Critical Internal Factors and Sub-Factors Affceting the Competitiveness of Consulting Companies in West Sumatera

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ABSTRACT

Competitiveness is a crucial criterion for enhancing the sustainability of a company's survival. It enhances creativity and improved business performance. In Indonesia, the lack of competitiveness has led to entrepreneurship closures and a decline in the membership of consulting firm associations. Over the past decade, a total of 3,123 enterprises had closed their business operations. Hence, this research aims to obtain critical internal factors and sub-factors in improving business activities in consulting companies in West Sumatra to assist corporate directors with important skills to improve important competitiveness, thus addressing future challenges in competitiveness. The methodology of this study included a literature review, main survey, SPSS analysis as well as Smart PLS using data obtain from main survey. The results revealed that the competitiveness framework for consultant company in West Sumatera has 10 critical internal factor and 18 critical sub-factors with factor loadings >0.90. The critical internal competitiveness factors and sub factor are: Human Resource (Skill, knowledge), Financial (financial stability), R&D (scientific findings, patten), Technology (information system, specializet IT), Project Management (management healt & safety, Management environment, Risk management), Innovation (product innovation, technology innovation), Marketing (promotion, market knowledge), Organisation (culture, company grade), Managemen Proces (system & procedure), strategi (strategy focus). The study has successfully developed a framework to evaluate the competitiveness for construction consultant companies. All critical sub factors identified will guide the management in enhancing their competitiveness.

Keywords: Factor Critical; Internal; Competitiveness, Firm, Consultant, West Sumatera

INTRODUCTION

All companies desire success in the marketplace. Success and failure are indicators of a company's competitiveness in determining the right activities and profitable positions. Knowledge of critical internal competitive factors is necessary so that companies can strive to improve their competitiveness. Maintaining or improving a company's position in the market through value cration is essential (Porter, 1985)**.** Lack of attention to competitive factors can lead to unsustainable companies.

Competitiveness

Competitiveness involves a range of interpretations, dimensions, and influencing factors. Competitiveness varies in meaning depending on the context and level, with distinct factors influencing each level. Essentially, competitiveness is the capacity to engage in competition. Whang and Flanagan, (2024) defined competitiveness as companies perspective, competitiveness refers to a company's capacity to surpass competitors in terms of product design, production, and marketing. Competitivity is also defined as an effort to develop conditions that facilitate the ongoing expansion of a company's productivity. This is achieved by producing products at more

competitive prices, utilizing more efficient processes, reducing costs, utilizing advanced technology, and remaining environmentally friendly.

The concept of competitiveness has multiple possible contexts; each adapted to a particular situation and course of action. According to their views, several researchers have proposed various definitions. The definition of competitiveness according to P. J. Buckley, (1988) is the ability to compete with competitor in terms of using fewer funding source to produce high-quality products. According to Al-Kayed *et al.*, (2024), in this era facing strong rivalry in businesses, company have to become very competitive in order to survive. This can only be accomplished if businesses have a firm knowledge of the competitive elements that boost their capacity to compete. Harwin, (2025), states that there are 3 (three) factors in the competitiveness of the construction industry, namely: external factors, internal factors and index factors, and of these three factors, the internal factors can be controlled by the company director to improve them.

West Sumatra Consulting Companies

Construction consulting firms can provide assessment, planning, supervision, and management services for construction projects (UU RI No 2, 2017). The primary target market for most Indonesia construction consulting firms is government-led development projects (Leonardo J Hehanussa, 2018). The Indonesian government incrases its development budget annually, but many construction consulting firms have cosed down. According to information provided by the National Association of Indonesia Consultants (INKINDO), there were 3,123 enterprises that went out of business between the years 2014 and 2024, with the largest number of businesses going out of business in 2020 being 2,500 as shown in chart 1. In West Sumatra, 233 enterprises have shut down their operations between the years 2010 and 2024, while in the year 2020 alone, 103 businesses have shut down their operations.

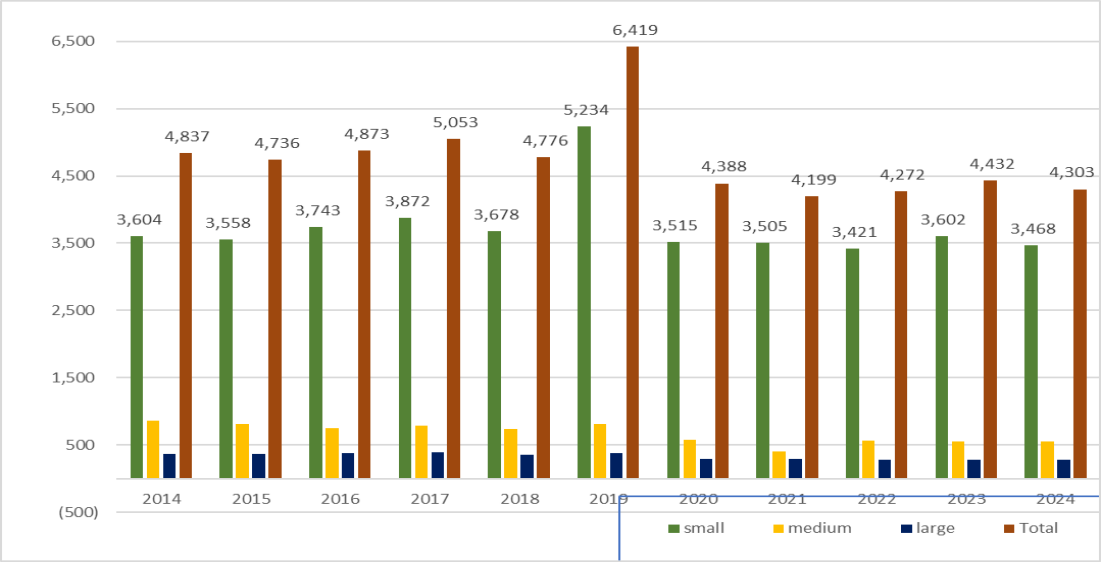

Chart 1 *Number of INKINDO member per year*

Peter Frans, who served as chairman of INKINDO for the 2018-2022 period, also provided information regarding the closure of companies owned by members of the INKINDO consulting firm association. As infrastructure funding was diverted to address the COVID-19 pandemic, consulting firms still reliant on government contracts experienced significant disruptions. Some were impacted by a decrease in contracts, while others lost projects, forcing some to close their businesses. (https://ekonomi.bisnis.com 2020).

LITERATURE REVIEW

Competitiveness In Construction

Orozco, (2011) states that competitiveness factors can be categorized into three separate types: endogenous competitiveness factors, exogenous competitiveness factors, and index. Internal factors are those fundamental

to the organization, enabling management to act upon them to achieve its objectives. Endogenous elements encompass strategy management, project management, human resources, organizational structure, innovation, technology, financing, institutional and business relation, bidding. Management has minimal control over external factors, which come from outside the organization. The regulatory, envinroment, economi growt, public investment, education and training, political issues, are all examples of exogenous factors. These outside factors create the environment in which businesses must compete, which means that each country has its own unique competitive landscape. The Index Factor makes it easier to look at many different aspects of competitiveness, such as financial index, non financial productivity, market share, bidding effecctiveness.

Buckley, 1988) stated that the dimensions of competitiveness include performance competitiveness, potential competitiveness, and process management. Potential serves as a metric that quantifies the input into an operation. Performance measures evaluation operational results and processes, evaluating operational management. Competitiveness should be evaluated not only in terms of performance but also in relation to the maintenance of potential and potential performance. The potential utilized to achieve performance is located in various factors influencing efficiency and effectiveness. Management measurement primarily exhibits qualitative characteristics.

Ambastha, (2004) explains various factors of competitiveness at the company level. These factors are categorized into assets, processes, and performance. Assets include human resources, corporate culture, technology, and reputation. Processes include strategy, innovation, quality, flexibility, persuasive power, information technology applications, marketing, design, and relationship management. Key performance indicators include productivity, price, cost, profit, market share, range of products, value creation, and customer satisfaction..

According to Ericsson, (2005), Competitiveness must encompass the satisfaction of the needs of shareholders, employees, clients, and society as a whole. Shareholders need profits, growth, productivity, and equity ratios. Employees need health, safety, wage levels, working hours, and a strong workforce. Customers need quality, low costs, service, and predictability. Society needs social responsibility, the environment, business ethics, and inclusion..

Internal Sub Factors Of Competitiveness

A study by Moshood, (2025) A study by Moshood (2025) found that the construction industry is characterized by high risk. Construction company failures often occur due to a lack of control over internal factors. A study conducted by Harwin, (2025) successfully identified internal sub-factors of competitiveness, contained in the table 1(Harwin, 2025) identified several internal competitiveness factors and their corresponding sub-factors:

Table 1 Summary of competitiveness sub-factors

SUB FACTORS		**AUTHOR'S**
HUMAN RESOURCE		
1	Skill, Capacity, Efficiency	Deng, (2013) Azeem, (2020) Aigbe, (2024) Guo, (2022), Romo (2023)
2	Knowledge	Deng, (2013) Aigbe (2024) Nguyen Ngoc, (2024) Guo, (2022)
3	Teamwork	Al-Kayed, (2024)
4	Experience	Aigbe, (2024)
5	Enterpreneurship	Aigbe, (2024)
6	Attitude, Leadership	Orozco, (2010) Orozco, (2011)

FINANCIAL		
1	Financial Resource	Nurisra, (2018)
2	Financial Stability	Nurisra, (2018)
3	Acces to Banker and Financial Institution	Tan , (2008)
TECHNOLOGI/ TECHNICAL		
1	Specialized IT	Deng, (2013)
2	Information System	Wisenthige (2016)
3	Networking System	Nguyen Ngoc (2024)
ORGANIZATION		
1	Age In Busines	Shankar, (2017)
2	Culture	Orozco, (2010) Orozco, (2011) Guo, (2022)
3	Reputation, Image, Brand Name	Tan, (2012) Nurisra, (2018) Guo (2022) Romo, (2023)
4	Company grade	Shankar, (2017) Nurisra, (2018)
5	Kredibilitaty of the company	Nurisra (2018)
RESEARCH and DEVELOMPENT		
1	Scientific Findings	Wu (2023)
2	Patten	Tam Wong, (2024)
MARKETING		
1	Promotion	Yasa , (2020)
2	Market Knowledge	Orozco, (2011)
3	Sales	Hanafi (2016)
STRATEGY MANAGEMENT		
1	Cost Leadership	Orozco (2010) Orozco, (2011)
2	Differentation	Orozco (2010) Orozco, (2011) Nurisra, (2018) Oyewobi, (2019)
3	Focus Customer	Orozco (2010) Orozco, (2011)
4	Growth Strategy	Orozco (2010) Orozco, (2011)
5	Social Focus	Orozco (2010) Orozco, (2011)
6	Flexibility and Adaptability	Orozco (2010) Orozco, (2011)

7	Leadership	Orozco (2010) Orozco, (2011)
MANAGEMEN PROSES		
1	Supply Chain Management	Al-Kayed, (2024)
2	System & Procedur	Al-Kayed, (2024)
3	Operation Process	Al-Kayed, (2024)
4	Quality Management	Orozco (2010) Orozco, (2011)
5	Organiztional Structur	Nurisra (2018) Badawy (2022) Al-Kayed , (2024)
6	Comunication and Coordination	Nurisra (2018)
7	Just in time	Al-Kayed (2024)
BIDDING		
1	Bidding Strategy	Nurisra (2018)
2	Bidding Experience	Nurisra (2018)
3	Bidding Resource	Nurisra (2018)
4	Company Experience	Orozco (2010) Orozco, (2011)
INNOVATION		
1	Product Innovation	Wisenthige (2016)
2	Technology Innovation	Wisenthige (2016) Nurisra (2018)
3	Marketing Innovation	Wisenthige (2016) Al-Kayed, (2024)
PROJECT MANAGEMENT		
1	Management healt & Safety	Orozco (2010) Orozco, (2011)
2	Management Quality	Orozco (2010) Orozco, (2011)
3	Management Cost	Orozco (2010) Orozco, (2011)
4	Management Environment	Orozco (2010) Orozco, (2011)
5	Risk Management	Orozco (2010) Orozco, (2011)
6	Schedule Management	Orozco (2010) Orozco, (2011)
RELATION		
1	Relationship with Owner	Chelliah, (2008) Lu, (2008) Nurisra (2018)
2	Relationship with supplier	Tan , (2008) Orozco (2010) Orozco, (2011) Nurisra (2018)

3	Relationship with parner	Chelliah, (2008)
4	Relationship with community	Chelliah, (2008)
5	Relationship with competitor	Orozco (2010) Orozco, (2011)

METHODOLOGY

This paper uses a quantitative approach, where the problem is obtained from a preliminary study at the Indonesian National Consultant Association (INKINDO) followed by a literature review of competitiveness theories from international books and papers. Internal factors and sub-factors of competitiveness that have been obtained from the literature study are used to estimate the influence of factors and sub-factors of competitiveness on the competitiveness of consulting companies.

This study purpose to develop a research instrument to measure the influence of competitiveness factors and sub-factors on company competitiveness indicators, namely: increased profits, reduced costs, increased productivity, improved quality, market dominance, and company sustainability. The measurement scale used is a Likert scale: Value 1 has no influence, value 2 has no influence, value 3 is neutral, value 4 has influence, and value 5 has a great influence on the company's competitiveness.

The questionnaire was subsequently distributed to the directors of consultant companies in West Sumatra. The questionnaire was disseminated via WhatsApp, utilizing a Google form format, and was sent directly to the mobile phone number of the consulting company's director. A total of 214 respondents completed the questionnaire from a total of 263 consulting companies in West Sumatra. Data analysis was conducted in two stages. First, SPSS version 27 was used to perform validity and reliability tests, which confirmed excellent internal consistency with a Cronbach's Alpha value of 0.982. Second, Structural Equation Modeling using Partial Least Squares (SEM-PLS) was applied through SmartPLS 4.0 to evaluate both the measurement and structural models. Indicators with outer loading values <0.70, t-statistics <1.96 and AVE <0.5 were eliminated iteratively. The outer loading value ranges from -1 to +1. Values closer to +1 indicate a strong positive relationship. Critical sub-factors can be identified based on outer loading approaching +1, which is determined by a value of ≥ 0.90 (Dedi Rianto Rahadi, 2023). The results of this analysis provide a robust empirical framework for assessing sub-factors that can enhance the competitiveness of consulting firms.

DATA ANALYSIS RESULTS

Questionnaire data processing was performed sequentially using two software programs. First, validity and reliability analysis was performed using SPSS version 27. This analysis yielded valid and invalid data. Valid data was defined as data whose calculated r value was greater than the table r value. Invalid data was removed, preventing further analysis. Reliability analysis with a Cronbach's alpha value of α was considered very good if α was greater than 0.99, indicating the consistency of the questionnaire items.

The questionnaire that has been declared valid is continued with Smart PLs 4.0 analysis. Analysis of the weight values of independent factors, latent factors against dependent factors (competitiveness) is carried out until the validity indicators are met, namely: Factor Loading, t-statistic value and Average Variance Extracted (AVE).

Spss Analysis

The analysis was conducted using SPSS to determine the amount of valid data and masure the reliability of the research instrument. The SPSS analysis yielded 214 (two hundred and fourteen) valid data points, all of which could be used for further analysis. The Crobach's Alpha value of 0.982 for the 55 questionnaire items indicates consistency and excellent results.

Data analysis of the results of the questionnaire was analyzed with SPSS with the following results found in table 2 and table 3:

Table 2 Validity Procesing Results

Case Processing Summary			
		N	%
Cases	Valid	214	100,0
	Excluded[a]	0	0,0
	Total	214	100,0
a. Listwise deletion based on all variables in the procedure.			

Based on the table above, it is known that no data was excluded during the screening process, resulting in a usable response rate of 100%.

Table 3 Realitility Processing Result

Reliability Statistics	
Cronbach's Alpha	N of Items
0,982	55

The reliability test demonstrated a Cronbach's Alpha value of 0.982 across 55 questionnaire items

Smart Pls Analysis

Analysis using smart PLS was carried out on 12 independent factors, 55 latent factors from 214 data. The structural model design was built from twelve (12) independent variables, including fifty-five (55) exogenous latent variables and six (6) endogenous latent variables. Figure 2 (structural model) displays the relationship between each factor and the external loading values of the sub-factors on competitiveness.

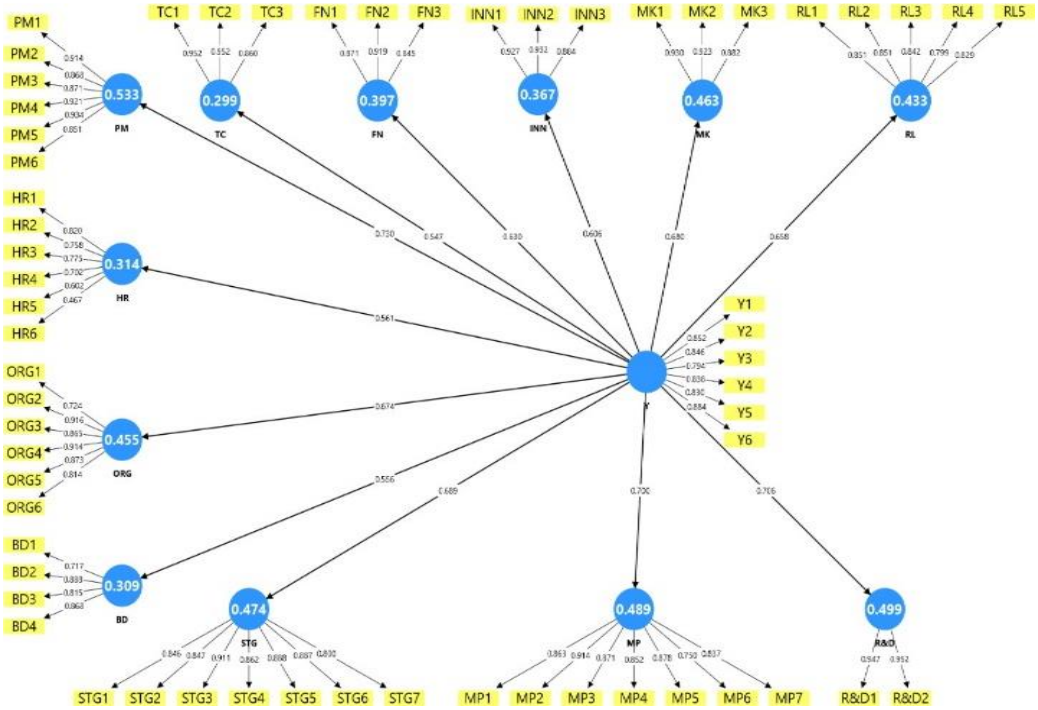

Chart 2 Structure Model

In the first round of analysis, four exogenous latent variables were found with outer loading values <0.7, which are colored red, namely: HR3, HR4, HR5, and HR6 and were excluded from further analysis. In the second round of analysis, all factors have met the validity requirements outer loading >0.7, t-statistic value >1.96 and p-value <0.05, as described in table 4, the analysis is declared complete.

Table 4 : Estimated latent variable weight, p-value, t-statistic

No	Independent Variable	Latent Variables	Outer Loadings	P- value	T- Statistics
1	BD	BD1	0.72	0.00	18.52
		BD2	0.89	0.00	39.94
		BD3	0.82	0.00	22.84
		BD4	0.87	0.00	33.52
2	FN	FN1	0.87	0.00	53.44
		FN2	0.92	0.00	63.75
		FN3	0.85	0.00	39.03
3	HR	HR1	0.94	0.00	69.21
		HR2	0.93	0.00	38.63
4	INN	INN1	0.93	0.00	55.35
		INN2	0.93	0.00	74.47
		INN3	0.88	0.00	54.07
5	MK	MK1	0.93	0.00	76.73
		MK2	0.92	0.00	54.63
		MK3	0.88	0.00	56.44
6	MP	MP1	0.86	0.00	27.08
		MP2	0.91	0.00	61.04
		MP3	0.87	0.00	34.95
		MP4	0.85	0.00	31.68
		MP5	0.88	0.00	41.52
		MP6	0.75	0.00	19.33
		MP7	0.84	0.00	26.61
7	ORG	ORG1	0.72	0.00	20.33
		ORG2	0.92	0.00	67.00

		ORG3	0.86	0.00	36.68
		ORG4	0.92	0.00	64.12
		ORG5	0.87	0.00	39.97
		ORG6	0.81	0.00	27.32
8	PM	PM1	0.91	0.00	51.30
		PM2	0.87	0.00	36.79
		PM3	0.87	0.00	34.67
		PM4	0.92	0.00	71.28
		PM5	0.93	0.00	88.63
		PM6	0.85	0.00	27.25
9	R&D	RD1	0.95	0.00	108.11
		RD2	0.95	0.00	133.98
10	RL	RL1	0.85	0.00	38.68
		RL2	0.85	0.00	28.18
		RL3	0.84	0.00	34.47
		RL4	0.80	0.00	23.87
		RL5	0.83	0.00	33.55
11	STG	STG1	0.85	0.00	29.32
		STG2	0.85	0.00	27.55
		STG3	0.91	0.00	62.88
		STG4	0.86	0.00	40.79
		STG5	0.89	0.00	48.25
		STG6	0.89	0.00	47.19
		STG7	0.80	0.00	22.07
12	TC	TC1	0.95	0.00	93.00
		TC2	0.95	0.00	62.71
		TC3	0.86	0.00	35.84

The results of the analysis for AVE show good results with a value of >0.5 as shown in Table 5.

Table 5 AVE Independent Variable

No	Independent Variable	AVE
I	BD	0.68
II	FN	0.77
III	HR	0.87
IV	INN	0.84
V	MK	0.83
VI	MP	0.73
VII	ORG	0.73
VIII	PM	0.80
IX	R&D	0.90
X	RL	0.70
XI	STG	0.75
XI	TC	0.85
	Y	0.71

The Fornell-Lacker analysis obtained a correlation value between constructs that was smaller than the construct value, as shown in Table 6.

Table 6 : Fornell-Lacker Criterion

	BD	FN	HR	INN	MK	MP	ORG	PM	R&D	RL	STG	TC	Y
BD	0.82												
FN	0.47	0.88											
HR	0.36	0.44	0.93										
INN	0.53	0.69	0.32	0.91									
MK	0.53	0.59	0.42	0.57	0.91								
MP	0.60	0.69	0.41	0.71	0.67	0.85							
ORG	0.52	0.80	0.40	0.83	0.57	0.79	0.85						
PM	0.59	0.72	0.41	0.80	0.65	0.79	0.79	0.89					
R&D	0.41	0.69	0.36	0.72	0.66	0.70	0.76	0.73	0.95				

RL	0.48	0.66	0.30	0.71	0.59	0.69	0.76	0.78	0.68	0.83			
STG	0.59	0.73	0.47	0.72	0.79	0.84	0.77	0.75	0.74	0.76	0.86		
TC	0.43	0.77	0.50	0.66	0.53	0.70	0.75	0.63	0.62	0.66	0.70	0.92	
Y	0.56	0.63	0.46	0.61	0.68	0.70	0.67	0.73	0.71	0.66	0.69	0.55	0.84

By taking the weight factor value ≥ 0.90, the selected factors and sub-factors are stated as critical factors and sub-factors as shown in Table 6.

Table 6 : Critical Factor and Sub factor

	Original sample (O)	T statistics	P values
TC1 <- TC	0.95	93.00	0.00
TC2 <- TC	0.95	62.71	0.00
R&D2 <- R&D	0.95	133.98	0.00
R&D1 <- R&D	0.95	108.11	0.00
HR1 <- HR	0.94	69.21	0.00
HR2 <- HR	0.92	38.63	0.00
PM5 <- PM	0.93	88.63	0.00
PM4 <- PM	0.92	71.28	0.00
PM1 <- PM	0.91	51.30	0.00
INN2 <- INN	0.93	74.47	0.00
INN1 <- INN	0.93	55.35	0.00
MK1 <- MK	0.93	76.73	0.00
MK2 <- MK	0.92	54.63	0.00
FN2 <- FN	0.92	63.75	0.00
ORG2 <- ORG	0.92	67.00	0.00
ORG4 <- ORG	0.91	64.12	0.00
MP2 <- MP	0.91	61.04	0.00
STG3 <- STG	0.91	62.88	0.00

DISCUSION

The SPSS analysis results show Validity = 214, indicating that all respondents completed the data completely and were suitable for further analysis. The Cronbach's Alpha value indicates excellent internal consistency. This value substantially exceeds the generally accepted threshold of 0.70, confirming that the measurement

instrument is highly reliable and suitable for empirical analysis. This very high Cronbach's Alpha value further indicates that the questionnaire items are strongly correlated and consistently measure the underlying constructs related to internal competitiveness factors. Consequently, the SPSS analysis results confirm that the collected data meets the required quality standards and is suitable for further analysis.

The Outer Loading value illustrates the indicator's strength in representing the construct. A very strong value is >0.90, a very good value is >0.80, and a good value is >0.70. The analysis results show that the outer loading value is above 0.70, with some variables even having outer loading values above 0.90, indicating very high reliability of the indicator in reflecting its construct.

The p-value indicates no effect or significant results. A p-value <0.01 is highly significant, a p-value <0.05 is significant, and a p-value >0.05 is insignificant. The results of this study indicate a p-value of 0.00, indicating highly significant results.

The t-statistic indicates evidence of a significant effect. This is indicated by a t-value >1.96, significant for α=5%, a t-value >2.58, significant for α=1%, and a t-value <1.96, insignificant. In this study, t-value >2.58 is significant for α=1%.

The AVE value indicates the indicator's representativeness for the measured variable. An AVE ≥0.50 indicates a valid indicator, while an AVE <0.50 indicates an invalid indicator. In this study, an AVE value >0.50 indicates a valid indicator.

The Fornell-Lacker criterion describes a variable that explains itself more strongly than other variables. Fornell-lacker (√AVE) > correlation between other constructs, indicating the construct has discriminant validity. Fornell-lacker < correlation between other constructs, indicating the construct lacks discriminant validity or the variables are too similar. In this study, the Fornell-lacker value > correlation between constructs indicates the construct has discriminant validity.

From the outer loading values, several variables have values >0.90. This value is categorized as very strong because it approaches +1. In this study, variables with values >0.90 have a very strong influence and are crucial for determining success or failure, particularly in terms of competitiveness. Therefore, this factor is considered a critical factor.

Research on the theme of competitiveness of construction consulting companies is very limited, both in Indonesia and in Southeast Asia and in the world so that researchers cannot make comparisons for this research.

CONCLUSION

The results of the Smart PLS analysis obtained 10 (ten) critical internal factors of the consulting company and 18 (eighteen) internal sub-factors: 1. Technology, Technology, 1.1 information system, 1.2. specialized IT, 2.R&D, 2.1. scientific findings, 2.2. pattent, 3. Human Resource, 3.1 Skill, 3.2 knowledge 4. Project Management, 4.1. management health & safety, 4.2. Management environment, 4.3. Risk management), 5. Innovation 5.1. Product innovation, 5.2. Technology innovation, 6. Marketing, 6.1. promotion, 6.2. market knowledge, 7. financial, 7.1 Financial stability, 8. Organization, 8.1. Culture, 8.2. Company grade, 9. Management Process, 9.1. System & procedure) 10. Strategy, 10.1. strategy focus.

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Conflict Of Interest

The authors declare that there is no conflict of interest regarding this article

Author Contribution

The contribution of each author is as follows: the first and second authors wrote the scientific article and collected data, the third and fourth authors provided guidance and direction.

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