
21		C4	.465**	0.361	Valid	0,908		
22		C5	.610**	0.361	Valid	0,906		
23		C6	.567**	0.361	Valid	0,907		
24		C7	.581**	0.361	Valid	0,906		
25		C8	.543**	0.361	Valid	0,907		
26		C9	.367*	0.361	Valid	0,909		
27		C10	.568**	0.361	Valid	0,906		
28	Method Work	D1	.567**	0.361	Valid	0,906	0.6	Reliable
29		D2	.387*	0.361	Valid	0,909		
30		D3	0,226	0.361	Invalid	0,911		
31	External	E1	.455*	0.361	Valid	0,908	0.6	Reliable
32		E2	.419*	0.361	Valid	0,908		
33		E3	.394*	0.361	Valid	0,909		
34	Material	F1	.503**	0.361	Valid	0,907	0.6	Reliable
35		F2	.543**	0.361	Valid	0,907		
36		F3	0,296	0.361	Invalid	0,910		
37		F4	.374*	0.361	Valid	0,909		
38		F5	0,266	0.361	Invalid	0,911		

Source: SPSS V23 Data Processing

Descriptive Statistical Analysis

This analysis is purposeful to determine the dominant factors that influence delays in completing work on the Padang Center of Excellence Vocational High School self-managed project. Data analysis was processed using the SPSS program. Determining ranking based on the mean value can be sorted from high to low value, if the same number is found in the mean value then the lower standard deviation number is selected and if the mean and standard deviation values are the same the value is averaged. Rank ordering of factors which influence delays in completing self-managed projects can be seen in Table 4.

Table 4. Ranking of factors for delays in completing self-managed projects

No	Code	Factors for Delay in Completion	Analysis results		
			Mean	Standard deviation	Ranking
1	A1	Changes in material prices during the implementation of self-managed projects	31.667	128.877	27
2	A2	Details of work costs are not included in the RAB	30.667	128.475	30
3	A3	Unexpected costs	31.667	.83391	28
4	A4	Late payments to workers	34.000	142.877	20
5	A5	Inaccurate Bill of Quantity (BQ) estimates	30.667	125.762	31
6	A6	Cash flow is not smooth during the implementation of self-managed projects.	33.667	127.261	23
8	B2	Material and equipment management errors	33.667	121.721	24
9	B3	There are changes or additions to work during project implementation	39.667	.96431	1
10	B4	drawing changes by the planning team and design changes by the owner.	34.000	110.172	21
12	B6	Contract addendum due to additional/less work due to work items that are not listed in the initial contract but are actually carried out in the field.	32.667	131.131	26
13	B7	Many image changes throughout the project.	36.333	109.807	10
14	B8	There is often a lack of material at times work implementation.	37.333	111.211	8
15	B9	Inexperienced project management	38.000	121.485	5
16	B10	Lack of communication and coordination between parties involved in the project	34.333	.81720	18
17	B11	Many problems are not resolved quickly.	35.667	119.434	12
18	C1	Low labor productivity	35.333	.93710	13
19	C2	Poor communication between workers and the implementation team	33.667		25
20	C3	Lack of understanding of implementation instructions and technical instructions	37.667		6
21	C4	The implementation of self-managed procurement sometimes does not go according to plan	30.333		32
22	C5	Lack of ability, knowledge and competence of self-management implementers	31.667		29
23	C6	Poor quality of workforce	37.667		7
24	C7	Inadequate workforce skills	39.333	.90719	2
25	C8	Fraudulent practices occur that are detrimental to the project	37.000	134.293	9
26	C9	There was a work accident	34.333	122.287	19
27	C10	Lack of manpower	35.333	110.589	14
28	D1	Changes in specifications and design	34.667	113.664	15
29	D2	Poor work plan.	34.667	110.589	16
31	E1	Delays in self-managed work due to there are issues of interest that affect the work	34.667	.97320	17
32	E2	External disturbances such as availability of materials, Weather and other factors slow down work.	36.000	100.344	11
33	E3	External interference/other parties outside the parties	29.000		33
34	F1	Lack of construction materials	38.667		3
35	F2	Delay in delivery of materials	38.333		4
37	F4	Material specifications do not match	34.000		22

Source: Microsoft Excel data processing

Table 5 shows that the dominant factor influencing delays in completing work is the existence of changes or additions to work during project implementation (B3) which is ranked 1st with a mean value of 39.667 and a standard deviation of .96431. Inadequate

workforce capability (C7) is ranked 2nd with mean value 39.333 and standard deviation .90719, and Lack of construction materials (f1) ranks 3rd with a mean value of 38.667 and standard deviation .97320.

CONCLUSION

The conclusions of this research are:

1. Factors that influence delays in completing self-managed work are: Changes or additions to work during project implementation, inadequate workforce capabilities, lack of construction materials, delays in material delivery, and inexperienced project management.
2. The dominant factors that influence delays in completion of self-managed projects are changes or additions to work during project implementation with factor code (B3) with a mean value of 39.667 and a standard deviation of .96431 and inadequate workforce capabilities with factor code (C7) with a mean value of 39.333. and standard deviation .90719.

Suggestion

1. Self-managed project management should pay more attention to a good risk management approach to identify potential changes or challenges early on. This allows project teams to plan and manage risks more effectively.
2. It is best to ensure that the project team consists of members who have skills appropriate to their respective tasks. Choosing the right team can increase productivity and work quality.
3. Ordering construction materials earlier than the planned time can help ensure the availability of materials when needed. This can involve more careful planning and regular inventory monitoring.
4. Building a clear and organized teamwork structure, with well-defined tasks and responsibilities, can help avoid confusion and improve coordination.

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