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Relationship Between Contract Change Orders in Construction Projects with Project Performance and Client Satisfaction

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Abstract

Poorly managed Contract Change Order (CCO) have the potential to reduce project performance, which in turn can impact client satisfaction. This study aims to analyze the dominant factors causing CCOs in construction projects, as well as to analyze the relationships between CCO, project performance, and client satisfaction in private projects in Badung Regency. The research was conducted by distributing questionnaires to 30 respondents owning private building construction projects that experienced CCOs in Badung Regency during the 2022–2024 fiscal years. The data obtained from the questionnaires were analyzed using the Relative Importance Index (RII) method to determine the dominant factors, and the Structural Equation Modeling method based on Partial Least Squares SEM-PLS methods to assess the relationships between variables. The dominant factors causing CCOs in includes the changes in the scope or volume of work by the client, changes in design or material specifications by the client, changes in project implementation duration by the client, lack of details and specifications in design drawings by the consultant, and disruptions to the project caused by unfavorable natural conditions. Based on SEM-PLS analysis, it was found that CCOs have a negative and significant relationship with both project performance and client satisfaction. This means that the higher the CCO value, the lower the project performance and client satisfaction. Project performance has a positive and significant relationship with client satisfaction and acts as a partial mediator with VAF value of 45%. This indicates that higher project performance leads to increased client satisfaction.

Keywords: Contract Change Order, Project Performance, Client Satisfaction

Introduction

Changes in construction projects during the implementation phase always occur and are inevitable (Yana et al., 2015). Such changes can happen in all types of construction projects and at any time throughout the project execution whether at the beginning, middle, or end of the project (Gumolili et al., 2012). Changes to construction contracts resulting from these project changes are often referred to as Contract Change Orders (CCO).

CCOs in construction projects can take the form of changes in design, materials used, or methods applied to certain work items. These changes need to be properly controlled to minimize their impact. According to Pitroda & Bhavsar, (2015), changes in work volume through contract modifications can lead to a cost overrun of around 10–15 percent. The Government of the Republic of Indonesia has limited the maximum additional costs due to CCOs in public projects to 10 percent of the original contract value, as stipulated in Presidential Regulation No. 54 of 2010.

Procurement of contract change orders in construction projects has the potential to increase project complexity which will have a significant impact on client satisfaction as assessed

through the performance of service providers in project implementation. Project performance is a key indicator of project success, encompassing the achievement of time, cost, and quality targets as planned (Chan & Chan, 2004; Mir & Pinnington, 2014; Zid et al., 2020). Poorly managed CCOs can diminish project performance, leading to delays, cost overruns, and reduced work quality. This decline in project performance ultimately has a direct impact on client satisfaction (Hanna et al., 2002).

Client satisfaction reflects the client's perception of the service provider's success in meeting the needs and expectations agreed upon in the contract. Therefore, effective and efficient CCO management is crucial to maintain stable project performance and ensure high levels of client satisfaction. Yanti et al. (2024) in their study mentioned that CCOs affect the overall project duration. For instance, the Bali Police Criminal Investigation Building Project, originally planned for completion in 169 days, was extended to 202 days due to changes in nearly all structural works.

Indramanik et al. (2019), in their study entitled "The Influence of Factors Causing CCO on the Implementation Time of Building Construction Projects in Badung Regency," identified three variables that significantly affect project duration: construction, resources, and administration. These variables accounted for 69.4% of the impact on project execution time. Based on the aforementioned issues research is needed to identify the dominant factors causing CCOs in projects, and to examine their relationship with project performance and client satisfaction. The findings of this study are expected to serve as a reference for anticipating the occurrence of CCOs in Badung Regency.

Based on the literature review and previous findings, this study proposes four main hypotheses concerning the relationships between Contract Change Orders (CCO), project performance, and client satisfaction. The first hypothesis (H1) states that CCO has a negative and significant impact on project performance (Naji et al., 2022). This is supported by Hanna et al. (2002), who found that higher levels of contract changes increase the likelihood of reduced project performance in terms of cost, time, and quality. The second hypothesis (H2) posits that CCO also has a negative and significant effect on client satisfaction, as uncontrolled changes may disrupt expectations and perceptions of the quality of services received by clients (Love et al., 2012).

Furthermore, the third hypothesis (H3) suggests that project performance positively and significantly influences client satisfaction, indicating that optimal project performance enhances clients' satisfaction with the project outcomes (Ogunlana, 2010). Finally, the fourth hypothesis (H4) proposes that project performance mediates the relationship between CCO and client satisfaction, implying that the negative impact of CCO on client satisfaction may occur through the decline in project performance resulting from such contract changes (Khalifa & Mahamid, 2019).

Methods

This study adopts a quantitative research approach to examine the influence CCO on the project performance and client satisfaction, as well as the capacity of project performance to act as a mediating variable between CCO and client satisfaction. The research design employs a survey method, using a structured questionnaire as the primary data collection instrument. Data were collected from 30 respondents owning private building construction projects that experienced CCOs in Badung Regency during the 2022–2024 fiscal years. Respondents were selected using a purposive sampling technique, which selected respondent represents construction service client to evaluate the performance of costrunction projects affected by CCO. In addition to primary data obtained through questionnaires, interviews, and brainstorming sessions, this

study also utilized secondary data sourced from books, journals, articles, and other relevant documents. The variables in this study include Factors casing CCO, Contract Change Order (CCO), project performance, and client satisfaction, all of which were operationalized based on indicators derived from established theories and measured using a Likert scale. The collected data were analyzed using Relative Importace Index (RII) first to find the dominant factor causing CCO in construction project. Structural Equation Modeling based on Partial Least Squares (SEM-PLS) implemented through the SmartPLS 3.0 software used to find the relationship between CCO with project performance and client satisfaction. This analytical approach was selected due to its capacity to manage intricate models and produce reliable estimates for both the measurement and structural components. The analysis involved examining the measurement model to evaluate convergent validity, discriminant validity, and reliability, as well as assessing the structural model to determine path coefficients, significance levels, and the mediating role of project performance. Additionally, the model's predictive capability was assessed using indicators such as R^2, F^2, and Q^2 to establish its predictive relevance.

Results and Discussion

Respondent Characteristics

Primary data were collected through a questionnaire survey administered to all respondents, consisting of 30 individuals representing clients involved in private sector projects. The analysis of respondent demographics shows that the age distribution, ranging from 21 years to over 35 years, indicates a level of maturity likely to enhance the reliability of their responses. Most respondents possess a bachelor's degree (S1/D4), reflecting a solid grasp of issues related to CCO, project performance, and client satisfaction. Additionally, the diverse work experience of the respondents, spanning less than five years to more than five years, contributed to richer insights into the complexities and challenges commonly faced in construction projects.

Research Instrument Testing

Validity Test

Construct validity testing, as outlined by Sugiyono (2019), was employed in this study to assess validity. According to standard guidelines, the minimum number of respondents required for such a test ranges from 15 to 35. In this research, data were gathered from 30 respondents, yielding a degree of freedom (df) of N-2, which is 28. A significance level (α) of 5% was used, corresponding to a critical r-value (r table) of 0.361 (Ghozali, 2021). The validity of all questionnaire items was evaluated using IBM SPSS version 25, and the results are summarized in Tables 1.

Table 1. Validity Test Results

Table Validity Test Results	N	Average r Calculate	r Table	Information
Factor Causing CCO	19	0.583	0.361	Valid
Contract Change Order	14	0.780	0.361	Valid
Project Performance	13	0.790	0.361	Valid
Client Satisfaction	12	0.791	0.361	Valid

All indicators pertaining to the factors causing CCO, CCO indicator, project performance, and client satisfaction, as evaluated by the 30 respondents, demonstrated Pearson correlation coefficients exceeding the critical r-value (r table). The average correlation of the questionnaire items was also higher than the r table value of 0.361. Consequently, all statements were deemed valid and qualified to advance to the reliability testing stage.

Reliability Test

The reliability assessment in this study utilized the one-shot method, wherein measurements were taken only once and then compared across different items to evaluate the correlations among responses. Cronbach's Alpha (α) was employed as the primary technique to measure the internal consistency of the research instrument, given its widespread application in such analyses. As stated by Ghozali (2021), a variable is deemed reliable if it yields a Cronbach's Alpha value exceeding 0.70, indicating that the instrument possesses strong internal consistency and is dependable for further data analysis. Ensuring high reliability is essential to confirm that the instrument consistently captures data, thereby reinforcing the validity of the study's conclusions. Consequently, this research adopted a Cronbach's Alpha threshold of greater than 0.70 to substantiate both the RII analysis and the SEM-PLS analysis. The reliability test results generated using IBM SPSS version 25 are summarized in Table 2.

Table 2. Reliability Test Results

Table Validity Test Results	N	Alfa Cronbach	Minimum Alfa Cronbach	Information
Factor Causing CCO	19	0.892	0.700	Valid
Contract Change Order	14	0.949	0.700	Valid
Project Performance	13	0.947	0.700	Valid
Client Satisfaction	12	0.745	0.700	Valid

The results indicate that all variables exhibit Cronbach's Alpha values exceeding 0.70, confirming that the instruments employed satisfy the standards for high reliability. This finding demonstrates that the research instrument has strong internal consistency and is dependable for measurement purposes, as expected in quantitative studies. Accordingly, all statement items utilized in this research are deemed reliable and appropriate for subsequent analyses.

Relative Importance Index (RII)

The Relative Importance Index (RII) determines the level of influence of a factor through a ranking system based on the weighted scores provided by respondents after completing the questionnaire (Boakye et al., 2022). The results of the RII analysis for the questionnaire on factors causing CCOs are presented in Table 3.

Table 3. RII Analysis Results of Factors Causing CCO

Statement	Respondent Score					∑W 5n5+4n4+3n3+2n2 +1n1	N	A	RII ∑W/(AxN)	Rank
	5	4	3	2	1					
POW2	4	23	3	0	0	121	30	5	0.807	1
POW6	5	21	4	0	0	121	30	5	0.806	2
POW1	9	12	9	0	0	120	30	5	0.800	3
PKN3	4	21	5	0	0	119	30	5	0.793	4
PL1	4	20	6	0	0	118	30	5	0.787	5
PL2	4	17	9	0	0	115	30	5	0.767	6
PL3	4	18	7	1	0	115	30	5	0.767	7
POW4	3	18	9	0	0	114	30	5	0.760	8
POW3	3	17	10	0	0	113	30	5	0.753	9
POW5	1	19	10	0	0	111	30	5	0.740	10
PKR3	1	14	15	0	0	106	30	5	0.707	11

PKR4	0	17	12	1	0	106	30	5	0.707	12
PKN2	1	12	16	1	0	103	30	5	0.687	13
PKR6	2	9	17	2	0	101	30	5	0.673	14
PKR5	0	11	18	1	0	100	30	5	0.667	15
PKN1	2	7	18	3	0	98	30	5	0.653	16
PKR1	1	8	18	3	0	97	30	5	0.647	17
PKR7	0	8	20	2	0	96	30	5	0.640	18
PKR2	1	7	18	4	0	95	30	5	0.633	19

Based on the results of the analysis, it was found that statement POW2 (change in the scope of work or an increase in the volume of work due to client request) had the highest rank with an RII value of 0.807, while statement PKR2 (Delays in supply of labor from contractor) had the lowest rank with an RII value of 0.633. To determine the number of dominant factors, an eigenvalue analysis was conducted, in which factors with eigenvalues greater than 1 are considered dominant and have a significant influence in shaping a particular outcome. The results of the eigenvalue analysis are presented in Table 4.

Table 4. Eigenvalue Analysis Results

Rank	Total	% of Variance	Cumulative %
1	7.862	39.310	39.310
2	2.547	12.735	52.045
3	1.934	9.670	61.715
4	1.510	7.552	69.267
5	1.181	5.904	75.171
6	0.971	4.857	80.028
7	0.829	4.144	84.172
8	0.671	3.356	87.528
9	0.507	2.534	90.062
10	0.427	2.133	92.195
11	0.396	1.981	94.176
12	0.313	1.567	95.743
13	0.273	1.363	97.106
14	0.237	1.183	98.289
15	0.116	0.579	98.868
16	0.098	0.491	99.359
17	0.060	0.299	99.658
18	0.057	0.287	99.946
19	0.011	0.054	100.000

Based on the eigenvalue analysis, it was found that the number of factors categorized as dominant was five, as each had an eigenvalue greater than 1. These five factors accounted for 75.171% of the causes of CCOs in private construction projects. The identified dominant factors were: POW2 (changes in the scope or volume of work by the client), POW6 (changes in design or material specifications by the client), POW1 (changes in project implementation duration by the client), PKN3 (lack of details and specifications in design drawings by the consultant), and PL1 (disruptions to the project caused by unfavorable natural conditions).

Structural Equation Model - Partial Least Square (SEM-PLS)

This study employed a repeated indicator model in the SEM-PLS analysis. Data processing was carried out using the Smart PLS 3.0 software, which included the stages of measurement model evaluation, structural model evaluation, and mediation testing.

Measurement Model Evaluation

Outer Model Evaluation Results

Evaluation of the measurement model is conducted prior to the structural model testing, with the aim of ensuring that the latent constructs and indicators used meet the required criteria for validity and reliability, allowing for further analysis. According to Hair et al. (2021), a commonly accepted loading factor value is ≥ 0.70. Therefore, these values serve as references for evaluating indicator validity in this study. A visualization of the measurement model results is presented in Figure 1.

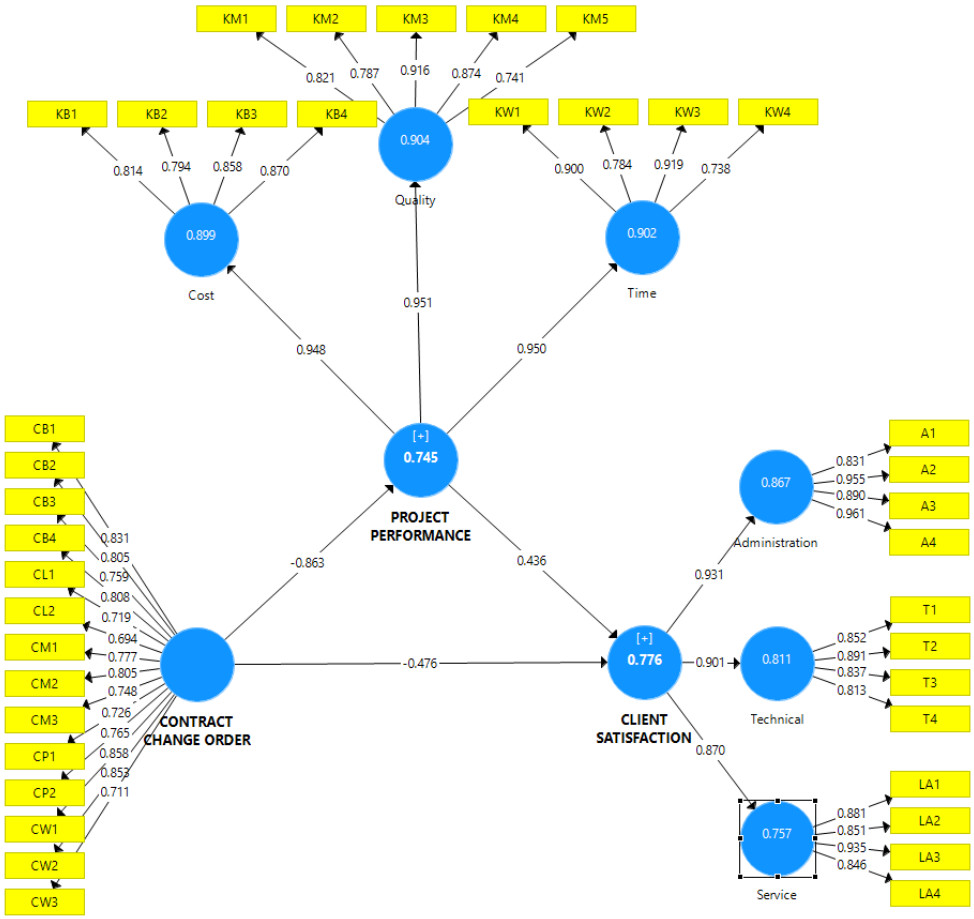

Figure 1. First Result of Indicator Reliability Testing Model

Based on the results of the indicator reliability analysis, all indicators were found to have reliability values above 0.70 except for CL2 with reability value of 0.694, therefore CL2 needs to be removed from the model. A visualization of the measurement model results after removing CL 2 is presented in Figure 2.

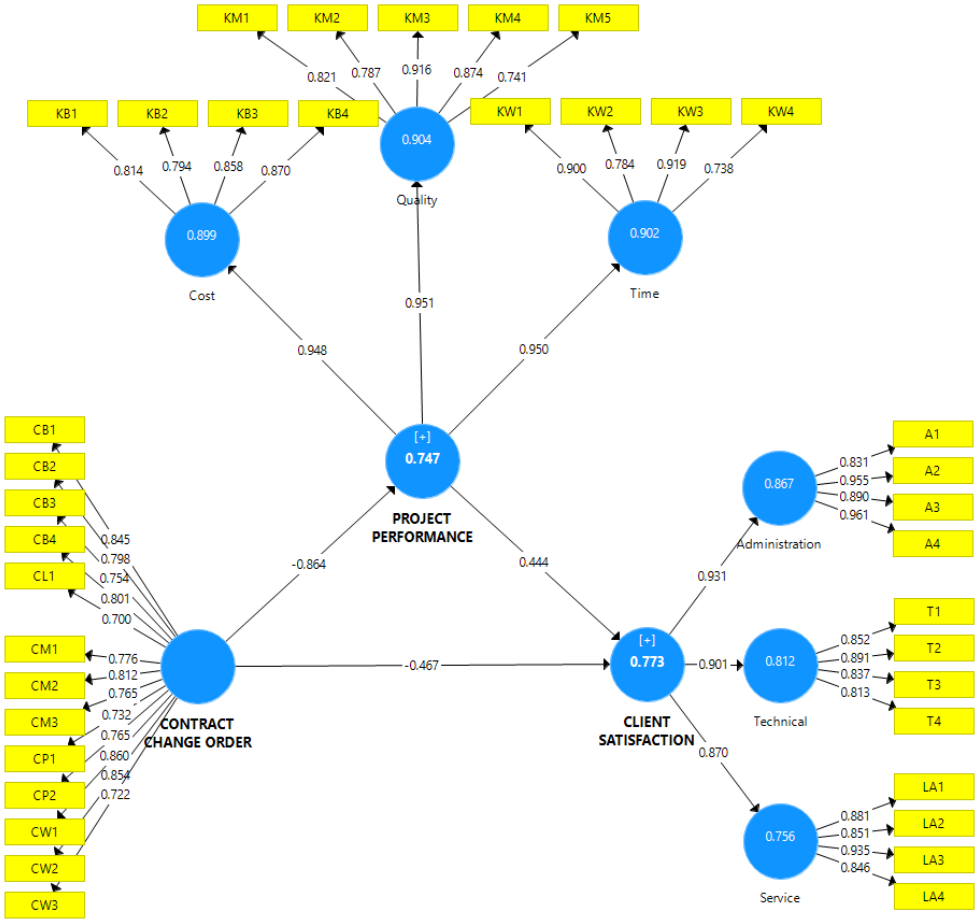

Figure 2. Second Result of Indicator Reliability Testing Model

Based on the second results of the indicator reliability analysis, all indicators were found to have reliability values above 0.70. This indicates that each indicator makes a significant contribution to its respective construct, as further detailed in Table 5.

Table 5. Loading Factor Testing Value Results

CCO	Score	Project Performance		Score	Client Satisfaction		Score
CB1	0.845	Cost	KB1	0.814	Administration	A1	0.831
CB2	0.798		KB2	0.794		A2	0.955
CB3	0.754		KB3	0.858		A3	0.890
CB4	0.801		KB4	0.870		A4	0.961
CM1	0.776	Quality	KM1	0.821	Technical	T1	0.852
CM2	0.812		KM2	0.787		T2	0.891
CM3	0.765		KM3	0.916		T3	0.837
CW1	0.860		KM4	0.874		T4	0.813
CW2	0.854		KM5	0.741	Service	LA1	0.881
CW3	0.722	Time	KW1	0.900		LA2	0.851
CP1	0.732		KW2	0.784		LA3	0.935
CP2	0.765		KW3	0.919		LA4	0.846
CL1	0.700		KW4	0.738			

Internal Consistency Reliability Measurement

Following the validity testing, a reliability assessment was carried out using Cronbach's Alpha and Composite Reliability metrics. A variable is considered reliable if it fulfills the following

conditions: a Cronbach's Alpha value exceeding 0.6, a Composite Reliability value above 0.6, and rho_A values falling within the range of 0.70 to 0.95 (Hair et al., 2021). The outcomes of the Cronbach's Alpha and Composite Reliability evaluations for the research model are detailed in Table 6.

Table 6. Composite Reliability and Average Variance Extracted (AVE) Values

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Contract Change Order	0.948	0.951	0.954	0.616
Project Performance	0.950	0.952	0.956	0.627
Client Satisfaction	0.946	0.948	0.953	0.629

The test results reveal that all variables have Cronbach's Alpha values exceeding 0.6, demonstrating that they meet the standards for acceptable internal consistency and are appropriate for inclusion in the research model. Furthermore, all latent variables display Composite Reliability (CR) values above 0.6, indicating that each construct within the model satisfies the established reliability criteria (Hair et al., 2021).

Convergent Validity

Convergent validity was assessed using the Average Variance Extracted (AVE), which reflects the average proportion of variance in the indicators accounted for by their underlying construct. AVE demonstrates how well a construct captures the variance of its associated measurement items. Following Hair et al. (2021), this study adopted a confirmatory approach to evaluating convergent validity, where an AVE value of ≥ 0.50 indicates that the construct explains more than 50% of the variance in its indicators. The analysis results show AVE values of 0.616 for CCO, 0.627 for project performance, and 0.629 for client satisfaction, indicating that all variables in this study satisfy the requirements for convergent validity.

Discriminant Validity

Additionally, discriminant validity was evaluated by examining the Heterotrait-Monotrait Ratio (HTMT). According to Hair et al. (2021), discriminant validity is established when the HTMT value between constructs is less than 0.90. The HTMT results for the constructs in the research model are detailed in Table 7.

Table 7. Heterotrait-Monotrait Ratio (HTMT) Value

	Contract Change Order	Project Performance	Client Satisfaction
Contract Change Order			
Project Performance	0.899		
Client Satisfaction	0.891	0.891	

The results of the Heterotrait-Monotrait Ratio (HTMT) analysis indicate that all pairs of variables exhibit values below 0.90, confirming that discriminant validity has been established. The application of HTMT is increasingly favored due to its greater sensitivity in identifying discriminant validity concerns compared to the Fornell-Larcker criterion and cross-loading assessments (Hair et al., 2021).

Structural Model Evaluation

The structural model was assessed using several key indicators, including the R-Square (R^2), effect size (f^2), predictive relevance (Q^2), and two-tailed significance testing (Ghozali, 2021).

R-Square (R^2)

The R-Square (R^2) value assesses how well the independent variables account for the variance in the dependent variable. A higher R^2 indicates stronger predictive power of the research model. As noted by Hair et al. (2021), R^2 values can be categorized into three levels: 0.75 reflects a substantial effect, 0.50 a moderate effect, and 0.25 a weak effect. The R-Square values derived in this study are summarized in Table 8.

Table 8. R-Square Value

	R Square	R Square Adjusted
Project Performance	0.747	0.738
Client Satisfaction	0.773	0.756

Based on the results of the R-Square (R^2) test presented in Table 8, the R-Square results can be interpreted as follows: the R^2 value for the project performance variable is 0.747, indicating that 74.7% of the variance in project performance is explained by the indicators incorporated in the model, with the remaining 25.3% attributable to factors not included in this study. Similarly, the R^2 value for the client satisfaction variable is 0.773, suggesting that 77.3% of the variation in client satisfaction is accounted for by the constructs within the model, while the remaining 22.7% is influenced by variables beyond the scope of this research. According to the R-Square classification criteria by Hair et al. (2021), this value falls into the moderate effect category and indicates that the model has substantial predictive capability.

Effect Size (f^2)

The Effect Size (f^2) measures the magnitude of the impact that an exogenous variable has on an endogenous variable within the structural model. According to Hair et al. (2021), f^2 values are interpreted as follows: 0.02 signifies a small effect, 0.15 a medium effect, and 0.35 a large effect. The effect size values calculated in this study are detailed in Table 9.

Table 9. F-Square Value

	Contract Change Order	Project Performance	Client Satisfaction
Contract Change Order		2.953	0.242
Project Performance			0.219
Client Satisfaction			

Based on the results of the Effect Size (f^2) test presented in Table 9, the Effect Size results can be interpreted as follows: the f^2 value for the contract change order variable is 2.953, indicating a large effect at the structural level in influencing project performance. The f^2 value for contract change order shows a moderate effect on client satisfaction, with a value of 0.242. The f^2 value for the project performance variable indicates a moderate effect at the structural level, with a value of 0.219 in influencing client satisfaction.

Predictive Relevance (Q^2)

The Predictive Relevance (Q^2) is a measure that reflects the predictive relevance of the model. If the Q^2 value is greater than 0, it indicates that the exogenous variables have predictive relevance for the endogenous variables in the model. According to Hair et al. (2021), a Q^2 value of 0 indicates low predictive relevance, 0.25 indicates moderate predictive relevance, and 0.50 indicates high predictive relevance in terms of predictive accuracy. The Predictive Relevance values obtained in this study are presented in Table 10.

Table 10. Q-Square Predict Value

	Q2=(1-SSE/SSO)	SSE	SSO
Project Performance	0.442	217.549	390.000
Client Satisfaction	0.465	192.742	360.000

Based on the results of Predictive Relevance (Q^2) test presented in Table 10, the Predictive Relevance results can be interpreted as follows: the Q^2 value for project performance is 0.442, which falls between 0.25 and 0.50, indicating a moderate level of predictive accuracy. The Q-Square value for client satisfaction is 0.465, which falls between 0.25 and 0.50, also indicating a moderate level of predictive accuracy.

Significance and Relevance of The Path Coeffcients (Two-Tailed)

Assessing whether a hypothesis is accepted or rejected requires evaluating the significance levels between constructs, particularly by examining the t-statistic and p-value. According to Hair et al. (2021), a hypothesis is accepted if the p-value is below 0.05 and the t-statistic exceeds 1.96. The outcomes of the significance and relevance testing of the path coefficients (two-tailed) are presented in Figure 3 and Table 11.

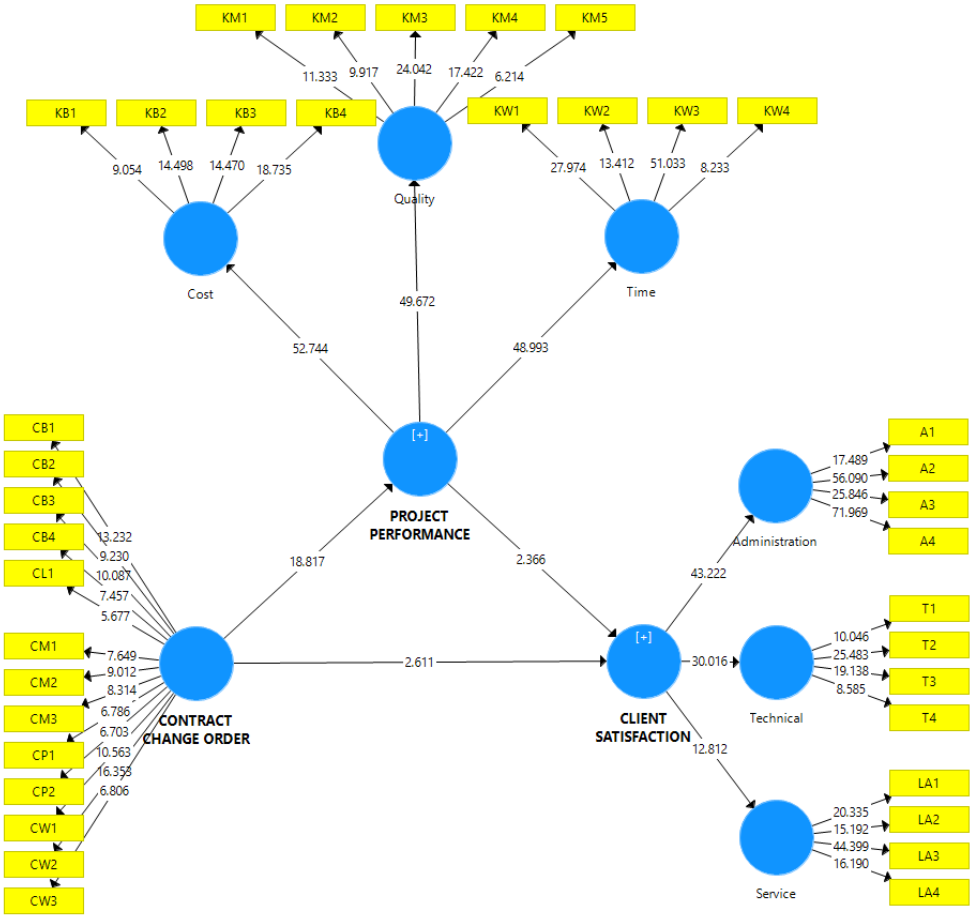

Figure 3. Bootstrapping Results

Table 11. Significance and Relevance of The Path Coeffcients (Two-Tailed)

	Original sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (|O/STDEV|)	P values

Contract Change Order -> Project Performance	-0.864	-0.867	0.046	18.817	**0.000**
Contract Change Order -> Client Satisfaction	-0.467	-0.476	0.179	2.611	**0.009**
Project Performance -> Client Satisfaction	0.444	0.430	0.188	2.366	**0.018**

Based on the results of the hypothesis testing presented in Table 11, the following conclusions can be drawn:

Hypothesis 1

The path coefficient (original sample) for the influence of CCO on project performance is -0.864, which is negative. This indicates that CCO negatively influences project performance. The t-statistic value is 18.817, with a p-value of 0.009. This indicates that CCO significantly influences project performance because t-statistic is greater than the critical value 1.96 and the p-value is less than 0.05. CCO has a negative and significant impact on project performance (H1) accepted.

Hypothesis 2

The path coefficient (original sample) for the influence of CCO on client satisfaction is -0.467, which is negative. This indicates that CCO negatively influences project performance. The t-statistic value is 2.611, with a p-value of 0.000. This indicates that CCO significantly influences client satsifaction because t-statistic is greater than the critical value 1.96 and the p-value is less than 0.05. CCO has a negative and significant impact on client satisfaction (H2) accepted.

Hypothesis 3

The path coefficient (original sample) for the influence of project performance on client satisfaction is 0.444, which is positive. This indicates that project performance positively influences project performance. The t-statistic value is 2.366, with a p-value of 0.018. This indicates that project performance significantly influences client satsifaction because t-statistic is greater than the critical value 1.96 and the p-value is less than 0.05. Project performance has a negative and significant impact on client satisfaction (H3) accepted.

Mediation Testing

To determine whether a variable mediates the relationship between other variables, the Variance Accounted For (VAF) value can be calculated. If the VAF exceeds 80%, the mediating variable is categorized as a full mediator. If the VAF falls within the range of 20% to 80%, it is considered a partial mediator. However, if the VAF is less than 20%, it can be concluded that there is almost no mediation effect. (Hair et al., 2021). VAF value can be determined using following formula:

$$VAF = \frac{\text{Indirect Effect}}{\text{Indirect Effect} + \text{Direct Effect}}$$

$$VAF = \frac{(-0.864) \times 0.444}{(-0.864) \times 0.444 + (-0.467)} = 0.450$$

Based on the calculations performed, the VAF value was found to be 0.450. This indicates that project performance acts as a mediating variable in the relationship between CCO and client

satisfaction, with a contribution of 45%, categorized as partial mediation. Project performance mediates the relationship between CCO and client satisfaction (H4) accepted.

Conclusion

The dominant factors causing CCOs in private project in Badung Regency were changes in the scope or volume of work by the client, changes in design or material specifications by the client, changes in project implementation duration by the client, lack of details and specifications in design drawings by the consultan, and disruptions to the project caused by unfavorable natural conditions. Basen on SEM-PLS analysis, it was found that CCOs have a negative and significant relationship with both project performance and client satisfaction. This means that the higher the CCO value, the lower the project performance and client satisfaction. Project performance has a positive and significant relationship with client satisfaction. This indicates that higher project performance leads to increased client satisfaction. Project performance acts as a partial mediator in mediating the relationship between CCO and client satisfaction.

Suggestions

This study still has a relatively narrow scope, as the population includes various types of construction projects without specifically distinguishing their scale or level of complexity. As a result, the samples obtained are not entirely comparable, given the significant variations between small-scale and large-scale projects as well as between projects with low and high complexity. These differences may influence the results of the analysis and the interpretation of the relationships among variables in this study. Therefore, it is recommended that future research introduce additional delimitations to address this issue.

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