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Analysis of the Effect of Direct Payments from the Owner to Nominated Subcontractors on Project Sustainability

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ABSTRACT

In the construction industry, the practice of direct payments by service users to subcontractors has become a common phenomenon. This practice occurs when service users, as main clients, pay subcontractors directly without going through the main contractor. This aims to speed up cash flow and ensure timely payments to subcontractors. However, the practice of direct payments also raises various problems and impacts that need to be considered. In this research, the approach used is quantitative. This research uses a causal analysis method because this research aims to test a hypothesis regarding the influence of one or several independent variables on the dependent variable. The population determined in this research includes building project stakeholders who focus on: Project Owners, and Main Contractors, Sub-contractors / Suppliers, totaling 110 respondents, using the Slovin formula with a 5% margin of error, the number of respondents was 86 people. Payment research results in direct project payments have a positive and significant effect on project costs, direct project payments have a positive and significant effect on project time, and direct project payments have a positive and significant effect on project quality.

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INTRODUCTION

In the construction industry, the practice of direct payments by service users to subcontractors has become a common phenomenon. This practice occurs when service users, as main clients, pay subcontractors directly without going through the main contractor. This aims to speed up cash flow and ensure timely payments to subcontractors. However, the practice of direct payments also raises various problems and impacts that need to be considered.

Project sustainability is an important factor in the construction industry. A successful construction project can be completed on time, within a specified budget, and meets established quality standards. However, this direct payment practice can have a significant impact on project sustainability.

In this context, this research aims to explore the influence of direct payment practices by service users to subcontractors on project sustainability. This research will involve service users, subcontractors and main contractors as respondents, focusing on their perceptions of direct payment practices and their impact on project sustainability.

Previous research gaps have revealed several issues related to the practice of direct payments, the results of research by Abbasianjahromi et al, (2018) Selecting the right subcontractor will increase project success, the subcontractor selection process is based on the TOPSIS Kano model and is fuzzy but Rostiyanti et al, (2020) subcontractors and the main contractor have a payment clause, the effect of which is that the conditional payment practice disrupts the cash flow of the subcontractor company, whereas according to El-Kholy, (2019) the main contractor selects subcontractors based on the proposed profits. Sandanayake and Ekanayake, (2016) The main contractor and subcontractors have different intentions toward profit, so if disputes between the main contractor and subcontractors will directly affect the success of the project, there is still a vacuum in specific research in the context of contractual relationships between service users, subcontractors, and main contractor. The lack of understanding of the impact of direct payment practices on project sustainability across various stakeholder perspectives in the construction industry is the basis that drives this research

THEORETICAL REVIEW

A Construction Work Contract is a legal document/product. All work or construction businesses that are bound by a work contract will have legal rights and obligations determined, for this reason, the work contract must be made properly and legally correct.

A Construction Work Contract contains aspects such as technical, legal, administrative, financial/banking, taxation and socio-economic aspects. In general, construction service actors, both service users and service providers, pay more attention to technical aspects only and pay less attention to other aspects, especially legal aspects. They only realize the importance of other aspects when a dispute occurs due to the other aspects

According to Supardi (2011), there are three forms of construction standards in payment after certification, direct payment from the employer, and contingent payment or conditional payment

The dimensions of payment methods according to Benlian (2012) are as follows: (1) Convenience: Refers to comfort in payment. Direct payment from the owner to nominees is one of the most convenient and efficient payment methods. This is because the process is fast and easy, (2) Efficiency: Refers to the user's practicality in using the payment method. Direct payments from the owner to nominees do not require intermediaries, so the costs incurred are more efficient (3) Scalability: Refers to the number of users. Direct payment from the owner to the nominee is one of the most convenient and efficient payment methods, this is because it requires an intermediary which can be slow and require additional costs. (4) Reliability: Refers to the reliability of the payment method. Reliability in the payment method from the owner to the nominated is safer from the risk of fraud or abuse.

Project Sustainability

Project sustainability or what is known as project performance, according to Mangkunegara (2018), performance (work performance) is the result of work in quality and quantity achieved by an employee in carrying out his duties by the responsibilities given to him. Meanwhile, according to Heizer and Render (2014), a project is a series of tasks directed towards a main result. According to King and Cleland (1987), a project is a combination of several resources collected in a temporary organizational container to achieve certain goals or targets. According to Dipohusodo (1995), a project is an effort that mobilizes available resources, which is organized to achieve goals, certain important goals and expectations and must be completed within a limited period by the agreement.

Project success is the fulfillment or completion of work according to predetermined cost, time (schedule) and quality standards (Hughes, 2004), thus, project performance can be interpreted as the work results achieved in mobilizing available resources that are organized to achieve goals within a limited period

Cost Performance

According to Mulyadi (2002), costs are sacrifices of economic resources, measured in units of money, that have occurred or are likely to occur to achieve certain goals. According to Simamora (1999), costs are cash or cash equivalent values sacrificed for goods or services that are expected to provide current or future benefits for the organization. It is called cash equivalent because non-cash sources can be exchanged for desired goods or services. Meanwhile, expenses are used costs (expired costs).

Thus, cost performance as an aspect of project performance is the result of work achieved in the context of sacrificing economic resources measured in units of money, with the hope of providing positive benefits in project activities.

Project performance indicators from the cost aspect are: (Syah, 2004). (1) By the contract documents and agreements, (2) The project owner agrees and carries out payment for the work until completion. (3) There is no progress billing that is not paid. (4) All parties related to project implementation are

satisfied. (5) Good company image, (6) There are invitations and/or appointments to new projects (7) Obtain positive benefits including profits for the company.

Time Performance

Time performance as an aspect of project performance is the work results achieved to carry out the entire series when the project activity process takes place, with the interval between the start of project activities and the completion of the project according to the agreed time or shorter.

Time is an important parameter, as are costs and resources. The extent of dependence on other parameters varies from project to project. Time planning and control are carried out by managing schedules, namely by identifying the point when work starts and when it ends. Project managers think that the faster the project completion, the better. Various efforts are made to achieve this goal, for example, speeding up work completion by working overtime or providing incentives in the form of premiums for early delivery of goods. These efforts will generally result in price increases. The relationship between schedule and cost in project activities is very close, so to solve it requires an integrated approach, namely realizing that one parameter has a direct impact on the other, and in turn also has an impact on the overall project results.

The project must be carried out according to the specified period and end date. If the final result is a new product, then delivery must not exceed the specified time limit.

Project performance indicators from the time aspect are (Syah, 2004). (1) By the work schedule of contract documents and agreements. (2) The project owner agrees and accepts the completion of part and/or all of the work in question. (3) There are no complaints or claims from the employer or third parties related to the completion of the work. (4) All parties related to project implementation are satisfied. And (5) Good company image. (6) There is an invitation and/or appointment for a new project.

Quality Performance

Quality is always related to cost and time parameters, quality parameters will increase costs and possibly also schedules. While reducing costs with a fixed scope of work and schedule, it will likely reduce quality. Quality assurance efforts including quality control aim to ensure that the predetermined quality levels or standards can be met. The planning of a project has taken into account the costs and schedule to achieve it so that all that remains is proper control over the use of parameters in the form of resources which will help prevent cost overruns or delays in producing goods that meet these standards.

According to Montgomery (1985) quoted by Supranto (1997), quality is the extent to which products meet the requirements of people who use them. A product is said to be of quality for someone if the product can meet their needs. According to Asiyanto (2004), one definition of quality is the overall nature and characteristics of a product or service that is related to its ability to fulfill a need. Project quality performance is the work result achieved to achieve conformity

with established standards or requirements, both subjective quality standards and objective quality standards

Project performance indicators from the quality aspect are (Syah, 2004). a. By technical specification contract documents and agreements. b. The project owner agrees and accepts the project without comments/specific conditions. c. There are no penalties, complaints or claims regarding the quality of project work results. d. Occupational Safety and Health (K-3) is implemented well. e. All parties related to project implementation are satisfied. f. Obtain a certificate of completion. g. Good company image. h. There are invitations and/or appointments to new projects.

Based on various opinions and previous research regarding direct payments and project sustainability described previously, the research framework is described as follows:

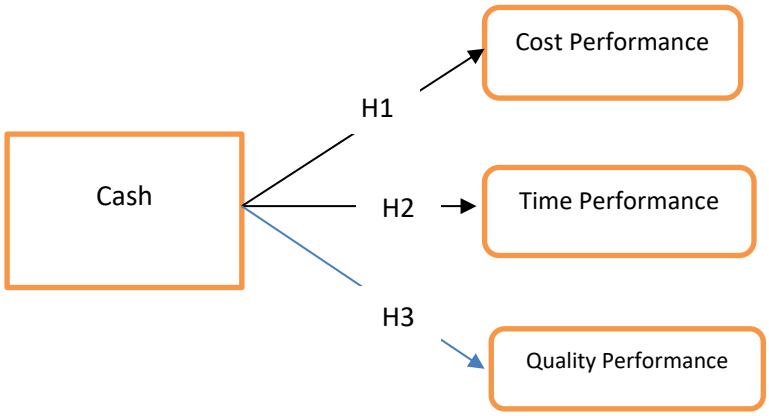

Figure 1 Framework of Thought

Based on the problem formulation and research model above, the research hypothesis is formulated as follows:

H1: There is a significant effect of direct project payments on cost performance.
H2: There is a significant effect of direct project payments on-time performance
H3: There is a significant effect of direct project payments on quality performance

METHODOLOGY

In this research, the approach used is quantitative. This research uses a causal analysis method because this research aims to test a hypothesis regarding the influence of one or several independent variables on the dependent variable.

The population determined in this research includes building project stakeholders focused on:

- Project owner
- Main Contractor
- Sub-contractors / Suppliers

The selection of building construction projects in the DKI Jakarta Province area is based on data from the Central Statistics Agency in the Magazine entitled Construction in Figures 2019, building construction projects

are the field of work with the largest construction value that has been completed among other fields with 110 respondents.

The distribution of the stakeholder population and the number of samples taken to serve as objects in this research are shown in Table 1.

Table 1 Population Distribution and Research Sampling

Field	Sub Field	Amount
Development	Construction manajer	6
	Project Coordinator	12
Main Contractor	Manajer Proyek	10
	Site manajer	11
Vendors of goods and construction services/subcontractors	Site manager	6
	Team Leader	16
	Site Supervisor	25
Total		86

Research data analysis uses Structural Equation Modeling (SEM) with Smart PLS.

RESULTS

Below, the researcher describes the respondents totaling 86 employees based on gender, age, highest level of education and length of service:

Table 2. Research Respondents

Profile	Amount	Percentage
Gender		
1. Man	78	91
2. Woman	8	9
Age		
1. 20-30 Years	25	29
2. 31–40 Years	44	51
3. 41–50 Years	15	18
4. > 50 Years	2	2
Education		
1. SMA/SMK	5	6
2. Diploma	15	17
3. S1	60	70
4. S2	6	7
Years of service		
1. 1-5 Years	12	14
2. 6–10 Years	46	54
3. 11–15 Years	14	16
4. 16-20 Years	8	9
5. >20 Years	6	7

Based on Table 2 above, we get an idea that the majority of research subjects are men, namely 91% and women as many as 9%. This shows that respondents are more dominated by men. General description of the research objects based on age, with the majority being 31 to 40 years old at 51%, then 20 to 30 years old at 29%, then 41 to 50 years old at 18% and over 50 years old at 2%. The general description of research objects based on education is mostly undergraduate (S1) education at 70%, then Diploma education at 17%, then Master's education at 7%, and high school equivalent education at 6% and the general description of research objects based on length of work is the highest 6 up to 10 years as much as 54%, then 11 to 15 years as much as 16%, then 1 to 5 years as much as 14%, length of work 15 to 20 years as much as 9% and length of work more than 20 years as much as 7%.

The results of calculating the average value according to the field can be seen in the following table:

Table 3. The average score of respondents on the Direct Payment variable

Field	Sub Field	Convenience (X.1)	Efficiency (X.2)	Scalability (X.3)	Reliability (X.4)	Average
Development	Construction manajer	3.17	3.33	3.83	3.83	3.54
	Project Coordinator	3.25	3.25	3.67	3.50	3.42
Main Contractor	Manajer Proyek	2.10	2.00	2.20	2.30	2.15
	Site manajer	2.09	2.27	2.27	2.18	2.20
Vendors of goods and construction services/sub contractors	Site manager	3.67	3.00	4.00	3.50	3.54
	Team Leader	3.63	3.56	3.81	3.63	3.66
	Site Supervisor	3.64	3.64	3.68	3.56	3.63

Based on the table above, it can be seen that in the Development sector, Construction managers tend to agree that direct project payments are made to nominees with an average score of 3.54, while Project Coordinators still tend to disagree with an average score of 3.42. Meanwhile, in the main contractor sector, Project Managers tend to disagree with making direct project payments to nominees with an average score of 2.15, likewise, Site managers tend to disagree with an average score of 2.2. In the field of Vendors of goods and Construction Services/subcontractors, the Site Manager sub-sector tends to agree that direct project payments are made to nominees with an average score of 3.54, then Team Leaders tend to agree that direct project payments are made with an average score of 3.66 and in Site Supervisors also tend to agree with making direct project payments with an average value of 3.63.

Measurement Model Test Results (Outer Model)

The loading factor results for each indicator can be seen in the following table:

Table 4 Confirmatory Factor Analysis (CFA)

Indicator	Cash (X)	Cost (Y1)	Time (Y2)	Quality (Y3)	Cutt Off	Information
X1.1	0.875					Valid
X1.2	0.850				0.7	Valid
X1.3	0.838					Valid
X1.4	0.850					Valid
Y1.1		0.838				Valid
Y1.2		0.906				Valid
Y1.3		0.865				Valid
Y1.4		0.850				Valid
Y1.5		0.819				Valid
Y1.6		0.791				Valid
Y2.1			0.864			Valid
Y2.2			0.862			Valid
Y2.3			0.843			Valid
Y2.4			0.881			Valid
Y2.5			0.793			Valid
Y2.6			0.742			Valid
Y3.1				0.827		Valid
Y3.2				0.808		Valid
Y3.3				0.800		Valid
Y3.4				0.779		Valid
Y3.5				0.759		Valid
Y3.6				0.717		Valid
Y3.7				0.801		Valid
Y3.8				0.746		Valid

Based on Table 4 above, it appears that the overall loading factor shows that the model meets the convergent validity requirements because the loading factor value is more than 0.7. In the direct payment variable all indicators are declared valid, then in the cost variable all indicators are declared valid, then in the time variable all indicators are declared valid and in the quality variable, all indicators are declared valid.

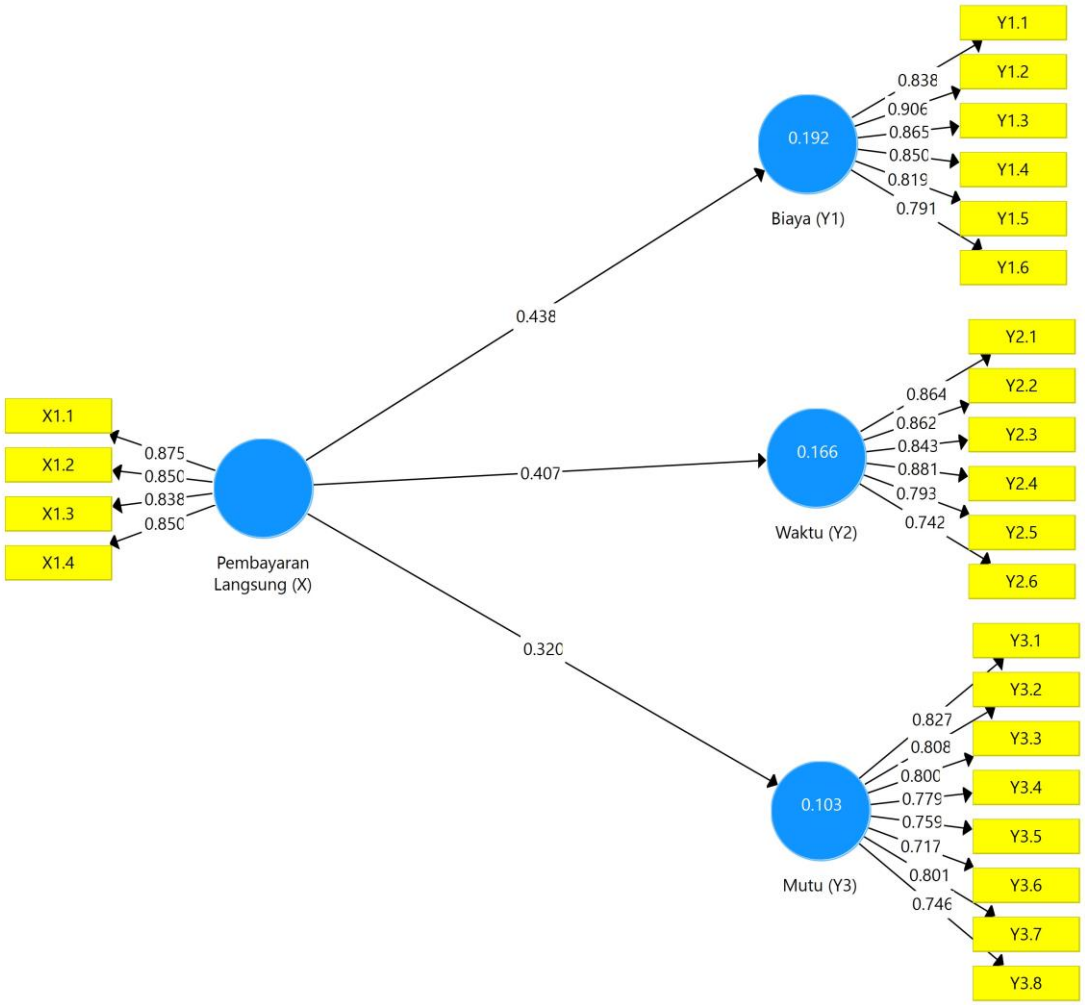

Figure 2 Loading Factor and Path Coefficient

Table 5 ***Average Variance Extracted*** **(AVE)**

Variable	Average Variance Extracted (AVE)	Cutt-off	Information
Cash (X)	0.728	0.5	Valid
Cost (Y1)	0.715		Valid
Time (Y2)	0.693		Valid
Quality (Y3)	0.609		Valid

Based on Table 5 above, it can be seen that all AVE values are > 0.5, this shows that all latent variables in the estimated model meet the convergent validity (valid) criteria.

The following are the output results from Composite Reliability and Cronbach's Alpha:

Table 6 Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Alpha	rho_A	Composite Reliability	Cutt-off	Information
Cash (X)	0.876	0.885	0.915	0.500	Reliable
Cost (Y1)	0.920	0.933	0.938		Reliable
Time (Y2)	0.911	0.920	0.931		Reliable
Quality (Y3)	0.910	0.937	0.926		Reliable

The results of construct reliability testing as presented in Table 6 show the Composite Reliability and Cronbach's Alpha values of all latent variables > 0.70. So that all manifest variables in measuring latent variables in the estimated model are declared reliable

Structural Model Analysis (Inner Model)

Path Analysis Equation Testing (Path Coefficient) Before testing the hypothesis, a structural model equation can be created based on the statistical test results presented in Figure 3:

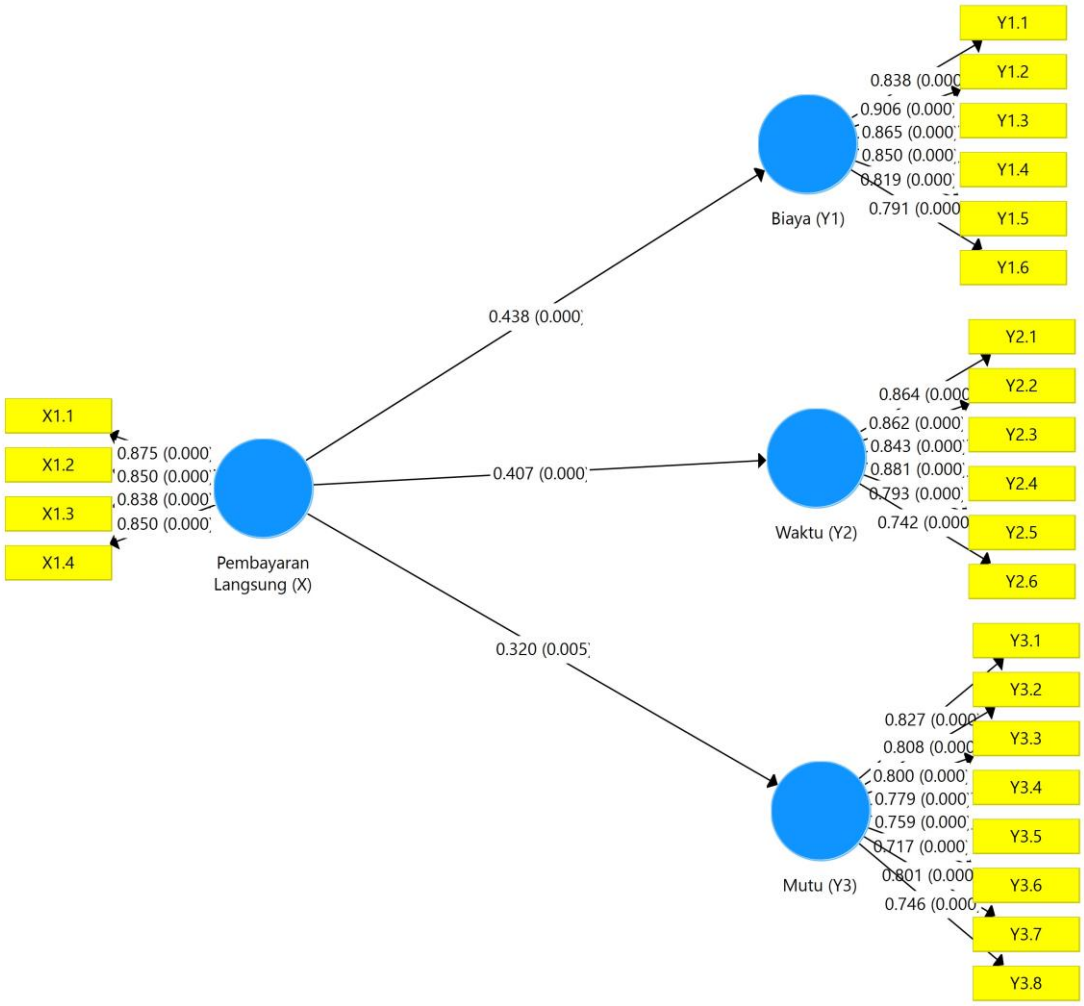

Figure 3 Path Coefficient Value Path Diagram (Bootstrapping)

In this research, the results of the path coefficient test and hypothesis testing that have been carried out by the researcher will be explained

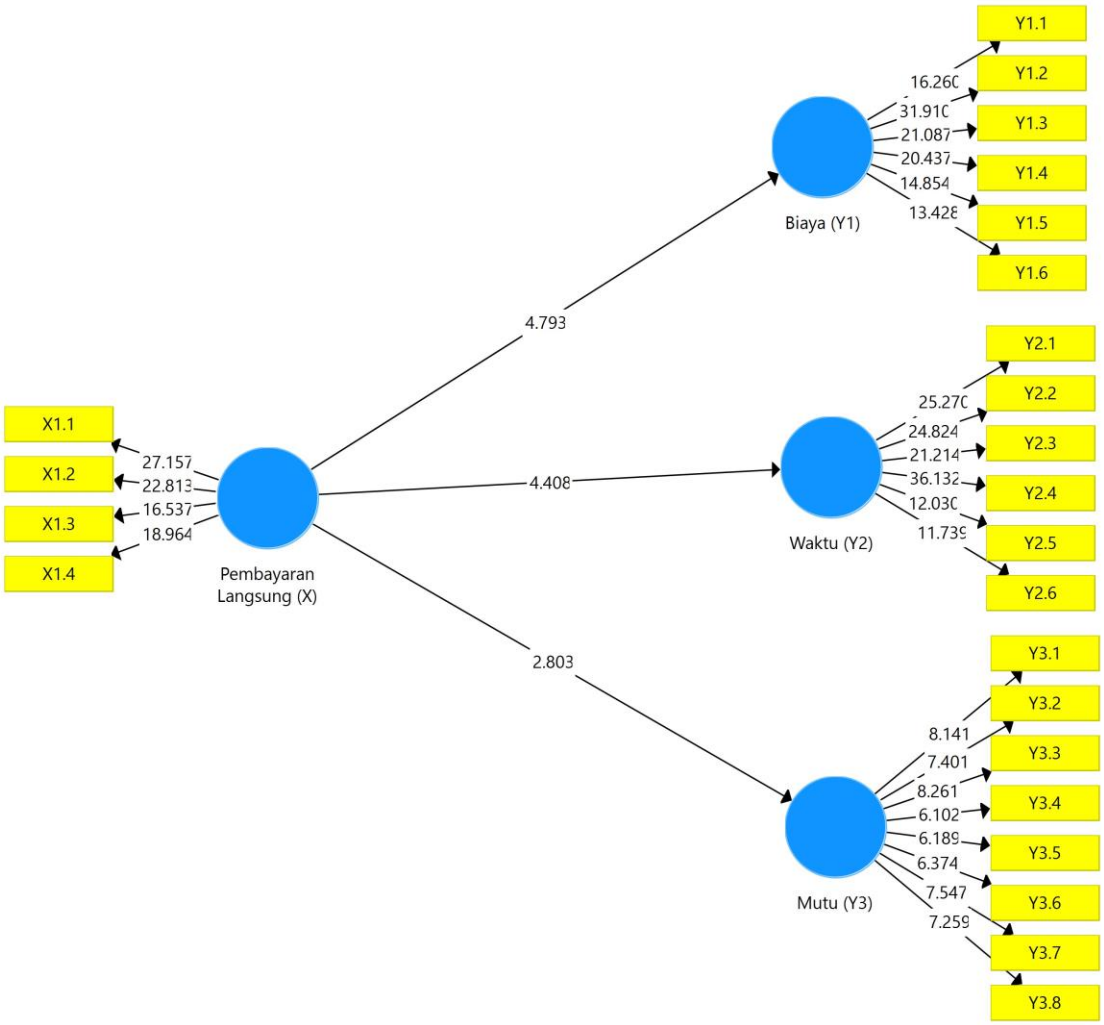

Figure 4 Path Diagram of t-Statistic Values (Bootstrapping)

The picture above is the result of bootstrapping calculations for research hypothesis testing, the numbers in the picture are the values of the t-test between variables and variables with indicators, more details are shown in the table below:

Table 7 Hypothesis Testing

Influence between variables	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Direct Payment (X) -> Cost (Y1)	0.438	0.448	0.091	4.793	0.000
Immediate Payment (X) -> Time (Y2)	0.407	0.420	0.092	4.408	0.000
Direct Payment (X) -> Quality (Y3)	0.320	0.353	0.114	2.803	0.005

The F-Square test is carried out to determine how big the relative influence of the independent latent variable is on the dependent latent variable. According to Ghozali & Latan (2015), the criteria for measuring F-Square are as follows: 1) The f2 value of 0.35 shows that the independent latent variable has a large influence on the dependent latent variable. 2) The f2 value of 0.15 shows that the independent latent variable has a medium or moderate influence on the

dependent latent variable. 3) The f2 value of 0.02 shows that the independent latent variable has a small influence on the dependent latent variable.

The f-square test is how big the influence of variables is at the structural level. The calculation results can be seen in the following table:

Tabel 8 Hasil Uji f^2

Variable	Cost (Y1)	Time (Y2)	Quality (Y3)
Cash (X)	0.238	0.199	0.114

Based on table 8, f square for direct payments on costs is 0.238, which means the effect of direct payments on costs is in the medium category, then f square for direct payments on time is 0.199, which means the effect of direct payments on time is in the medium category, then f square for direct payments on quality is 0.114, which means the effect of direct payments on quality is in the low category

DISCUSSION

The test results shown in Table 7 show that the path coefficient value of direct payments to costs is 0.438 (significant), then the t-statistic value > t-table (4.793 > 1.96) and the p-value is less than the significance level (0.000 < 0 .05), then it can be concluded that direct project payments have a positive and significant effect on costs, thus H1 is accepted.

The test results displayed in Table 7 show that the path coefficient value of direct payments over time is 0.407 (significant) then the t-statistic value > t-table (4.408 > 1.96) and the p-value < significance level (0.000 < 0, 05), it can be concluded that direct payments have a positive and significant effect on time, thus H2 is accepted

The test results shown in Table 7 show that the motivation path coefficient value for direct payments is 0.320 (significant) then the t-statistic value > t-table (2.803 > 1.96) and the p-value < significance level (0.005 < 0, 05), it can be concluded that direct payment has a positive and significant effect on quality, thus H3 is accepted

CONCLUSION AND RECOMMENDATION

Based on the results of the analysis, it is concluded as follows:

1. Project direct payments have a positive and significant effect on project costs, so the better the project direct payments, the better the project costs, the effect of project direct payments on costs is included in the medium category
2. Project direct payments have a positive and significant effect on project time, so the better the project direct payments, the better the project time, the effect of project direct payments on time is included in the medium category
3. Project direct payments have a positive and significant effect on project quality, so the better the project direct payments, the better the project

quality. The effect of project direct payments on time is in the low category.

FURTHER STUDY

Researchers suggest increasing the data from observations and interviews to deepen the results, as well as to examine more deeply what factors or variables cause project performance problems other than direct project payments, as well as looking for answers to questions like this as part of further research, what factors affect project performance

General Advice

1. Direct payment for the project from the owner to the sub-contractor is made at the time of the contract agreement so that there are no intermediaries and efficient project management.
2. Direct payments are made from the owner to the nominated. Obtain positive benefits including profits for the company.
3. Subcontractors should pay attention to the project work time so that it matches the agreed time to receive an invitation or appointment to a new project.
4. Contractors should pay attention to the quality of the project, all project quality must be by the existing contract to obtain a certificate of completion.

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