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Analysis on the Influence of Planning, Implementation and Supervision of Cost Overruns on High Rise Building Project in Jabotabek

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ABSTRACT

Some previous researchers have found that overruns of high rise building project costs are influenced by at least by incomplete project data and information, poor planning, less-than-perfect implementation, poor oversight, incompetent project manager, material price increase, bad labour quality, high rental price/equipment, delays in employment. Based on that causal factors, this research is intended to examine the influence of planning, implementation and supervision of cost overruns on the construction project of high rise buildings in Jabodetabek, both separately and simultaneously. The problem solving was done using statistics to analyse the questionnaire consists of 15 questions for each research variable and distributed to 85 respondents who were the entire research population (full sample). Questionnaire was created based on research variable dimensions and indicators derived from expert opinions using the Likert scale 1 to 5. Each question has five kinds of answers, where 5 = strongly agree (SS), 4 = agree (S), 3 = neutral (N), 2 = Disagree (TS) and 1 = strongly disagree (STS). The results showed that the influence of planning, implementation, and supervision over the cost overruns on the implementation of high rise building project in Jabodetabek are 62.1%, 40.0% and 26.0% respectively. While the influence of those three variables is 63.7% simultaneously, which can be concluded that planning is the most significant variable to avoid cost overruns.

Keywords: planning, resource coordination, supervision of cost overruns.

INTRODUCTION

The problems of construction activities consist of various phases, where the most decisive stage is the planning and implementation stage of construction due to the quality of the realization of the discrepancy with the expectation on the contract project potentially inflict losses on the owner, the executive contractor or both (Wibowo, 2008). Triyono and Priyambodo (2017) stated that 6 (six) of the 10 (ten) implementation projects experienced cost overruns, where the estimated initial execution costs differ from the realization of the final cost. Andi, et al. (2005) stated that fault and design change, as well as poor coordination between design documents are major factors in the cause of rework. Santoso (1999) explained that the causes of cost Overruns are:

1. dataand project information incomplete
2. incompetent project manager
3. increase in material prices
4. poor workforce quality
5. high rental cost of equipment
6. untimely payment
7. method always occurs delay
8. of employment the financial Wisdom of the government
9. moves some of the manpower from other activities taking turns

Limitation of problems

This research is limited by:

Considering only on the implementation of high rise building projects in the Jabodetabek area both government and private projects

Respondents in this study are experienced individuals in the implementation of high-rise building projects, both in terms of planning (tender process) and in implementation.

The respondents are technical team that has a minimum of 3 (three) years of experience for respondents who have experience in the implementation of a high-rise building project, who has held the position of project manager, field manager or engineering manager, and project cost control as well as project supervisor.

LITERATURE REVIEW

PMBOK (2018) defined project characteristics as temporary, unique and very related to the target progress of the work in generating goods (product), services (service), and report documents on the result. The project can be defined as the need to achieve the expected end result with a restricted resource, and within the set time limit. Projects are temporarily not necessarily interpreted short, because there are several projects that are carried out more than a year. Project characters are usually always pursued by a target of increased job progress values that are directly proportional to time, this is due to the demands regarding political, economic, etc. that are urgent from the point of view of project owner, so that the accuracy of completion of the entire scope of project work should be in accordance with the established schedule. (PMBOK, 2018).

Construction Project

The implementation of construction work must fulfill the provisions concerning, engineering, security, occupational safety and health, labor protection, and local environmental arrangements to ensure the realization of an orderly implementation of construction work. The parties in implementing the provisions must fulfill the obligations required and those governed by Government Regulation. According to FIDIC Article 4.1. General Obligations The contractor carries out and completes work in accordance with the contract and the order of the engineer, and must correct quality defects in the work. The contractor must provide the installation of the contractor's document machinery in accordance with the contract, and all contractor personnel, goods, consumables, other goods and services, both for temporary and permanent work, required in and for the design, execution, completion and repair of quality defects.

Republic of Indonesia Law No. 18 of 1999 concerning construction services in general terms explain what is meant by:

1. Construction Services: Consultancy services Planning construction work, construction work service implementation, and supervision consultancy services construction works;
2. Construction work: A whole or part of a series of planning and/or implementing activities along with supervision that includes architectural, civil, mechanical, electrical, and environmental work and its completeness, to create a building or other physical form;
3. Service users: Individual or agency as a task giver or job owner/project requiring construction services;
4. Service providers: Individuals or agencies whose business activities provide construction services;
5. Construction Planner: An individual service provider or business entity that is expressed as a professional expert in the field of construction services planning capable of realizing the work in the form of building planning documents or other physical forms;
6. Construction implementation: Individual service providers or business entities that are expressed as professionals in the field of construction services capable of organizing their activities to create a planning result into a form of building or other physical form;

7. Construction Supervisor: An individual service provider or business entity that is expressed as a professional expert in the field of construction services capable of conducting surveillance works since the beginning of construction work until completion and Handed over

Project Management

On the topic of project management It is often stated that in the process of achieving the target project is strongly influenced by three parameters called "triple constraint" which is balancing and integrating the third main parameters of cost, quality and time to Achieving the project goals. The process of balancing the cost, quality and time organized by a management of the scope of project work in this case OBS (Organization Breakdown Structure) of the definition and understanding of the detail of the method and technical implementation of each Scope of work carried out by the contractor. (Blair, 2009).

Planning

Construction work Design and Build (integrated build and build) is all work related to the implementation of building construction or other physical form, where the planning work is integrated with the implementation of construction. (Regulation of the Minister of Public Works and housing No. 19/PRT/M/2015, 2015 and Appendix I: Regulation of the Minister of Public Works and people's housing number: 19/PRT/M/2015 on standards and procurement guidelines for integrated construction and Design work. Design And Build is time-saving, especially time in terms of doing or making detailed drawings of engineering design (DED) to perfection. Generally

Implementation

The implementation of construction projects is initiated from the planning stage which includes data collection, research, feasibility studies, physical planning of drawing plans, regulatory drafting and requirements), construction projects in the field, and Job supervision. In the implementation of construction project, there are people or bodies that perform the work. In implementing the construction project some variables that affect is:

Supervision

The supervision of work is the supervision of the workers to complete the work. Work supervision is also a manifestation of the leadership style of a supervisor. Indicators for measuring occupational supervision factors include:

1. Foreman gave orders well against workers.
2. The foreman established discipline to the workers well.

To be able to maximize good supervision of workers, it takes the leadership capabilities of the foreman itself. Ability to provide direction and guidance in the implementation of good work will be very influential to the ability of workers. But with different characteristics of workers it is the biggest challenge of every foreman in understanding and giving direction to every worker.

Cost Overruns

According to Asiyanto (2009), Understanding of construction services business risk is the potential occurrence of a state/event/event, in the implementation of construction services business activities that will negatively impact the business objectives that have been established. Contractors/Construction Services business has 2 (two) targets/main targets are:

1. Target marketing, which is measured by the acquisition of the value of employment contracts each year, as a measure of marketing performance.
2. Production Target, which is measured from the earning amount of income, and the amount of profit earned each year, as a measure of production performance.

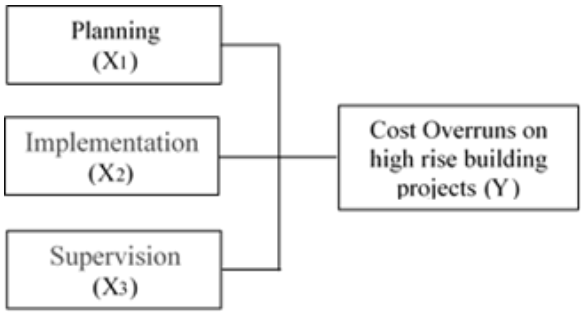
According to existing targets, it can be said that the risk of contractor can be divided

into 2 (two) namely marketing risk and production risk. Marketing Risk: All events that allow unachieving marketing targets that have been set by management. Production risk: All events that allow unachievement of production targets that have been set by management. The identification of risks that may occur at the risk of production among others may be detailed as follows:

1. Swelling of implementation costs against budget cost overruns
2. Delayed job completion, both partial and overall (project delay).
3. Job quality deviation in existing requirements (this risk is already set in ISO 9001:2000).Kecelakaan kerja (risiko ini sudah diatur dalam OHSAS 18001).

Research framework

The purpose of this is to determine how much the influence of planning, implementation and supervision either independently (partial) or jointly (simultaneous) to the high Rise building project in Jabodetabek. There are 3 (three) bound variables: planning, implementation and supervision that is expected to affect the cost overruns of the high Rise building project in Jabodetabek. The knowledge base that will direct this research is the theories, journals, theses, previous research that supports the cost overruns on the multilevel building project.



RESEARCH METHODS

The study began with the study of libraries by studying previous research results on the risks that occurred in the implementation of the project which in turn had an impact on the occurrence of cost overruns, then strengthened By evaluating the secondary data of completed projects. These factors are grouped into three main groups based on the philosophy of construction management at the project implementation stage, namely planning, implementation and control. So the factors that cause the cost overruns to be conducted research consist of 3 variables namely: Planning (X1); Implementation (X2); Supervision. (X3) as a variable free (independent variable) and cost overruns (Y) as the variable is not free (dependent variable).

Research venue

The research venue is 17 (seventeen) multilevel building projects scattered in JABODETABEK as follows,

1. Development project. ESDM-Panji Multipurpose Building
2. Development projects. East Jakarta District Court Building
3. Development projects. Rusunawa Komarudin 2
4. Development projects. STTD Campus Phase 1
5. Development projects. East Jakarta District Court Building
6. Renovation of BPH Migas Building
7. Development projects. Funeral Home and Parking Yusuf
8. Development projects. ENT Hospital Pay Attention to BSD
9. Development projects. STTD Campus Phase 2
10. East Jakarta District Court Development project
11. Development projects. Mall of Serang, Serang
12. Development projects. Judicial Commission Office Building
13. Development projects. The one roof building of the Indonesian Supreme Court
14. Development projects. Cempaka Putih Hotel
15. Development projects. Cilandak Office Structure

16. Development projects. Campus Building 5 lt, Indonusa Esa Unggul University
17. Development projects. Kedung Campus and Uhamka Rectorate

While the research time starts from February until the month of May 2019.

Population and samples

The population in this study is a project manager as listed earlier. From 17 (seventeen) projects, the respondents obtained are 17 × 5 = 85 respondents. The size of the samples in this study was a full sample of the entire population in the sample, i.e. 85 people.

Research variables

The research variables are essentially a form of what the researcher has set to learn so that information is obtained about it, and then it is pulled in conclusion. In this multi-variable use, it consists of a variable-free planning, implementation and supervision. While the bound variables are overrun costs on the building of high-rise buildings in Jabodetabek. In detail the dimensions and indicators of the research variables are presented in table III. 1, III. 2, III. 3 and III. 4 as follows,

Table III. 1 Dimension and variable planning indicators

Variabel	Dimensi	Indikator
Perencanaan (X_1) *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat No.19/PRT/M/ 2015, 2015*	Estimasi biaya awal	1. Data dan inforrmasi proyek kurang lengkap
		2. Gambar tender kurang lengkap
		3. Ketidak tepatan estimasi biaya
	Sebelum Tender/ sebelum pelaksanaan	4. Tidak memperhitungkan faktor risiko pada lokasi dan konstruksi
		5. Tidak memperhitungkan biaya tak terduga
		6. Tidak memperhitungkan faktor kondisi perekonomian
	Pelaksanaan dan hubungan kerja	7. Tingginya frekuensi perubahan pelaksanaan
		8. Terlalu banyak terjadi *rework* perbaikan
		9. Menangani lebih dari 2(dua) proyek pada saat yang bersamaan
		10. Hubungan dan koordinasi kurang baik antara owner-perencana
		11. Hubungan dan koordinasi kurang baik antara owner-kontraktor
		12. Hubungan dan koordinasi kurang baik antara perencana dan kontraktor
		13. Hubungan dan koordinasi kurang baik antara MK dan kontraktor
		14. Hubungan dan koordinasi kurang baik antara main kontraktor dan sub kontraktor
		15. Distribusi informasi lamban

Table III. 2 Dimensions and indicator of implementation variables

Pelaksanaan (X_2) Kerzner (2009)	Estimasi Biaya	1. Data dan informasi proyek yang tidak lengkap
		2. pengaruh inflasi dan eskalasi
		3. biaya tak terduga
		4. faktor resiko lokasi dan Konstruksi
		5. Ketidaktepatan estimasi biaya
	Pelaksanaan dan Hubungan Kerja	6. Tingginya frekuensi perubahan pelaksanaan
		7. Terlalu banyak proyek yang ditangani dalam waktu yang sama
		8. Hubungan yang kurang baik antara owner-perencanakontraktor
		9. Kurang koordinasi antara manajer konstruksiperencana-kontraktor
		10. Terjadi perbedaan/perselisihan dalam proyek
	Aspek dokumen proyek	11. Dokumen proyek tidak lenkap
		12. Sering terjadi perubahan desain
		13. Dokumen kontrak yang tidak lengkap
		14. Penunjukan subkontraktor dan supplier yang tidak tepat
		15. Keterlambatan pembuatan gambar

Table III. 3 Monitoring variable dimensions and indicators

Variabel	Dimensi	Indikator
Pengawasan (Y) Handoko (2003)	Aspek keuangan	1. Pembayaran kepada kontraktor tidak tepat waktu
		2. Pembayaran kepada Mandor tidak tepat waktu
		3. Pengendalian biaya kurang baik
		4. Pencairan termin tidak tepat waktu
		5. Tingginya bunga pinjaman bank
	Waktu pelaksanaan	6. Keterlambatan jadwal karena pengaruh cuaca
		7. Keterlambatan jadwal karena pengaruh lingkungan
		8. Seringnya terjadi penundaan karena desain kurang matang
		9. Rencana kerja pemilik sering berubah
		10. Adanya *rework* karena kesalahan perencanaan
	Aspek lain-lain	11. Adanya kebijakan keuangan dari pemerintah
		12. Timbulnya konflik
		13. Adanya sengketa terhadap lahan proyek
		14. Kondisi lingkungan masyarakat sekitar proyek tidak kondusif
		15. Sering terjadi hal-hal tak terduga seperti kebakaran, banjir, gempa dll.

Table III. 4 Dimensions and indicator variable Overruns cost

Variabel	Dimensi	Indikator
Overruns Biaya (Y) Asiyanto (2009)	Aspek pelaksanaan	1. Lingkup kerja tidak sesuai dengan kontrak
		2. Tidak mengetahui informasi pasar dan informasi sumber dana
		3. Perubahan desain
		4. Koordinasi kurang
		5. Adanya kebijakan pemerintah
	Aspek sumberdaya	6. Produktivitas menurun
		7. Mutu pekerjaan tidak sesuai spesifikasi
		8. Kenaikan harga material
		9. Kelebihan material
		10. Kesulitan peralatan
	Aspek hubungan kerja	11. Adanya intrupsi dari *owner*
		12. Rencana kerja sering berubah
		13. Hubungan kerja kurang baik
		14. Kerjasama kurang baik
		15. Adanya *rework*

Data Testing

Testing data consists of

1. Validity Test
2. Reliability Test
3. Normality Test
4. Multicollinearity Test
5. Heteroscedasticity

Simple Regression

1. Effect of Planning (X1) on cost Overruns (Y = a1 + b1X1), Y = cost overruns, X1 = planning, a1 = constant, b1, = regression coefficient for X1.
2. Effect of Implementation (X2) on cost Overruns (Y = a2 + b2X2), Y = cost overruns, X2 = implementation, a2 = constant, b2, = regression coefficient for X2.
3. Effect of supervision (X3) on cost overruns (Y = a3 + b3X3), Y = cost overruns, X3 = supervision, a3 = constant, b3, = regression coefficient for X3.

Multiple Regression

The influence of independent variables (independent) planning (X1), Implementation (X2), and supervision (X3) on cost overruns (Y). The formula / regression equation can be written as follows:

Y = a + b1X1 + b2X2 + b3X3

where:

Y = cost overruns,
X1 = Planning
X2 = Implementation
X3 = Supervision
a = constant,
b1, b2, and b3 = regression coefficients for X1, X2, and X3.

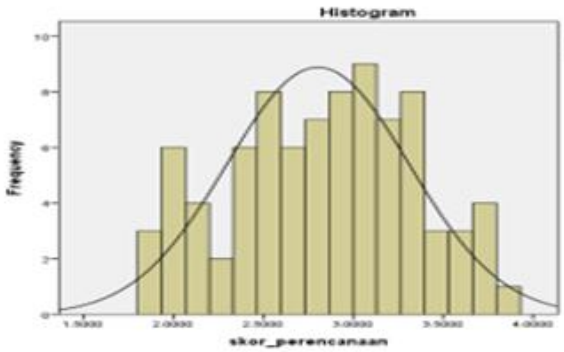
FINDINGS AND DISCUSSION

Planning (X1)

skor_perencanaan

N	Valid	85
	Missing	0
Mean		2.803922
Std. Deviation		.5083785
Minimum		1.8667
Maximum		3.8000
Sum		238.3334

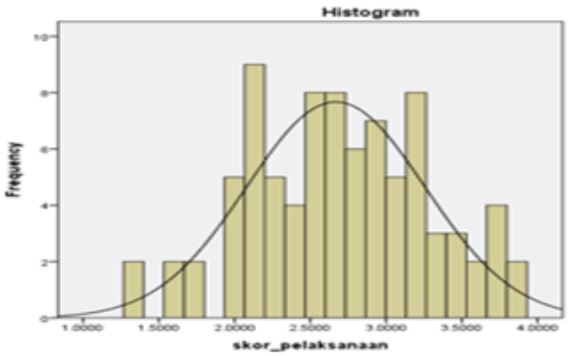
Pengolahan data dengan SPSS 22.0



Implementation (X2)

skor_pelaksanaan

N	Valid	85
	Missing	0
Mean		2.667447
Std. Deviation		.5887468
Minimum		1.3333
Maximum		3.8000
Sum		226.7330

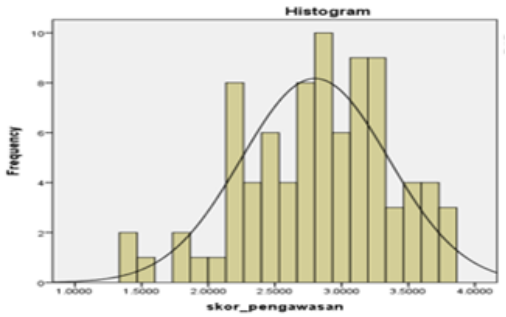


Supervision (X3)

skor_pengawasan

N	Valid	85
	Missing	0
Mean		2.800786
Std. Deviation		.5527734
Minimum		1.4000
Maximum		3.8000
Sum		238.0668

Pengolahan data dengan SPSS 22.0

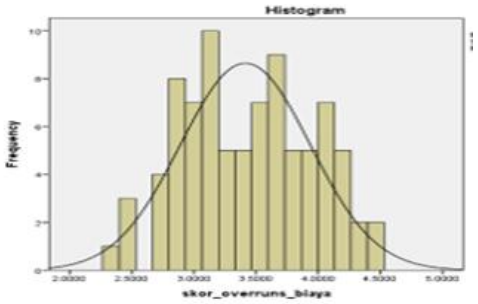


Cost Overruns (Y)

skor_overruns_biaya

N	Valid	85
	Missing	0
Mean		3.414118
Std. Deviation		.5224165
Minimum		2.3333
Maximum		4.4667
Sum		290.2000

Pengolahan data dengan SPSS 22.0



Validation test

Planning x1Implementation x2

Pertanyaan (X_1)	R (hitung)	R (tabel)	Keterangan
Perencanaan_01	.252*	0,213	Valid 95%
Perencanaan_02	.372**	0,278	Valid 99%
Perencanaan_03	.626**	0,278	Valid 99%
Perencanaan_04	.554**	0,278	Valid 99%
Perencanaan_05	.699**	0,278	Valid 99%
Perencanaan_06	.608**	0,278	Valid 99%
Perencanaan_07	.665**	0,278	Valid 99%
Perencanaan_08	.695**	0,278	Valid 99%
Perencanaan_09	.631**	0,278	Valid 99%
Perencanaan_10	.407**	0,278	Valid 99%
Perencanaan_11	.712**	0,278	Valid 99%
Perencanaan_12	.495**	0,278	Valid 99%
Perencanaan_13	.409**	0,278	Valid 99%
Perencanaan_14	.568**	0,278	Valid 99%
Perencanaan_15	.526**	0,278	Valid 99%

Pertanyaan (X_2)	R (hitung)	R (tabel)	Keterangan
Pelaksanaan_01	.663**	0,278	Valid 99%
Pelaksanaan_02	.489**	0,278	Valid 99%
Pelaksanaan_03	.590**	0,278	Valid 99%
Pelaksanaan_04	.702**	0,278	Valid 99%
Pelaksanaan_05	.714**	0,278	Valid 99%
Pelaksanaan_06	.740**	0,278	Valid 99%
Pelaksanaan_07	.626**	0,278	Valid 99%
Pelaksanaan_08	.690**	0,278	Valid 99%
Pelaksanaan_09	.518**	0,278	Valid 99%
Pelaksanaan_10	.604**	0,278	Valid 99%
Pelaksanaan_11	.738**	0,278	Valid 99%
Pelaksanaan_12	.696**	0,278	Valid 99%
Pelaksanaan_13	.645**	0,278	Tidak Valid
Pelaksanaan_14	.666**	0,278	Valid 99%
Pelaksanaan_15	.719**	0,278	Valid 99%

Supervision x3 *Cost Overruns***y**

Pertanyaan (X_3)	R (hitung)	R (tabel)	Keterangan
Pengawasan_01	.650**	0,278	Valid 99%
Pengawasan_02	.575**	0,278	Valid 99%
Pengawasan_03	.646**	0,278	Valid 99%
Pengawasan_04	.697**	0,278	Valid 99%
Pengawasan_05	.674**	0,278	Valid 99%
Pengawasan_06	.550**	0,278	Valid 99%
Pengawasan_07	.664**	0,278	Valid 99%
Pengawasan_08	.605**	0,278	Valid 99%
Pengawasan_09	.633**	0,278	Valid 99%
Pengawasan_10	.489**	0,278	Valid 99%
Pengawasan_11	.746**	0,278	Valid 99%
Pengawasan_12	.485**	0,278	Valid 99%
Pengawasan_13	.510**	0,278	Valid 99%
Pengawasan_14	.598**	0,278	Valid 99%
Pengawasan_15	.448**	0,278	Valid 99%

Pertanyaan (Y)	R (hitung)	R (tabel)	Keterangan
*Overruns*_biaya_01	.666**	0,278	Valid 99%
*Overruns*_biaya_02	.685**	0,278	Valid 99%
*Overruns*_biaya_03	.641**	0,278	Valid 99%
*Overruns*_biaya_04	.588**	0,278	Valid 99%
*Overruns*_biaya_05	.695**	0,278	Valid 99%
*Overruns*_biaya_06	.536**	0,278	Valid 99%
*Overruns*_biaya_07	.621**	0,278	Valid 99%
*Overruns*_biaya_08	.637**	0,278	Valid 99%
*Overruns*_biaya_09	.474**	0,278	Valid 99%
*Overruns*_biaya_10	.641**	0,278	Valid 99%
*Overruns*_biaya_11	.636**	0,278	Valid 99%
*Overruns*_biaya_12	.721**	0,278	Valid 99%
*Overruns*_biaya_13	.565**	0,278	Valid 99%
*Overruns*_biaya_14	.699**	0,278	Valid 99%
*Overruns*_biaya_15	.645**	0,278	Valid 99%

Reliability test

Test of the four variables above is considered reliable, since Cronbach's Alpha all showed a number greater than 0.700 as seen in the table below, which is a summary of the reliability test.

Variabel Penelitian	Koefisien Reliabilitas	r tabel	Keterangan
Perencanaan	0,838	0,700	Reliabel
Pelaksanaan	0,903	0,700	Reliabel
Pengawasan	0,872	0,700	Reliabel
Cost overruns pada proyek gedung bertingkat	0,890	0,700	Reliabel

Normality test

Planning (x1) Implementation (x2)

One-Sample Kolmogorov-Smirnov Test

		skor_perencanaan
N		85
Normal Parameters[a,b]	Mean	2.803922
	Std. Deviation	.5083785
Most Extreme Differences	Absolute	.062
	Positive	.059
	Negative	-.062
Test Statistic		.062
Asymp. Sig. (2-tailed)		.200[c,d]

One-Sample Kolmogorov-Smirnov Test

		skor_pelaksanaan
N		85
Normal Parameters[a,b]	Mean	2.667447
	Std. Deviation	.5887468
Most Extreme Differences	Absolute	.057
	Positive	.057
	Negative	-.051
Test Statistic		.057
Asymp. Sig. (2-tailed)		.200[c,d]

Supervision (x3) Cost Overruns (y)

One-Sample Kolmogorov-Smirnov Test

		skor_pengawasan
N		85
Normal Parameters[a,b]	Mean	2.800786
	Std. Deviation	.5527734
Most Extreme Differences	Absolute	.064
	Positive	.038
	Negative	-.064
Test Statistic		.064
Asymp. Sig. (2-tailed)		.200[c,d]

One-Sample Kolmogorov-Smirnov Test

		skor_overruns_biaya
N		85
Normal Parameters[a,b]	Mean	3.414118
	Std. Deviation	.5224165
Most Extreme Differences	Absolute	.093
	Positive	.093
	Negative	-.073
Test Statistic		.093
Asymp. Sig. (2-tailed)		.068[c]

Based on the SPSS output, the value of Asymp. Sig (2-tailed) for all variables are > 0,05. Therefore, all research variables fulfill the normality test.

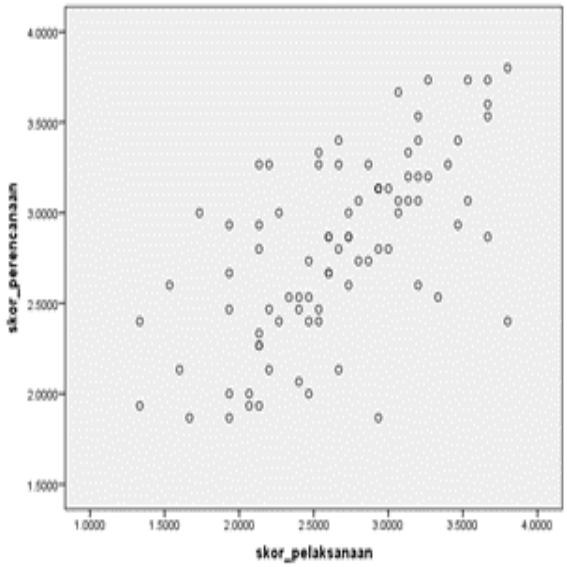
Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	skor_perencanaan	.543	1.841
	skor_pelaksanaan	.510	1.963
	skor_pengawasan	.584	1.712

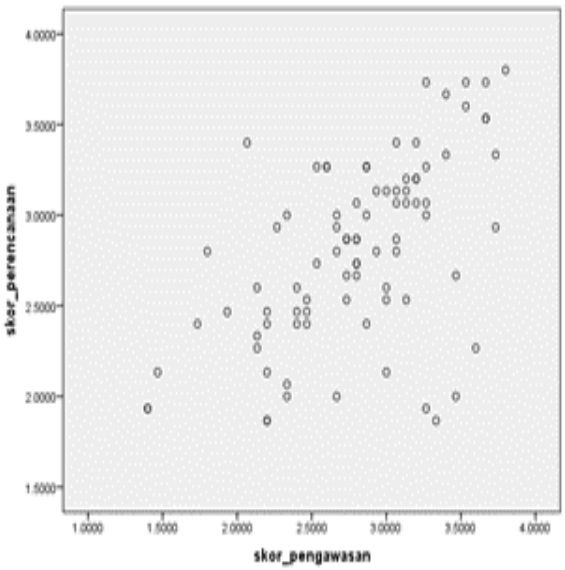
From the analysis it is noticeable that all variables are free to escape the problem of multicollinearity, since the third VIF free variables (1,841, 1.963, and 1,712) are < 10 and tolerance (0543, 0510, and 0584) > 0.1.

Symptom testing Heteroskedasticity

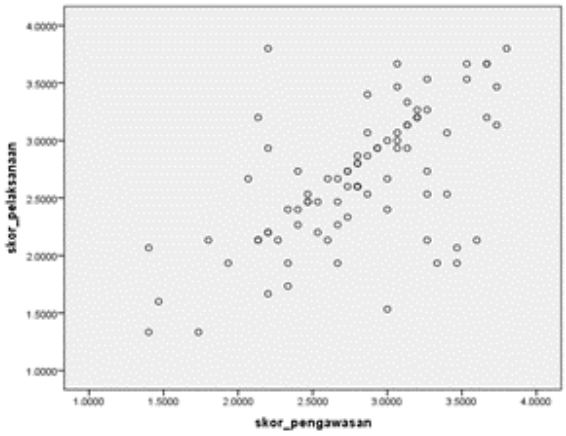
Plot between planning V/s implementation



planningV/s supervision



Implementation v/s Supervision



From the picture above, shows that heteroscedasticity test of scatter/dot does not appear to be a particular pattern on the spread of data. All three variables of planning, implementation and supervision are free and it can be said that there is no heteroscedasticity.

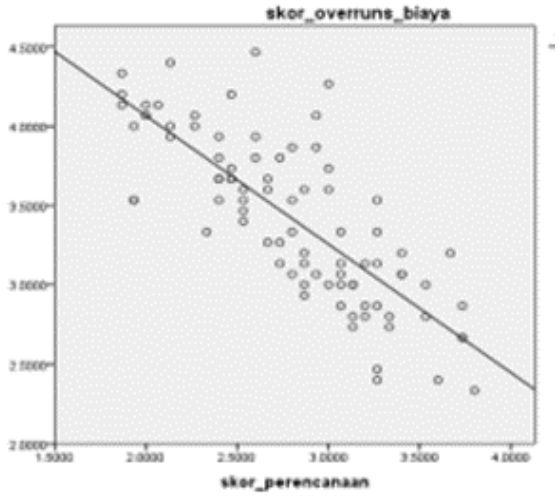
The influence of planning cost overruns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.686	.198		28.754	.000
	skor_perencanaan	-.810	.069	-.788	-11.673	.000

a. Dependent Variable: skor_overruns_biaya

Planning affects the cost overruns on construction projects in the greater Jakarta area with the equation Y = 5,686-0, 810X1 with 99% accuracy due to <-Ttabel (-11,673 <-2.372),



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788[a]	.621	.617	.3233588

a. Predictors: (Constant), skor_perencanaan

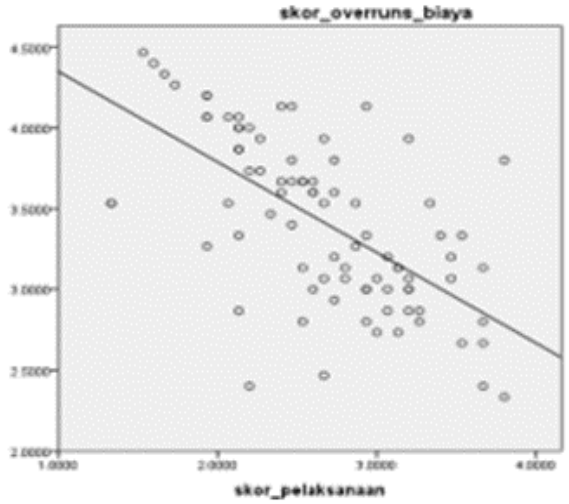
The value of R2 = 0,621 indicates that planning affects the cost overruns on the high rise building projects in Jabodetabek in % for 62.1

Effect of implementation on cost overruns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.911	.206		23.835	.000
	skor_pelaksanaan	-.561	.075	-.632	-7.438	.000

Implementation affects cost overruns on high rise building projects in Jabodetabek with the equation Y = 4,911-0,561 X2 with 99% accuracy due to <-Ttabel (-7,438 <-2.372)



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632[a]	.400	.393	.4071101

a. Predictors: (Constant), skor_pelaksanaan

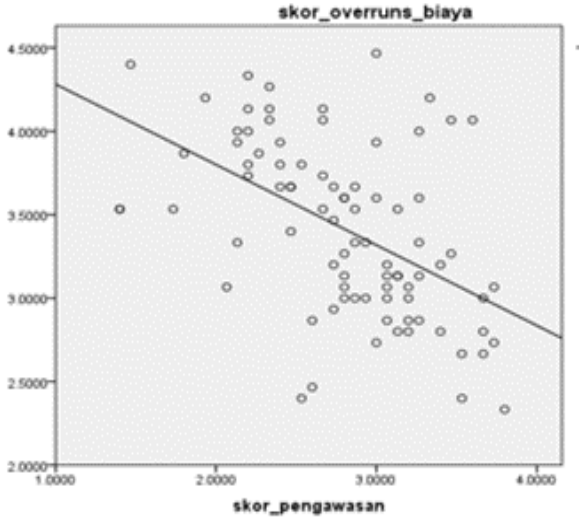
The value of R2 = 0,400 indicates that the implementation affects the cost overruns on the high rise building projects project in Jabodetabek in % by 40.0%

Effect of supervision on cost overruns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.911	.206		23.835	.000
	skor_pelaksanaan	-.561	.075	-.632	-7.438	.000

Implementation affects the cost overruns on high rise building projects in the Jabodetabek area with the equation Y = 4,911-0, 561X2 with accuracy of 99% due to the <-Ttabel Thitung (-7,438 <-2.372),



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.510[a]	.260	.251	.4521460

a. Predictors: (Constant), skor_pengawasan

The value of R2 = 0,260 indicates that supervision affects the cost overruns on the construction project of high rise buildings in Jabodetabek in % by 26.0%.

The effect of simultaneous planning, implementation and supervision of cost overruns

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.819	.209		27.787	.000
	skor_perencanaan	-.660	.092	-.642	-7.203	.000
	skor_pelaksanaan	-.187	.082	-.211	-2.293	.024
	skor_pengawasan	-.020	.081	-.021	-.245	.807

Variable planning, implementation and supervision jointly (simultaneous) has a significant effect (real) to the cost overruns on the construction of high rise building projects in Jabodetabek, with 99% accuracy due to fcalculate > Ftabel (50,226 > 4,030), equation Y = 5,819-0, 660X1-0,187 X2-0.020 X3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.910	3	4.970	50.226	.000[b]
	Residual	8.015	81	.099		
	Total	22.925	84			

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806[a]	.650	.637	.3145681

Based on SPSS output the value of the adjusted coefficient of determinant (Adjusted R Square) is 0.637, planning, implementation and supervision jointly (simultaneous) has an influence against

overruns on the high rise building projects in Jabodetabek in% by 63.74%.

CONCLUSION AND SUGGESTION

CONCLUSION

1. Planning (X1), has a negative effect on the occurrence of cost overruns in high rise building construction projects in Jabodetabek (Y) with 99% accuracy of influence in percent by 62.1%,
2. Implementation (X2) has a negative effect on the occurrence of cost overunsets in multi-storey building construction projects in Jabodetabek (Y), with 99% accuracy, influence in percent by 40.0%.
3. Supervision (X3) has a negative effect on the occurrence of cost overruns in high rise building construction projects in Jabodetabek (Y), with an accuracy of 99%, influence in percent by 26.0%.
4. Simultaneous planning, implementation and supervision affect the cost overruns in multi-storey building construction projects in Jabodetabek, with 99% accuracy, the effect in percent (%) is 63.7%. The remaining 36.3% was determined by other factors not yet known, which were not included in this study.

SUGGESTION

1. To the project manager of a high rise building project in Jabodetabek it is recommended to apply Planning, Implementation and Supervision properly and correctly because planning, implementation, and supervision affect the occurrence of cost overruns by 63.7%.
2. It is recommended that the manager of a high rise building project in Jabodetabek pay attention to the effect of planning because the influence is quite significant at 62.1%.
3. Judging from the order of influence, supervision occupies the smallest position after planning and implementation (26.5% <40.0% <62.1%)

Based on the results and discussion, there are several suggestions that can be delivered:

1. For Companies

It is expected to increase customer value and better service to customers. Khadijah Store Medan can increase customer value by:

a.Providing attractive promos for customers such as providing discount vouchers and guarantees after making a purchase.

b.Fostering good relations to customers who routinely buy such as giving souvenirs in the form of Khadijah key chains or providing good service when customers are shopping at Khadijah Store Medan.

c.Create a customer database to find out what customers like and make it easier for Khadijah Store Medan to provide information about promos, discount vouchers and bazaar information to customers.

d.Increase bazaar activities to attract customers both old customers and new customers who are familiar with the Khadijah Store Medan.

e.Educate employees of the Khadijah Store Medan to be more informative in explaining Khadijah Store Medan products and also provide information about the prices offered.

f.Providing payment facilities such as holding payments in installments or installments to facilitate customers who want to buy Medan's Khadijah Store products.

g.Conduct sponsorship in Sunnah studies in Medan so that more people will get to know the Khadijah Store Medan product. The strategy is able to create positive perceptions from customers to Khadijah Store Medan, and can even make customers loyal to the company. So that customers will gladly recommend Khadijah Store Medan products to friends and colleagues, when they want to buy Muslim fashion equipment only at Khadijah Store Medan.

2. For Further Researchers It is expected to be a reference and continue to develop this research. The researcher uses customer value as the independent variable, customer loyalty as the dependent variable and

customer satisfaction as an intervening variable. For further researchers can replace the variables in this study with other variables in order to find new variables in the discussion of customer loyalty.

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