

## Strategies to Increase Performance and Sustainability of Construction Services Company in East Java Indonesia

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### ABSTRACT

The performance and strategy of a company is an important variable in achieving sustainable construction services business. This study aimed to analyze the relationship of the model strategy, performance and sustainability of the small-medium and large construction companies in East Java-Indonesia. Survey was conducted through interviews using *Likert* scale (1-7) questionnaires. The population and study sample was business enterprise certified construction services company that already had at least five years experience. The respondents consisted of 80 construction companies' leaders or owners. The sampling method was a combination of stratified, proportional and purposive sampling. Data was analyzed by using SPSS-18 software to test the validity, reliability, respondent characteristics and difference test, while model testing was using SEM software (*Smart PLS*). The results concluded that: a). Company target directly as well as indirectly took significant effect to the sustainability of the construction service company, b) company strategy significantly influenced the performance of the construction service company, c). Company performance significantly influenced the sustainability of the construction service company, d). There are differences in implementing strategies to improve the performance and sustainability of a small-middle and large construction service company. The different strategies include project selection, partner selection, and investment strategy. It is recommended to the *stakeholders* of construction service company to make the results of this research as the basis for policy in order to improve the performance and sustainability of their company. Further research could be developed by expanding populations area, variable and research indicator.

**KEYWORDS:** construction services, sustainability, performance, strategy.

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### INTRODUCTION

The number of construction service companies in Indonesia was growing every year. According to the publication of the National Institute of Construction Service Development or LPJKN, the number of small, medium and large construction companies by 2012 has reached approximately 163.000 companies [1]. Besides, according to Statistics Indonesia or BPS (2011), construction service companies also contributed to GNP (*Gross National Product*), respectively by 2004 (6.6%), 2005 (7.0%), 2006 (7.6%), 2007 (7.7%), 2008 (8.5%) and in 2009 (9.9%), meanwhile when viewed from the nominal project, they contributed to GNP respectively in 2004 (Rp 151, 25 trillion), 2005 (Rp 195.11 trillion), 2006 (Rp 251.13 trillion), 2007 (Rp 305 trillion), 2008 (Rp 419.6 trillion) and 2009 (Rp 555 trillion). According to the Indonesian Construction Association Publications (2010), the construction industry has absorbed about 7.5 millions manpower in 2009. Meanwhile, according to LPJKN [1], it had absorbed 15 millions menpower in 2011. Meanwhile, according to a publication of Directorate General of Budget and Department General Services (2010), construction service company had high prospective for developing, because more than 60% average funds of National Budget (APBN) each year was allocated for infrastructure development. It made the construction company also had an important role to absorb the manpower and became a *multi player effect* of Indonesian economy.

Globalization era required construction companies to have a competitive strategy and to be able to provide the best performance for the company [2]. Isik *et al.* [3] stated that the performance of construction Service Company was influenced by: resources and capabilities, strategic decisions, project management competence, and strength relationship. Satrio [4] stated that the performance of large construction service company influenced by marketing strategies (competitive environment, specific marketing, and marketing success), while Miftahul H. [5] stated that the performance of small and medium construction service company influenced by internal and external environment, industry environment, and company marketing strategy.

According to *Business Monitoring Indonesia* (2011), the growth of Indonesian construction service industry will be higher in 2012-2014, as infrastructural investment became a strategic plan of Indonesian government. Indonesian construction company should be able to win local bids [6], which required them to have high performance [3] and definite sustainability [7]. For years, more construction service companies established in Indonesia [1], but many of them could not survive and no longer operating [8]. The number of construction

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service companies in Indonesia is continuously increasing with an average of about 46.5% per year. Meanwhile, the registering construction service companies had an average amount of 78.9% per year [1]. This indicates that the Indonesian construction services company is a business that is in public demand, but many of them failed to last [8]. Therefore, a strategy is needed to improve the performance of the company [3] in order to survive and sustain [7]. Based on the background description and the problem identification, a research related to strategy, performance and sustainable business for construction service companies in Indonesia are very important and necessary.

## MATERIALS AND METHODS

### Modelling

This study was based on theoretical and empirical studies as well as assumed to approach the actual conditions of several industrial construction service companies in East Java, Indonesia, started by identifying the variable of strategic decision which was assumed to influence on the performance and sustainability of the companies. Next, variable of company performance is assumed to influence the sustainability of companies in the construction services industry. Since its establishment, each company had already had a formal as well as non-formal business strategy, and decisions concerning the strategy would certainly affect the company performance regarding to the success of the company [9]. The right selection of a strategy would change the industry factors that were affecting the competition strength [10]. The study theories used include:

1. Theory of power relations, project management competencies, as well as the resources and capabilities of an adaptation of the research Isik *et al* [3].
2. Theory of *Balance Scorecard* performance integrated company with *Six Sigma* to business organizations based on the thought of Kaplan and Norton [11] that is associated with financial perspective, customer perspective, internal business processes, as well as learning and growth perspectives.
3. Theory of sustainability is the company's commitment to the goals of the company long term. Sustainability companies was also called *triple bottom line*. Based on the opinion of Sudarto [12], company sustainability could be measured by the indicators of economic, environmental, and social responsibility.

Empirical research showing a relationship between the strength of the relationship and project management competencies with resources and capabilities, strategic decisions, and the performance was shown by the result of Isik *et al* [3].

1. Power of relations and project management competencies affected the company's resources and capabilities.
2. Project management competencies affected strategic decisions of the company.
3. Company's resources and capabilities directly affected the performance of the company.
4. Strategic decision directly affect the performance of the company, which meant that strategies affected the performance of the company.
5. Project management competencies indirectly affect the performance of the company through the resources and capabilities of the company, or through the company's strategic decisions.

Based on theoretical studies described above, the model developed conceptual framework and research framework as shown in Figure 1 below. Research model describes the relationship between company strategy, company performance and company sustainability. This research model will also be used as a reference to set the hypothesis.

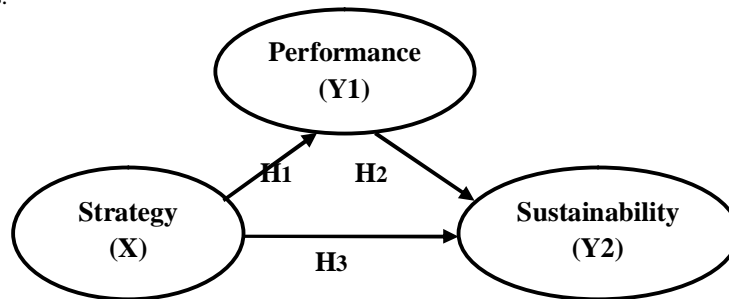


Figure 1. Model of Strategy, Performance and Sustainability Management

### Definition, Classification, and Indicators of the Variables

The definition of operational variables proposed in this study, are as follows:

- a. **Strategic decisions (X)**, is a strategic decision making to achieve company goals, starting from the perspective of individual strategies, strategic management techniques until the implementation of strategic

decisions on the conditions in the real field situations. Strategic decision variable was formed by 8 indicators, adapted from Isik *et al.* [3], consists of strategies; differentiation (X.1), market selection (X.2), project selection (X.3), client selection (X.4), partner selection (X.5), project management (X.6), investment management (X.7) and organizational management (X.8).

- b. **Company performance (Y1)**, is a picture of successful industrial construction service companies from the aspects of financial, customer satisfaction, business processes within the company, as well as activity in the learning and growth of the company to improve the company's financial performance in the future. This variable was formed by 4 indicators adapted from the opinion of Kaplan and Norton [10] of 4 perspectives in the Balanced Scorecard, consisting of: Financial Perspective (Y1.1), Customer Perspective (Y1.2), internal business process perspective (Y1.3) and the learning and growth perspective (Y1.4).
- c. **Corporate sustainability (Y2)**, is the company's commitment to take responsibility of the impact of its operations in the social, economic, and environmental, as well as to continually keep the impact giving benefit to the community and the environment. Company performance variable was formed by 3 indicators adapted from the opinion of Lantos [13] and Sudarto [12], consisting of: Economic Sustainability (Y2.1), environmental sustainability (Y2.2) and social sustainability (Y2.3).

### Research Hypothesis

The following research hypothesis were developed based on the research model in Figure 1 above.

H1: Company strategy significantly influences the performance of construction services company.

This hypothesis is based on the concept of relationship between strategy and performance of a company derived from several theories and previous research. Isik *et al.* [3], in his study of 73 construction companies in Turkey concluded that the strategic decision of a company significantly affect its performance. The research result of Asmarani [14] concluded that the performance of a company was affected by strategic planning applied. The decisions about strategies would affect the company performance regarding the success of the company [9].

H2: Performance of a company significantly affects the sustainability of construction services company.

This hypothesis built upon the concept of relationship between performance and sustainability of the company obtained from some theory and previous research. Abidin [15], in his study of the construction services company in Malaysia concluded that company sustainability was influenced by environmental sustainability, which consisted of construction industry, management changes and demolition. Construction service companies should continue to have high performance [3] and definite sustainability [7]. A competing strategy could provide the best performance for the company [16]. Boone and Kurtz [17] defined company sustainability as a support from management to the company's obligation to consider profit, customer satisfaction, and well-being of society equally in evaluating the performance of the company in the long run.

H3: Company strategy significantly influences the sustainability of construction services company

This hypothesis built upon the concept of the connection between the strategy and sustainability of company obtained from some theory and previous research. The selection of an appropriate strategy will change the factors of industry that are affecting the strength of competition [10]. One of the ways required to keep a construction company survive is a specific strategy to win the tenders and to build sustainable competitive advantage [18][19].

H4: There are significant differences between the strategies implemented by small-medium and large scale construction services company

This hypothesis suspected that there was a difference about strategy implemented by small-medium and large scale construction Services Company in improving their performance and sustainability. Based on the research of Satrio [4], there was a difference between the marketing strategy of small-medium and large scale construction services companies. Isik *et al.* [3], stated that a construction company's strategy consists of: differentiation strategy, market selection strategy, project selection strategy, client selection strategy, partner selection strategy, project management strategy, investment strategy, and company management strategy. The concept of Isik *et al.* [3] is what would be used to analyse the differences in strategy undertaken by small-medium and large scale construction services companies.

### Research Design

The research was conducted in 10 districts in East Java, Indonesia. Research was done from June to November 2012. The analysis unit of this study were the small-medium and large scale construction services

companies. The research population were all construction services company with offices located on East Java, Indonesia. The research samples were selected construction company located on Surabaya, Pamekasan, Bojonegoro, Nganjuk, Madiun, Kediri, Sidoarjo, Probolinggo, Malang and Jember. The respondents were the owners or the leaders of the companies.

The sampling steps were: 1). Determine the qualifications of construction services company by using *stratified random sampling* technique to determine the construction company into small (S), medium (M) and large (B) scale. 2). Determine the initial sample size by distributing 100 questionnaires to a sample of 100 industrial construction services companies of small (S), medium (M) and large (B) scale by using *proportional random purposive sampling*. 3). From the 100 questionnaires were then performed calculations to determine the sample size of the study, validity, and reliability of the measuring instrument. The determination of sample size for the small and middle scale were using *proportional random sampling*, as shown in Table 1 below.

Table 1 Sample Distribution Amount on Each district  
Based on Company Qualifications

District & City	Total Population			Total Population	Number of Samples			Total Samples
	Company Qualification				Company Qualification			
	S	M	B		S	M	B	
Surabaya	1,954	413	154	2,521	21	4	2	27
Pamekasan	981	35	3	1,019	10	1	0	11
Bojonegoro	398	19	1	418	4	0	0	4
Madiun	400	19	7	426	4	0	0	4
Nganjuk	789	16	3	808	8	0	0	8
Kediri	744	16	6	766	8	0	0	8
Malang	956	57	13	1,026	10	1	1	12
Sidoarjo	500	82	14	596	5	1	1	7
Probolinggo	946	3	2	970	10	0	0	10
Jember	812	25	7	844	9	0	0	9
Number	8,480	685	210	9,394	89	7	4	100

Source: Processed secondary data [1]

The research instrument was Likert Scale (1-7) questionnaire. Questionnaires were collected by mail, direct interviews and e-mail. The questionnaires consisted of two parts, in which the first part dealt with the identity of respondents, and the second part dealt with the variables used in this study include variables: company strategy, and firm performance, the sustainability of the company. The question consisted of 8 items for company strategy variables, 7 items for company performance variables and 10 items for company sustainability.

Data analysis used statistical software SPSS 18.0, covering descriptive analysis to determine the characteristics of the respondents, validity and reliability test gauges. Validity test used  $p$ -value/sig  $< 0.05$ , and reliability test used Alpha *Cronbach* ( $\alpha$ )  $> 0,60$ . Model test used SEM (Smart PLS) to prove the first, second and third hypothesis. Different test used the  $t$  test to prove the fourth hypothesis that there were significant differences between company strategy qualifying small-medium and large scale construction services companies.  $T$ -test in this study conducted with the help of *SPSS 18.0 software* [20][21].

## RESULTS AND DISCUSSION

From the 100 questionnaires distributed, there were 80 respondents (80%) which filled and sent the questionnaire back, while 20 respondents (20%) did not return the questionnaire. As much as 97.5% of respondents were male, 32.5% were in the 40-47 year age group and had a bachelor degree 43,75%. The results of gauge validity test in this study showed that all of the variable indicators of company strategy, company performance, and company sustainability had significance correlation of less than 0.05 ( $p$ -value  $< 0.05$ ), which made all indicators considered valid for further analysis. The results of gauge reliability test showed that all the *Cronbach's Alpha* value for strategic decision, company performance, and sustainability of the company variables, produced  $> 0.60$  marks, which meant that the gauge is reliable.

Model testing study was conducted by *Smart PLS*. The results of model test were shown in Figure 2 and Figure 3 below.

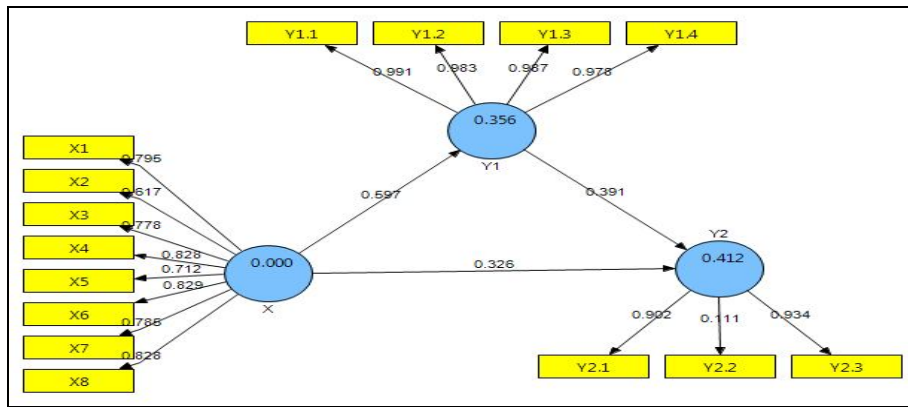


Figure 2 Outer dan Inner Model,

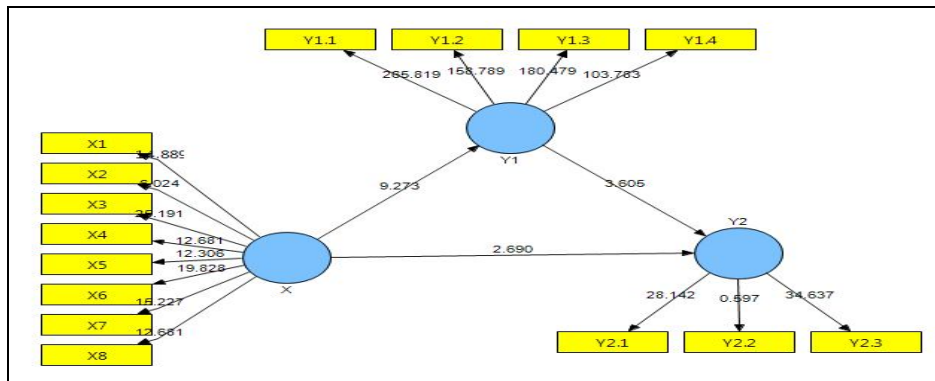


Figure 3 Value of t-statistics

The hypothesis testing was done by comparing the t-statistic value of each relationship between latent variables with t-table (1.96), which is said to be significant if the t-statistic relationships among latent variables is greater than 1.96. Fig. 2 (Outer and Inner Model) and Figure 3 (Value of t-statistics) showed that; strategic decisions (X) had positive and significant effect on company performance (Y1), with a t-statistic value = 9.275 > 1.96 and had a path coefficient value of 0.597. Company performance (Y1) had significant positive effect on company sustainability (Y2), with a t-statistic value = 2.690 > 1.96 and had a path coefficient value of 0.326. Strategic decisions (X) had a significant effect on company sustainability (Y2), with a t-statistic value = 3.605 > 1.96 and had a path coefficient value of 0.391.

The indirect effect analysis or standardized indirect effect of latent variable aimed to see the function or role of intervening variables, whether it could mediate the relationship or influence between latent variables. According to Ghazali [22], an *intervening* variable was a mediating variable, which functioned to mediate the relationship between latent variables. The direct influence of strategic decisions to the company's sustainability is at 0.326 with significant influence. From Figure 2 it could be seen that the influence of strategic decisions was not direct (*indirect effect*) to the sustainability of the company and had a positive indirect effect of  $0,597 \times 0,391 = 0,233$  and significant [23]. It meant that the company performance didn't mediate the effect of company strategy (X) towards its sustainability (Y2), because the direct effect is still greater. The direct influence of company strategy on its performance was 0,597 and had significant influence. Similarly, the direct influence of company performance to its sustainability was 0.391 and had significant influence.

Results of the contribution of latent variables analysis or the variance percentage between variables analysis can be seen in Figure 2 above and described in Table 2 below.

Table 2.  
Coefficient of Determination (R<sup>2</sup>)

Latent Variables	Coefficient of Determination (R <sup>2</sup> )	Information
Company Performance	0.356	The influence of latent variable Strategic Decision to latent variable Company Performance is 35.6%.
Corporate Sustainability	0.412	The influence of latent variables Strategic Decisions and Company Performance to latent variable Company Sustainability is 41.2%.

Source: Processed Primary Data (2012)

Based on the t test analysis for the differences in small-medium and large scale industrial construction services companies, obtained t-statistic values and significance values (*p-value*) of each indicator of strategy variables. Detailed test results of different strategies of small mall-medium and large scale industrial construction services companies for each indicator were shown in Table 3 below. Table 3 explained that from the 8 indicators of company strategy, there are different strategies implemented by small-medium and large scale industrial construction services companies. The difference included of project selection strategies, client selection strategy and investment strategy.

Table 3  
Differences Company Strategy Based on Contractor Classification

Decision Strategies Indicator	p-value	Difference Strategy
1) Differentiation strategy (X1)	0.48 5	Not Significant
2) Market selection strategy (X2)	0.888	Not Significant
3) Project selection strategy (X3)	0.010	Significant
4) Client selection strategy (X4)	0.019	Significant
5) Partner selection strategies (X5)	0.405	Not Significant
6) Project management strategies (X6)	0.452	Not Significant
7) Investment strategy (X7)	0.010	Significant
8) Organizational management strategy (X8)	0.405	Not Significant

Source: Test results

## CONCLUSION

Based on the analysis and discussion that had been done, from this study it can be concluded that a). company strategies positively and significantly affected the performance of industrial construction service companies, b). Company performance positively and significantly affected the sustainability of industrial construction service companies, c). Company strategies either directly or through performance positively and significantly affected the sustainability industrial construction service companies, d.) There was a difference between small-medium and large scale construction services companies in implementing strategies to improve the performance and sustainability of the company. The different strategies include project selection strategy, partner selection strategy and investment strategy.

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