

BALANCE SCORECARD OF DAVID'S STRATEGIC MODELLING AT INDUSTRIAL BUSINESS FOR NATIONAL CONSTRUCTION CONTRACTOR OF INDONESIA

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ABSTRACT

The condition of contractor services development to decrease, global economic impact, and the indication of lower capacity and competitive power of construction services or contractor in global market are caused by the limitation of strategic planning applied by the national contractor industries in formulating company's business strategies. The purpose of this research is to establish the suitable business strategy modelling for contractor industry in Indonesia. The analysis method applied is factor analysis. Since one of the purposes of construction business refers to a profit oriented business, therefore, this research will apply the 4 (four) BSC (Balance Score Card) model perspectives combined with the David's model. The samples of the research are those contractors of 6 and 7 grades. Questionnaire is applied for data collecting method. Data obtained results will be applied to determine the company's position and condition by factor analysis at 4 perspectives, namely customers, finance, business processes, learning and growth. The data results will be applied to analyse the company's position and condition as an input stage to establish IFE, EFE, CP matrixes. The matrix of input stage will be applied to the next analysis at matching stage. This stage produces TOWS, SPACE, BCG, IE, and GS matrixes by analysing the loading factor with factor analysis. The said factor analysis results will further establish the QSPM matrix. This matrix will establish the business strategy. This business strategy selection will become the objective strategy to be applied by the contractor in operating the company's activities into its accountable projects. Based on the real case performed in one of the national constructing companies, it is concluded that the suitable strategic model is the alliance strategic model.

Key words: strategic management, BSC, business strategy, factor analysis

INTRODUCTION

The tighter national contractor's competition, the still limited domestic market shares, the current and next years condition, the globally opened Indonesian construction market condition, the more competitors, the thinner profit, and the more critical partners make each contractor must strongly struggle to consider its competitive advantage. Currently, there are various contractors in Indonesia, and cover of more than 140.000 companies registered in the LPJK. Out of these total large number companies, only approximately of 139.000 are classified as middle-,and small -scale construction service companies (99.34% out of the total Construction companies). The big scale companies, including the BUMN's (State Owned Company) contractors, are approximately of 916 (LPJK, 2009). These companies are expected to have higher competitive power, thus are reliable to perform the large scale, complex, and long-term national construction projects.

Competitive power will not be irrespective from its affecting factors, namely those of internal and external ones. The internal factors illustrate contractor's superiority and weakness. While external factors refer to opportunity and challenge in which must be encountered by the contractor (Hamermesh, 1983 in Subramoniam and Krishnankutty, 2002:551), as shown in Figure 1.

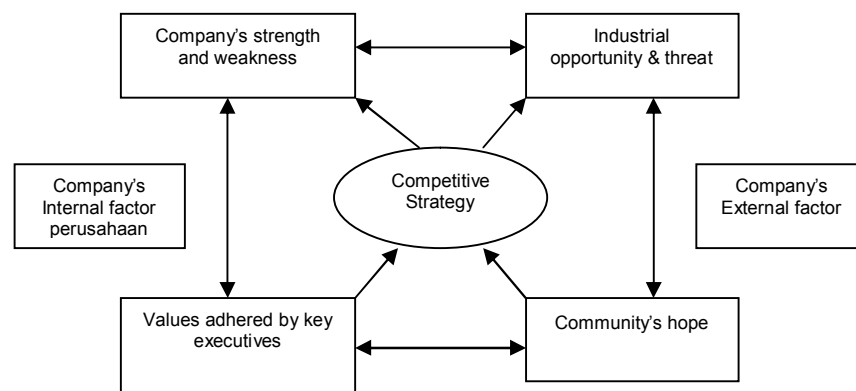


Fig. 1. Basic concept of competitive strategic formula

By keep considering the external and internal conditions influencing the company, the company may take the position of its condition against the competitors. Actually is how the company may accurately take the position of its condition, and what the accurate strategy is. Therefore, business strategic model is significantly required.

Strategic management

Strategic management is different from strategic planning, in which popular in 1960's up to 1970's. Strategic management covers three stages, namely: formulating, implementing, and evaluating stages, whereas strategic planning is only limited to strategic formulation. David (2003:5) defines strategic management as: *“the art and science of formulating, implementing and evaluating cross functional decisions that enable an organization to achieve its objectives.”* The relative similar definition also found in some other references, such as in Thompson and Strickland (2001:3). Definition of strategy is conveyed by some experts (David, 2003; Hamel and Prahalad in Gibson, 1998; and Grant, R.M., 1991), in which essentially refer to any means to achieve goal. Thus, strategic planning almost always started with “what may be happened”, not from “what happened”. The new market innovating acceleration, and consumers' pattern change require core competencies. The company needs to find these core competencies in its performed business.” There are various popular strategic formulation models found in strategic management science, including the David's model (2003), Kartajaya's Model (2003), Thompson's & Strickland's Model (2001), Pearce's & Robinson's Model (2000), Mintzberg's Model, et al (1998), Treacy & Wiersema (1997), Weelen's & Hunger's Model (1994), and Portel's Model (1985). Such models are developed and mostly applied in general industries, or consumer goods companies. This research applies the David's model under the reason that it has clear, and measured sequences.

David's strategic model

According to the David's concept (2003), management strategic process has three stages, namely: formulating, implementing and evaluating strategies, as illustrated in Figure 2. Its strategic formulation framework comprising of: mission and vision formulation, opportunity and challenge identification, company's superiority and weakness, and long term target determination.

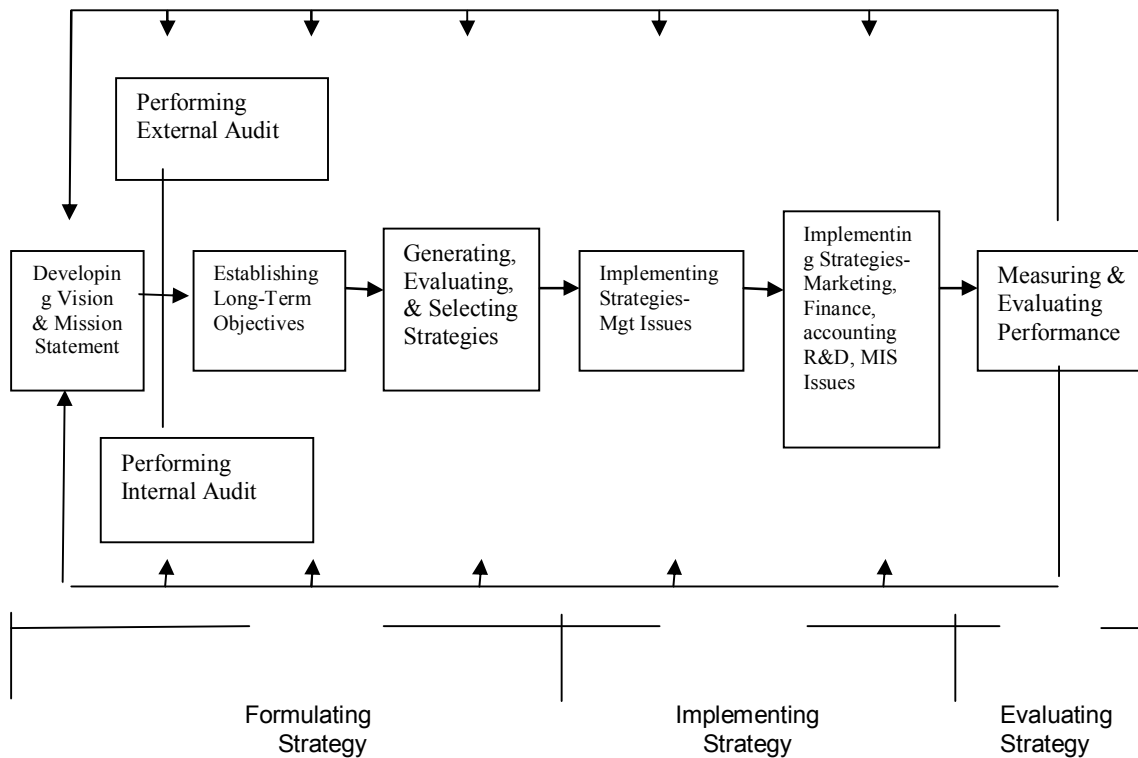


Fig. 2. Comprehensive Strategic Management Model (David, 2003)

The said strategic analysis and formulation make use all of qualitative and quantitative information, both from company's internal and external sources, as the input in delivering analysis and making subjective decision. Roughly speaking, strategic formulating techniques and its decision taking processes are divided into three stages (David 2003:198), integrally made into one systematic strategic formulating framework. The said formulating process may apply the processes as in Figure 3.

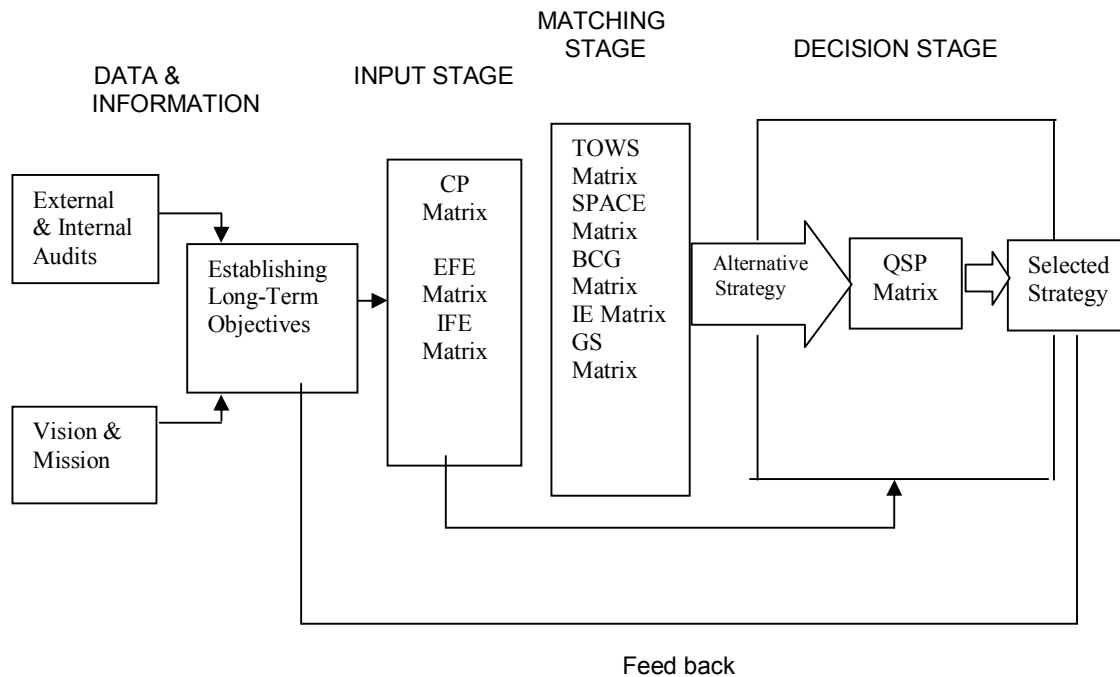


Fig. 3. David's model Strategic Formulation Process

Strategic formulation method applied in David's model comprised of Nine types of matrixes, namely three matrixes at input stage, five matrixes at matching stage, and one matrix at decision stage. Such formulation methods have been generally known in various strategic management literatures, except of decision stage method, namely the Quantitative Strategic Planning Matrix (QSPM) in which only found in David's model. The proposed strategies in this matrix at the analysis stage are tested and selected in accordance with the attractiveness score (AS), a strategy towards IFE and EFE Matrix factors.

Roughly speaking, strategic formulating techniques and decision processes in David's model are divided into three stages (David, 2003:198), in which integrally made into one systematic strategic formulating framework as described in Figure 4.

STAGE 1: INPUT STAGE				
External Factor Evaluation (EFE Matrix)	Competitive Profile Matrix	Internal Factor Evaluation (IFE Matrix)		
STAGE 2: MATCHING STAGE				
Threats- Opportunities- Weaknesses- Strengths (TOWS Matrix)	Strategic Position and Action Evaluation (SPACE Matrix)	Boston Consulting Group (BCG) Matrix	Internal- External (IE) Matrix	Grand Strategy Matrix
STAGE 3: DECISION STAGE				
Quantitative Strategic Planning Matrix (QSPM)				

Fig. 4. Formulating Strategy of Analytical Frame Work (David, 2003:198)

Balance scorecard (BSC) concept

Performance measuring refers to an important factor for the company. Generally, the company assesses its performance only in its financial factor, namely by traditional approach. However, currently the traditional approach is considered as no longer adequate to assess the company's performance. According to Kaplan and Norton (2000:16) BSC is a new framework to integrate various measurement generated from the company's strategy. BSC covers scoring activity resulted by the company's high-motivated participants. While keep regarding the short-term performance, namely through financial perspective, BSC clearly conveys various matters encouraging the achievement of performance, and superior long term perspective. Kaplan and Norton (2000:22) describe that there are 4 perspectives in BSC, namely: finance, customer, internal business process, learning and growth (Figure 5).

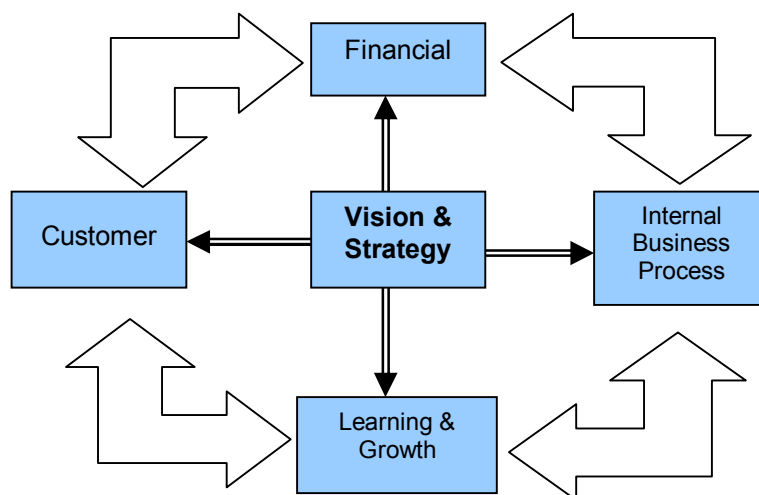


Fig. 5. Four BSC's Perspectives (Kaplan&Norton:2000:22)

MATERIALS AND METHODS

As come to our knowledge, that a construction company is almost the same with the other manufacturing company, but it owns its managed projects, while project refer to a unique matter, having limited time, must comply with the design standard, and require control, evaluation, and monitoring at each of its activity stages. The concept in company's management towards its managed construction projects has not been satisfactorily understood, and applicable by those contractors in Indonesia, so as resulting in unsuitable strategic decisions and may not be possibly applied in their projects. This research is expected to generate a strategic decision model. The research is performed by empirical data collecting approach, and opinion regarding the big scale contractors' performance for so long with all of their capabilities in managing the companies. Therefore, a questionnaire set is applied for survey activities. The survey was performed by distributing questionnaires to the currently existing 6 and 7 grade contractors in Java and Jakarta area. To allow similar perception and term of each respondent, the survey results will be strengthened with direct and indirect interview (by phone) to 200 directors of big scale contractors in Java and Jakarta area.

Design of Survey

As part of research methodology, survey implementation becomes very important to be satisfactorily performed, since any collected information and data will significantly determine further research process. Moreover, the purposes of such survey activities are as follows:

1. To recognize the internal and external factors influencing the management of construction company as customarily performed by the contractors in Indonesia to enhance their competitive power.
2. To recognize issues encountered in managing such contractor company.

To achieve the said purpose, a developed questionnaire comprised of two important parts, namely:

1. General; containing information of respondents, and their companies' profile, such as type of work, owner, etc.
2. Statement; This part questioning some matters of strategic planning implementation, and also internal and external factors encountered. The said statements related to financial objects, customers, internal business processes, earning and growth.

Profile of Respondents

The survey was performed to 200 directors of 6 and 7 grade contractors in Java, Bali and Jakarta, engaging in general contractors. Majority of the respondents have quite long engaged in construction business, namely of more than 6 to 30 years. Though they are so classified, however such contractors did not have much clear strategies in managing their companies, but only 30% respondents did.

Factor analysis method

Factor analysis method in this research is applied to simplify the reduction of internal and external factor variables of those national contractors' competitive power having dominant influence. Factor analysis refers to one of multivariate statistics techniques having purpose to analyze the relation and to reduce a number of factors into a simpler one. Hair, et.al (1988:14) defines, "Factor analysis is a statistical approach that can be used to analyze interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors)". Data factor is a primary data obtained from the questionnaire results to some stakeholders of national construction industries as further applying factor analysis by using SPSS 17 auxiliary software. Determining steps of factor and its weight are described in Figure 6. To determine the total

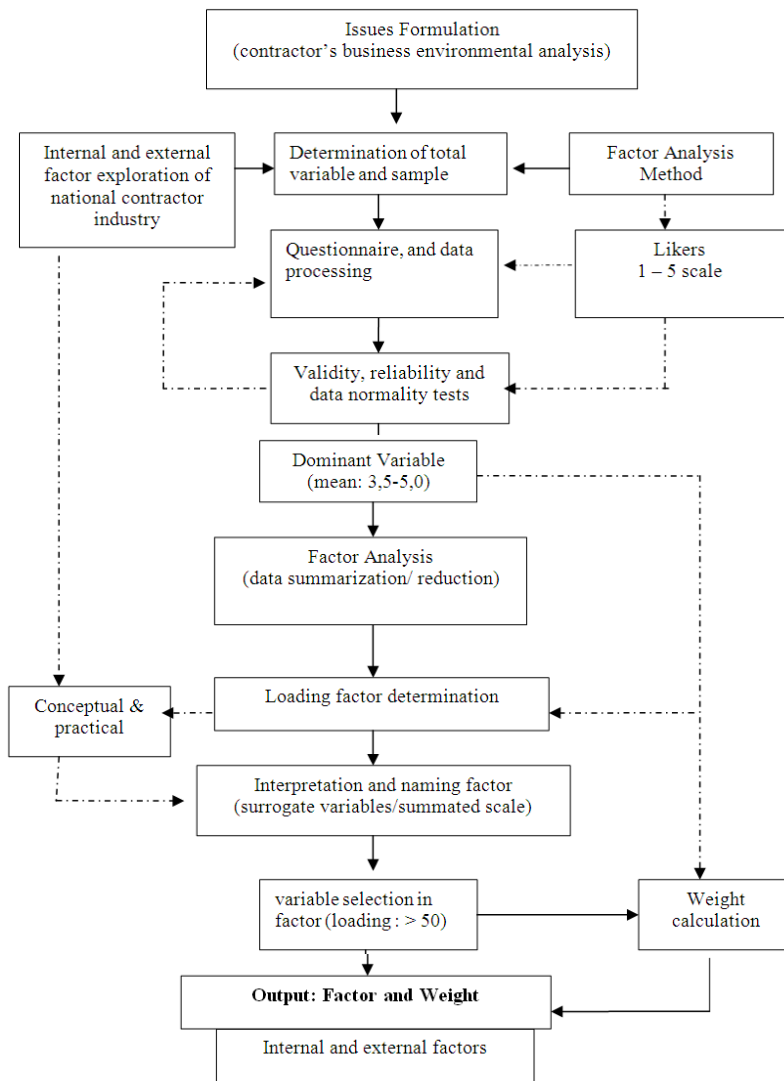


Fig. 6. Factor and weight determining steps

Internal support from the government, including: regulation, protection, taxes, exchange rate stability, political and security stability, and industrial infrastructure. In addition, banking / funding institution support are also required, such as: lower interest rate, easy credit requirements and processes. As such, internal factor support showing the company's capability comprised of all resource elements, namely capital, human resources, equipments, technology, etc., in which to assess the company's business process. The concept of *competitive advantage* (Grant, 1995:339) put industrial and national environment as the external environment. While the company's external environmental scope described by Grant (1995:339), and Amit and Schoemaker (1993), comprise of: competitors, customers, substituting products, new competitors/companies, services and material suppliers, and industrial environmental factors (technology, regulation, government, banking, foreign exchange stability, political and security stability, etc.). The other industrial environments are obtained from *industrial analysis* (Porter, 1980:378) and *key environmental variables* (Weelen and Hunger, 1994:92), comprising of: consultants, auditor services, related association, commercial banks, and worker unions. The abovementioned concepts and models are also generally applicable to any construction company. The context of this research is more focussed to the concept of the company's purpose achievement by applying performance model. The company's performance assessing model to face global competition, such as among other, the BSC. This model assesses the company's performance at the main 4 perspectives, namely finance, customers, internal business processes, learning and growth. The research result performed by Ratnaningsih Anik (2009), states that there are 23 indicators of external factors influencing the company's performance. Whereas there are only 20 indicators of internal factors. Validity and reliability tests have been performed in the survey results as the measuring rods that the means applied have met reliability requirements. The survey results responded by the respondents describe that all factors are valid and reliable. These matters are illustrated by $r > r$ Table score, namely 0.4 under significant standard of $(\alpha)=0,05 < 0,6$, with significant score of 0.902. The survey result of external and internal indicators influencing national contractor industries' continuity based on rank are shown in the following Table 1 and Table 2.

variable, Hair, et. Al. (1998:98), describes: "the researcher may do this employing the most parsimonious set of variables, guided by conceptual and practical considerations, and then obtaining an adequate samples size for the number of variable examined." Further, to determine the total of its sample, Hair at. Al. (1998:98) states that: "the sample size would not be fewer than 50 observations. And preferably the sample size should be 100 or larger. As a general rule, the minimum is to have at least five times as many observations as there are variables to be analyzed, to minimize the chances of over fitting the data." Data variable for factor analysis applies *metric measurement* Hair, at al (1998:98). Therefore, the questionnaire design is made of *semantic differential scale* (Levin and Rubin, 1998) within 1 to 5 scales. There were face-, and logically- validity performed through expert discussion and questionnaire test addressed to several prospective respondents before the questionnaire were distributed. The observed issues were *interrelationship* between observed variables (Hai, et al, 1998:90).

RESULTS AND DISCUSSION

External and internal factors analysis influencing competitive power

External and internal factors are generally the same in *consumer goods industries*. However, as a specific character industry, it requires suitable ex-

Table 1. External indicator influencing contractor industries

Variable	Code	Average	SD	Rank
Government support to construction	eks12	4.260	0.807	1
Bank Support	eks11	4.213	0.791	2
Availability of supporting industry	eks5	4.016	0.949	3
Domestic market	eks1	3.913	0.844	4
Security and political stability	eks15	3.835	0.756	5
Price of materials	eks8	3.827	0.840	6
Financial condition of customers	eks4	3.780	0.921	7
Technology of Change	eks23	3.772	0.952	8
External networking	eks20	3.764	0.812	9
International market	eks2	3.732	0.860	10
Supplier Know-How	eks6	3.732	0.741	11
Quality of material	eks7	3.732	0.681	12
Brand image	eks22	3.724	0.847	13
Availability of sub-contractor	eks9	3.646	0.905	14
Industry infrastructure	eks16	3.591	0.871	15
Barrier to international market	eks19	3.575	0.820	16
Employees training program	eks21	3.575	0.756	17
Outsourcing company	eks17	3.386	0.746	18
Competition climate	eks18	3.386	0.831	19
Education and research institutions	eks13	3.260	0.849	20
Wage level of sub-contractor	eks10	3.213	0.792	21
Construction Activity	eks3	3.142	0.932	22
Role of related associations	eks14	3.079	0.919	23

Table 2. Internal indicator influencing contractor industries

Variable	Code	Average	SD	Rank
Delivery Speed	int1	4.504	0.677	1
Quality assurance	int2	4.331	0.767	2
Contract/book order	int19	4.047	0.677	3
Facility and equipments	int7	4.039	0.671	4
construction technology	int9	4.008	0.729	5
Employee know-how	int4	3.992	0.782	6
Engineering	int6	3.992	0.661	7
Safety management	int14	3.929	0.799	8
Competence top-management	int12	3.913	0.864	9
Price Level	int3	3.906	0.849	10
Organization and management	int13	3.906	0.840	11
Research and development	int16	3.740	0.681	12
In-house sub-contractor	int5	3.591	0.858	13
Capital and financial condition	int11	3.512	0.983	14
Special physical resources	int8	3.472	0.933	15
Company culture	int15	3.472	0.844	16
TQM	int20	3.472	0.889	17
Industrial relations	int17	3.441	0.813	18
Construction location	int10	3.307	0.913	19
Business network	int18	3.205	0.876	20

Sources: analysis

To more facilitate in analysing the said indicators, they will be reduced into several factors in accordance with the BSC performance indicator. Factor reduction result with factor analysis at 4 BSC perspectives are as follows. Table 3 illustrates matrix rotating result of factor analysis. The naming of each factor is based on surrogate adjustment of each BSC perspective.

Table 3. Internal and external factors reduction result

Internal Matrix Rotated Component					External Matrix Rotated Component				
	Component					Component			
	1	2	3	4		1	2	3	4
int1	0.164	-0.027	0.037	0.874	eks1	0.008	0.312	0.609	0.282
int2	0.255	0.350	0.098	0.682	eks2	0.035	0.017	0.752	0.152
int3	0.539	-0.012	0.190	0.241	eks3	0.235	-0.197	0.288	0.656
int4	0.550	0.246	0.344	0.268	eks4	0.087	0.616	0.339	0.024
int5	0.405	0.154	0.381	0.141	eks5	0.535	0.163	0.589	-0.083
int6	0.678	0.156	0.305	0.065	eks6	0.648	0.204	0.390	0.178
int7	0.763	0.271	0.030	0.240	eks7	0.807	0.061	0.039	0.283
int8	0.694	0.477	0.203	-0.100	eks8	0.790	0.194	0.080	0.267
int9	0.538	0.083	0.331	0.316	eks9	0.476	-0.015	0.319	0.382
int10	0.302	0.745	0.163	0.064	eks10	0.241	-0.003	0.052	0.672
int11	0.284	0.757	0.032	0.136	eks11	0.053	0.275	0.495	0.252
int12	0.424	0.490	0.315	0.021	eks12	0.166	0.506	0.300	0.104
int13	0.144	0.381	0.557	0.315	eks13	0.221	0.364	0.110	0.424
int14	-0.033	0.425	0.492	0.308	eks14	0.349	0.390	0.272	0.374
int15	0.149	0.561	0.594	0.215	eks15	0.278	0.651	0.043	0.221
int16	0.138	0.016	0.806	-0.058	eks16	0.538	0.358	-0.145	0.440
int17	0.372	0.087	0.691	-0.038	eks17	0.344	0.290	0.177	0.491
int18	0.236	0.518	0.505	0.132	eks18	0.127	0.763	-0.122	-0.059
int19	0.715	0.301	-0.034	0.161	eks19	0.060	0.704	0.292	-0.145
int20	0.685	0.480	0.187	-0.127	eks20	0.441	0.166	0.569	-0.438
					eks21	0.678	0.257	0.349	-0.047
					eks22	0.807	0.126	-0.020	0.233
					eks23	0.801	0.151	0.035	0.175

According to Kaplan & Norton (2001), BSC's perspective based on process sequence in profit-oriented manufacturing industry are finance, customers, internal business processes, learning and growth. This also applicable to contractor industries, however, process sequence is not primarily only in finance, since they have their own specific uniqueness. Such uniqueness is caused that construction industries have had limitation in determining the project schedule, resources, and non-continuing managed capital. Table 4 describes that the main factors influencing contractor industries based on their loading factor score are how the company responding any opportunities, and managing challenge in their internal business processes. These just the same as how contractor managing quality obstruction in material, material price, infrastructure availability, concern towards employees development through training, how to create good image, and also how contractor face sustainable-developed technology change. These are of course having impact to other perspectives, such as consumers' financial condition, government's protecting policy of consumer, political and security stability, competitors' condition, global market and market growth challenges. Learning and growth are defined as market opportunity and growth, of both national and international scale, including prospective supplier's know-how, and also the necessity of networking built by the company. All of them will automatically influence construction activities influencing the company's finance, as completely shown in Table 4.

Table 4. External Factor

Factor	indicator	Loading
INTERNAL BUSINESS PROCESS		
	Supplier Know-How	0.648
	Quality of materials	0.807
	Price of materials	0.790
	Industrial infrastructures	0.538
	Employer training program	0.678
	Brand image	0.807
	Technology of Change	0.801
CUSTOMERS		
	Financial condition of customers	0.616
	Government support to construction	0.506
	Security and political stability	0.651
	Competition climate	0.763
	Barrier to international market	0.704
LEARNING & GROWTH		
	Domestic market	0.609
	International market	0.752
	Supplier Know-How	0.589
	External networking	0.569
FINANCE		
	Construction Activity	0.656
	Wage level of sub-contractor	0.672

Table 5 describes contractor service company's internal condition in which more emphasizing the internal business process, and put forwarding its managed project success to achieve the company's purpose. Internal business process gives more priority to the management of resources, technology, quality, technical ability, and

price control / bidding ability. Such condition automatically will influence the company's financial condition. The same are also applicable to the existence of project location and networking. The success of managing company's performance will not irrespective from how to manage organization, to build company's culture, and to build relation including the relation to develop the research. All of them are customers' satisfactory-oriented, in which provide service guarantee in implementation, project, and also speed to complete the projects managed by the contractor.

Table 5. Internal factor

Factor	Indicator	Loading
INTERNAL BUSINESS PROCESS		
	Price Level	0.539
	Employee know-how	0.550
	Engineering	0.678
	Facility and equipments	0.763
	Special physical resources	0.694
	construction technology	0.538
	Contract/book order	0.715
	TQM	0.685
FINANCE		
	Construction location	0.745
	Capital and financial condition	0.757
	Business network	0.518
LEARNING and GROWTH		
	Organization and management	0.557
	Company culture	0.594
	Research and development	0.806
	Industrial relations	0.691
CUSTOMERS		
	Delivery Speed	0.874
	Quality assurance	0.682

David's model stage**A. INPUT STAGE**

Input stage refers to the initial stage of factor evaluation matrix determination. The questioned Factor Matrixes are internal and external matrix factors, or commonly abbreviated as IFE (internal factor evaluation) and EFE (external factor evaluation), and also CP (*competitive profile*) matrixes. CP matrix refers to the illustration of company's condition against the competitors. Whereas IFE and EFE matrixes refer to the evaluation of internal and external factors influencing the company's competitive power. IFE and EFE have been described in Tables 4 and 5. Tables 6, and 7 explain the company's position, where Table 6 describes the company's condition against the competitor, or called as CP matrix. The analysis result illustrates that the company's position against its competitor has quite far span.

Table 6. CP Matrix for internal factor

Factor	Indicator	weight	company		cpt1		cpt2		cpt3	
			rating	Value	rating	Value	rating	Value	rating	Value
INTERNAL BUSINESS PROCESS (max. 1.922)										
	Price Level	0.050	3	0.151	2	0.100	4	0.201	3	0.151
	Employee know-how	0.051	2	0.102	1	0.051	3	0.154	2	0.102
	Engineering	0.063	3	0.189	3	0.189	4	0.252	3	0.189
	Facility and equipments	0.071	2	0.142	2	0.142	3	0.213	2	0.142
	Special physical resources	0.065	3	0.194	3	0.194	4	0.258	3	0.194
	construction technology	0.050	3	0.150	2	0.100	3	0.150	3	0.150
	Contract/book order	0.067	3	0.200	1	0.067	4	0.266	3	0.200
	TQM	0.064	3	0.191	2	0.128	3	0.191	3	0.191
FINANCIAL (max. 0.623)										
	Construction location	0.057	2	0.115	3	0.172	3	0.172	3	0.172
	Capital and financial condition	0.058	2	0.117	3	0.175	4	0.234	3	0.175
	Business network	0.040	2	0.080	3	0.120	3	0.120	3	0.120
LEARNING and GROWTH (max. 0.905)										
	Organization and management	0.048	3	0.143	3	0.143	3	0.143	3	0.143
	Company culture	0.051	2	0.102	1	0.051	4	0.203	3	0.152
	Research and development	0.069	2	0.138	1	0.069	4	0.275	3	0.207
	Industrial relations	0.059	2	0.118	2	0.118	4	0.236	3	0.177
CUSTOMERS (max. 0.549)										
	Delivery Speed	0.077	2	0.154	3	0.231	4	0.308	3	0.231
	Quality assurance	0.060	3	0.180	3	0.180	4	0.241	3	0.180
	TOTAL	1.000		2.466		2.231		3.619		2.877

Table 7. CP Matrix for external factor

Factor	Indicator	company		cpt1		cpt2		cpt3		
		Weight	rating	Value	rating	Value	Rating	Value	rating	Value
INTERNAL BUSINESS PROCESS max. (1.661)										
	Supplier Know-How	0.053	2	0.106	3	0.159	2	0.106	2	0.106
	Quality of material	0.066	3	0.198	2	0.132	2	0.132	3	0.198
	Price of materials	0.065	2	0.129	2	0.129	3	0.194	2	0.129
	Industry infrastructure	0.044	3	0.132	3	0.132	2	0.088	3	0.132
	Employer training program	0.056	2	0.111	3	0.167	3	0.167	2	0.111
	Brand image	0.066	2	0.132	3	0.198	2	0.132	3	0.198
	Technology of Change	0.066	3	0.197	3	0.197	3	0.197	3	0.197
CUSTOMERS max. (1.204)										
	Financial condition of customers	0.057	1	0.057	4	0.229	3	0.172	3	0.172
	Government support to construction	0.047	1	0.047	2	0.094	2	0.094	3	0.141
	Security and political stability	0.060	1	0.060	3	0.181	3	0.181	4	0.242
	Competition climate	0.071	2	0.142	3	0.213	3	0.213	3	0.213
	Barrier to international market	0.065	2	0.131	3	0.196	4	0.262	3	0.196
LEARNING & GROWTH max. (0.729)										
	Domestic market	0.058	3	0.173	2	0.115	3	0.173	3	0.173
	International market	0.0712	2	0.142	3	0.213	3	0.213	3	0.213
	External networking	0.054	3	0.161	2	0.107	2	0.107	3	0.161
FINANCE max. (0.406)										
	Construction Activity	0.050	1	0.050	3	0.150	3	0.150	3	0.150
	Wage level of sub-contractor	0.051	2	0.103	3	0.154	3	0.154	4	0.205
	TOTAL	1.000		2.072		2.768		2.735		2.938

B. MATCHING STAGE

Matching stage refers to TOWS-, SPACE-, BCG-, IE-, Grand Strategic-Matrix stages. TOWS matrix refers to matrix established based on strength, weakness, and challenge must be encountered by the company. While SPACE matrix refers to the mapping of TOWS. SPACE matrix is described in the following Table 8. The conclusion shows that the company's position is in the IVth quadrant under (0.8;-0.72) coordinate, meaning that the company has strong competitive power, but growth slowly. So as its strategic alternative is by business diversification. The conclusion is less satisfactory, since it only has one optional strategic alternative, and may be not suitable. Therefore, the internal and external matrixes are developed to observe the company's position whether it is classified as low, medium, or high.

Table 8. Space matrix

Internal factor strategic position			External factor strategic position		
Factor	Indicator	rating	Factor	Indicator	rating
Strength			Threat		
	Price Level	5		Financial condition of customers	-4
	Organization and management	4		Quality of material	-2
	Engineering	3		Price of materials	-2
	Special physical resources	3		Brand image	-4
	construction technology	3		Technology of Change	-4
	Contract/book order	3		Construction Activity	-2
	TQM	3		Wage level of sub-contractor	-3
	Quality assurance	2		Government support to construction	-1
	TOTAL	26		Security and political stability	-1
				Competition climate	-2
Weakness			Opportunity		
	Construction location	-4		Barrier to international market	-2
	Capital and financial condition	-5		TOTAL	-27
	Business network	-4		Supplier Know-How	5
	Employee know-how	-5		Domestic market	5
	Facility and equipments	-3		International market	2
	Company culture	-5		External networking	3
	Research and development	-5		Industry infrastructure	2
	Industrial relations	-3		Employer training program	2
	Delivery Speed	-1		TOTAL	19
	TOTAL	-35		TOTAL	19

Average value

Strength : $26/8 = 3.25$ Opportunity : $19/6 = 3.17$

Threat : $-27/11 = -2.45$ Weakness - $35/9 = -3.89$
x and Y axis

x : $S + T = 3.25 - 2.45 = 0.80$ Y: $O+W = 3.17-3.89 = -0.72$

conclusion : the company has a strong competitive power, but slow development so as requiring diversification in new area. Its strategic alternative is diversification

BCG (*BOSTON CONSULTANT GROUP*) refers to the illustration of the company's position in 4 (four) quadrants. The Ist quadrant illustrates the growing and expanding marketable company's position. The IInd quadrant illustrates the growing, but ineffectively competing, so as requiring changes to enhance its competitive power. The IIIrd quadrant illustrates that the company has weak and slow developing position. While the IVth quadrant illustrates the quite strong company's competitive power, but slow in its internal growth. Grand Strategy Matrix (GS matrix) is composed based on two dimensions, namely; position in market competition and growth. This matrix has four quadrants, see the following Table 9.

**Table 9. Grand Matrix Strategy
Fast Market Growth**

II Quadrant: 1. Market development 2. market penetration 3. product development 4. horizontal integration 5. divestiture 6. liquidation	I Quadrant : 1. Market development 2. Market penetration 3. Product development 4. Forward integration 5. Backward integration 6. Horizontal integration 7. concentric diversification
III Quadrant: 1. Retrenchment 2. concentric diversification 3. horizontal diversification 4. conglomerate diversification 5. divestiture 6. liquidation	IV Quadrant: 1. concentric diversification 2. Horizontal diversification 3. conglomerate diversification 4. joint venture

The result of internal and external factor analysis illustrate that IFE score is 2.466, and EFE is 2.072. In case of being plotted in the internal and external matrixes in which divided into 9 element cells, the company's position is in the VIth cell, meaning that the company encounters a quite hard obstruction to enhance its competitive power, *Harvest or divest*. This matrix is almost similar to BCG matrix, if it is plotted into two dimension quadrant, then the company is in the IInd quadrant, where its strategic option among others are divestiture, liquidation, horizontal integration, product development, market penetration, market development.

Total score IFE

		excellent	Good	medium	poor	
		3-4	2-2.99	1-1.99	0-0.99	
Total EFE Score	Excellent	4	3	2	1	0
	3.0-4.0					
	Good	3	I	II	III	IV
	2.0-2.99					
	Medium	2	V	VI	VII	VIII
1.0-1.99						
Poor	1	IX	X	XI	XII	
0-0.99						
	0	XIII	XIV	XV	XVI	

C. DECISION STAGE

In this stage, the most recommended strategic alternatives decision in the analysis stage are further assessed and analyzed by applying QSPM (Quantitative strategic planning matrix). This matrix applies IFE and EFE matrixes, as further select the 4-mostly-recommended strategic types, namely: horizontal integration, divestiture, liquidation, and product development. In QSPM, the said strategic types are analyzed by applying strategic factors at EFE and IFE matrixes. Then each factor is provided with attractiveness Score through subjective judgment showing the relative attractiveness score of each strategic option. The total attractiveness score (TAS) describes relative attractiveness of each strategy, where the higher TAS score, the more interesting is the strategy. From QSPM's result, it is obtained the rank of each strategy in the following Table 10

Table 10. Total attractiveness score of each strategic alternative

Type of Strategy	TAS	Rank
Product Development	6.75	II
Horizontal integration	7.20	I
Divestiture	5.40	III
Liquidation	4.35	IV

Based on the above analysis results, horizontal integration strategy refers to the best strategic alternative for the company with the highest TAS (7.20). Horizontal integrated strategy refers to a strategy where the company may make use any opportunities, while strengthen its competitive power through strategic alliance with other party possessing capital, market and technology access to control its competitors.

CONCLUSIONS

The management of the company's performance may not ignore planning as the intended purpose and target of a company. Big scale contractors in Indonesia are expected to expand their market internationally. This may be achieved if accompanied with the accuracy of decision taking of the company's management strategic determination. Accurate strategic selection will bring company's sustainability. Strategic modelling result in this research provides appropriate illustration to be used as company's reference in taking its strategic decision, especially those engaging in construction sectors. The sample in the real case of one of the abovementioned companies illustrates that in accordance with the current company's condition, the company's most suitable strategy is the performance of alliance strategy. Alliance strategy is used as a short term strategy to support the company's long term strategy.

This modelling still requires more development, among other the more emphasized in its quantitative results by reducing subjectivity. In addition, it is deemed necessary to perform strategic planning modelling up to

strategic implementation and evaluation. Implementation and evaluation are required to evaluate the model's conformity. The model is considered suitable if the company's position, while applying it, is getting better or the same as before.

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