Optimization Strategy for Winning Construction Management Consultant Services Tenders in Indonesia: Delphi and SWOT Studies

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ABSTRACT

This study aims to formulate an optimization strategy for winning tenders for construction management consulting services in Indonesia based on the results of Delphi and SWOT analyses. The Delphi method is used to obtain consensus from experts on factors that influence tender winning, while the SWOT analysis helps group these factors into categories of strengths, weaknesses, opportunities, and threats. The results show that the company's main strengths are project experience, quality of human resources, and financial stability. The main weaknesses include inefficient administrative management and incomplete documents. The greatest opportunities arise from national infrastructure projects and partnerships with foreign companies, while the greatest threats are increasingly fierce competition and complex changes in tender regulations. Based on these results, the recommended optimization strategy involves improving project management, utilizing technology, and strengthening relationships with project owners. This study provides strategic guidance that can help consulting firms improve their competitiveness in the tender process.

Keywords: optimization strategy; tender winning; construction management consultant; Delphi analysis; SWOT.

INTRODUCTION

The construction industry in Indonesia continues to experience rapid growth, driven mainly by various large-scale infrastructure projects launched by the government through the National Strategic Project (PSN) program. These projects involve the construction of toll roads, bridges, airports, ports, and other public infrastructure. As the number of these projects increases, the need for competent construction management consultant services also increases. Construction management consultants play an important role in the planning, management, and supervision of projects, which directly impact the efficiency and success of the project.

In the process of procuring consulting services, tendering is the main mechanism for determining the most suitable company to manage a particular project. The tendering process in Indonesia is regulated by strict regulations to ensure transparency, healthy competition, and accountability. However, even though these mechanisms are designed to be fair and open, many consulting firms face challenges in winning tenders. The factors that influence tender winning are often complex and varied, including technical capabilities, work experience, financial management, as well as external factors [1], such as regulations and intense competition from foreign companies.

Various studies have attempted to identify the determinants of tender winning, but few have integrated a comprehensive approach to analyze these factors in depth. The Delphi approach is one effective method to reach consensus among experts on the factors that influence success in the tender process [2]-[5]. In addition, SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis can provide a framework for grouping these factors into relevant elements, both in terms of internal strengths and weaknesses and external opportunities and threats.

In this study, the Delphi method was used to identify and gain consensus from experts regarding the factors that support and hinder the winning of construction management consulting services tenders in Indonesia. The results of the Delphi method were then analyzed using a SWOT analysis to group

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these factors into strengths, weaknesses, opportunities, and threats. This study aims to provide a more systematic and strategic view of how consulting firms can maximize their chances of winning tenders, as well as overcome obstacles that may be encountered during the selection process.

With increasing competition, especially from foreign companies that have superior resources and technology, local consulting firms need to formulate more adaptive and innovative strategies to remain competitive. The tender process does not only depend on technical capabilities, but also on how the company is able to take advantage of external opportunities, such as government policies and new infrastructure projects, and overcome regulatory and competitive threats. Therefore, this study is expected to provide comprehensive and practical insights for consulting firms in formulating more optimal tender winning strategies.

Increasing competition in the construction sector forces construction management consulting firms to continuously improve the quality of their services. Competence in project management, mastery of technology, and the ability to meet technical specifications are some of the main indicators of success in the tender process [6]. In addition, other aspects such as financial health, company liquidity, and relationships with project owners are also determining factors in winning the tender [7], [8].

Figure 1 shows that large-scale infrastructure projects in Indonesia included in the National Strategic Projects (PSN) have continued to increase since 2015. This has a direct impact on the increasing need for competent and reliable construction management consultant services. Based on data from the US Bureau of Labor Statistics and Timetric's Construction Intelligence Center, the construction sector is one of the fastest growing sectors in the world [9].

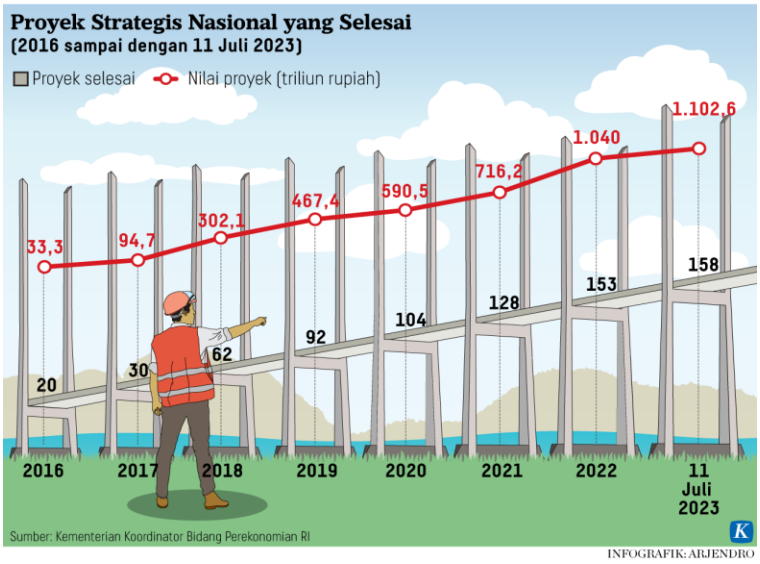

Figure 1. Construction Project Growth Graph in Indonesia (2016-2023). Source: Coordinating Ministry for Economic Affairs, 2023

The role of construction management consulting firms is vital in ensuring project success, especially amidst the complexities and challenges faced by the construction sector today. However, although the project tender process is considered a fair and open method for selecting quality service providers, the reality shows that there are a number of factors that influence tender winning. This study attempts to identify and analyze the supporting and inhibiting factors that influence the success of consulting firms in winning construction management tenders in Indonesia.

The tendering process in the construction industry is highly competitive, and consulting firms must be able to manage various challenges both from within the company and from the external environment. Internal factors, such as project management and human resource capabilities, are

often the determining factors for success or failure in tendering [10]-[12]. On the other hand, external opportunities such as new infrastructure projects provide opportunities for companies to grow, but threats such as intense competition and strict regulations remain significant obstacles [13].

The tender process is often seen as a fair and transparent means of selecting the most competent contractor. However, many companies still fail to win tenders despite having competitive bids [14]. This is due to various factors that support or hinder their success [15]. These factors include technical, administrative, financial aspects, as well as interpersonal relationships with project owners.

Table 1 and Table 2 show the most influential factors in the tender winning process based on previous research. Factors such as technical capability, project management, and company liquidity are the dominant factors that support success. Meanwhile, administrative problems such as incomplete tender documents and non-compliance with tender requirements are the main obstacles.

Table 1. Supporting Factors for Winning Tenders

No	Factors that support winning tenders for construction management consulting services in Indonesia
1	Factors for developing human potential and resources, factors for optimally utilizing technological mastery
2	Implementation schedule factors, technical specifications, personnel, and equipment/tools
3	Cost factors, management economics, labor, and materials
4	Have an Occupational Health and Safety Management (K3) Certificate/OHSAS Certificate
5	Similar jobs
6	Company/Contractor/Consultant work experience
7	Work result control program
8	Relationship/closeness with project owner
9	Working drawing control procedures
10	Technology level
11	Company liquidity
12	Expert certificate
13	Availability, level of education and experience of field project personnel/staff
14	Maintenance services
15	Bank references/bank support
16	Material selection process
17	Availability, level of education and design personnel
18	Subcontracted work
19	Supervision/monitoring
20	Administrative Requirements for Construction Work Providers
21	Response to Inspection
22	Work implementation
23	Maintenance Period Responsibility Commitment
24	Technical Completeness of Construction Work Providers
25	Completeness and conformity of the substantial requirements requested in the auction documents
26	Completeness, availability and quantity of various types of tools/equipment/construction equipment
27	Validity and completeness of the offer letter
28	Validity of business permits required in procurement documents
29	The contractor's offer is the lowest price and in detail is a competitive price.
30	Obligations to fulfill taxation
31	The company is not under court supervision and is not blacklisted.
32	The contractor is willing to follow and respond quickly to requests, instructions and orders from the project owner for improvements/changes to the construction design.
33	Authenticity, conformity and validity of the tender guarantee letter

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No	Factors that support winning tenders for construction management consulting services in Indonesia
34	Methods and strategies for implementing work and the control used
35	The contractor completes the work according to the quality required in the specifications according to the contract price.
36	The implementation method is linked to the implementation time schedule.
37	The amount of capital owned by the service provider
38	Frequency of failure to fulfill contracts on time
39	Participation with construction service provider associations
40	Speed of execution of work that has been carried out without reducing the quality of work
41	Mention the brand of goods offered and the brochure for the work item in the offer letter.

Source: Analysis Results, 2024

Table 2. Factors Inhibiting Tender Winning

No	Factors that hinder winning tenders for construction management consulting services in Indonesia
1	Signature of offer letter is invalid
2	The proposed implementation period exceeds the period specified in the Tender Document.
3	The validity period of the offer letter exceeds the time specified in the selection document.
4	There is no date on the offer letter
5	Not providing Details of Offer Price (Quantity and Price List)
6	The Bid Guarantee Letter is not issued by a General Bank, guarantee company or insurance company that has a loss insurance program (suretyship) as determined by the Minister of Finance.
7	The date of the bid guarantee does not correspond to the last date for submission of bids and its validity period is less than the time specified in the Selection Document.
8	From the budget side, to realize the expansion of BRT Trans Jateng services, it must obtain subsidies from the central government. If it purely uses the Salatiga City Budget, it is very unlikely.
9	The value of the Bid Guarantee is less than the guarantee value stipulated in the Selection Document.
10	The value of the Bid Guarantee is not stated in numbers and letters.
11	The guaranteed work package is not the same as the work package that was tendered.
12	Bid guarantees in the name of partnership companies (Joint Operations/KSO) are invalid
13	Does not have/expired Construction Services Business License (IUJK)
14	Does not have/expired business entity certificate (SBU)
15	Trade Business License (SIUP) does not match the offer documents
16	Do not have/attach original NPWP
17	There is no proof of payment of Annual Tax
18	There is no evidence of PPH/PPN tax report
19	Not attaching/complying with the Deed of Establishment
20	Not attaching/complying with the Deed of Amendment (if there are any changes)
21	There is no/no Statement Letter stating that the Company has Good Performance and is not included in the Blacklist of Partners
22	There is no/no Statement Letter stating that the company is not under court supervision, is not bankrupt, its activities are not being suspended, and is not currently serving a criminal sanction.
23	There is no/no Integrity Pact
24	There is no/no experience of construction work in the last 4 (four) years, either in government or private sector, including subcontracting experience.
25	Not Attaching Remaining Package Capacity (SKP) and Remaining Real Capacity (SKN)
26	Does not meet classification/sub-classification requirements

No	Factors that hinder winning tenders for construction management consulting services in Indonesia
27	Not attaching the Basic Competency form
28	Does not provide proof of equipment ownership for equipment with self-owned status or proof of lease purchase payments for equipment with lease purchase status along with proof of ownership/control of the equipment from the lessor.
29	Not fulfilling the resume list along with a list of work experience or work references from service users
30	Not attaching the Construction Safety Plan (RKK)
31	The implementation method submitted does not describe the mastery in carrying out the work, does not comply with the tender documents, and does not include the implementation method.
32	Time schedule does not match work method and implementation schedule
33	Technical specifications do not comply with the provisions of the selection documents
34	The type, capacity, composition and quantity of equipment do not match the procurement documents.
35	Personnel commitment letter not attached and not appropriate
36	No Reference Letter/Contract supporting work experience
37	Personnel provisions do not meet educational level requirements
38	Original personnel diplomas cannot be shown
39	Not attaching/fulfilling the competency certificate
40	Personnel NPWP is not attached
41	Unreasonable offer price
42	Offer price is less competitive than other participants
43	The total corrected bid price exceeds the total HPS value and ceiling value.
44	The unit price analysis of the work does not show the unit requirements for labor, materials and tools.
45	Arithmetic corrections include errors in adding and multiplying volumes by unit prices.
46	Remaining project capabilities are not appropriate
47	Lack of supplier support
48	Implementation method is less than required
49	Error in price survey
50	Inexperienced estimator
51	Errors in predicting price fluctuations
52	Lack of bank support
53	Failed to upload bid document
54	Administrative evaluation Incomplete required documents
55	Incomplete Quality Management
56	Technical specifications are less than required
57	Project team personnel qualifications are not appropriate
58	Minimum equipment required is lacking
59	There are many arithmetic corrections
60	Arithmetic error in HPS
61	Incomplete Budget Plan
62	Proof of qualifications the prospective winner was not present
63	The prospective winner is not ready with proof of qualifications.
64	Absence of stamp on requirements

Source: Analysis Results, 2024

Formulation of the problem

The tender process for construction management consulting services in Indonesia is highly competitive and influenced by various internal and external factors. However, there is no structured approach to identify and analyze the key factors that support and hinder tender winning. In this study, the Delphi method was used to obtain consensus from experts on the factors that influence

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the success and failure of consulting firms in winning tenders. The results of the Delphi method were then analyzed using the SWOT (Strengths, Weaknesses, Opportunities, Threats) approach to group these factors into strengths, weaknesses, opportunities, and threats faced by the company.

Based on this background, the problem formulation in this study is:

1. What are the supporting factors (strengths) and inhibiting factors (weaknesses) that influence the winning of tenders for construction management consulting services in Indonesia?
2. How can external opportunities and threats that affect a company's success in the tender process be identified?
3. What strategies can companies optimize to increase the chances of winning the tender based on Delphi and SWOT analysis?

Research purposes

This research aims to:

1. Identifying the internal strengths and weaknesses of construction management consulting firms in the tender process in Indonesia.
2. Evaluate external opportunities and threats that affect the chances of winning the tender.
3. Formulate optimization strategies based on the results of Delphi and SWOT analysis to increase the company's competitiveness in winning tenders.

Benefits of research

This research is expected to provide benefits both theoretically and practically, as follows:

Theoretical Benefits:

This study contributes to the development of literature related to the analysis of factors that influence tender winning in the construction management consulting industry, especially through the use of a combination of the Delphi method and SWOT analysis. The results of this study are expected to enrich the understanding of how internal and external factors play a role in the tender selection process, as well as how the SWOT analysis approach can be applied to identify strengths, weaknesses, opportunities, and threats in the context of the construction industry.

Practical Benefits:

1. For construction management consulting firms, this study provides strategic guidance that can help companies identify and leverage strengths and opportunities, while addressing weaknesses and anticipating threats in the tender process. Strategies resulting from the SWOT analysis can help companies improve their competitiveness in tender competition in the construction sector.
2. For governments and project owners, this research can provide insights into factors to consider when assessing tender bids, as well as how the tender process can be improved to ensure that selected service providers have adequate capacity and competence.

Benefits for Further Researchers: This research can be the basis for further research related to the development of tender evaluation methods, and can be applied to other sectors outside construction for similar analysis.

Research Limitations

This study has several limitations that need to be considered, including:

Sample Limitation:

The sample in this study only includes 134 respondents consisting of construction management consultants, contractors, and government officials involved in the tender process. Although purposive sampling was used to select relevant respondents, the results of this study may not fully represent all construction industry players in Indonesia, especially outside the large projects involved in this study.

Limitations of Delphi Methodology:

The Delphi method used in this study involved several rounds of questionnaires to obtain consensus from experts. However, the consensus results obtained can still be influenced by individual bias, especially if respondents have very different experiences. In addition, Delphi results can be limited to dominant opinions among respondents, and not all alternative views can be well represented.

Limitations of Generalization:

The findings of this study, particularly those related to the strengths, weaknesses, opportunities, and threats in the tendering process, may be more relevant to consulting firms involved in large-scale infrastructure projects. Generalization of the results to smaller construction sectors or local projects may require further research with adjustments to different contexts and dynamics.

Time Limitations and Policy Changes:

This research was conducted within a specific time frame that may not account for changes in policy or regulations that occur after the research was completed. Given that tender regulations and government policies are subject to change, the strategies resulting from this research may need to be adjusted if significant changes in tender rules or policies occur in the future.

Project Management in Tender Process

One of the key factors influencing success in the tender process is project management capability [16]. This capability includes good planning, effective resource management, and tight control over project costs and completion time [17]. According to [18], companies with experienced project managers are better able to meet the specific needs of the tendered project and are more likely to win the contract.

The use of technology in project management is also one of the strengths of consulting firms. Advanced technology and innovation can increase efficiency and productivity, which ultimately provides added value in the tender assessment process [19].

Competition and Threats in the Tender Process

The increasingly tight competition in the Indonesian construction industry is one of the threats faced by consulting firms. The entry of foreign companies into the domestic market has increased the level of competition, where local companies often have difficulty competing in terms of price and resources [20]. In addition, frequent changes in regulations also pose a threat to companies, especially when the regulations tighten the requirements in the tender process [21].

In a study by [22], it was found that a lack of understanding of regulations can be a major barrier for companies in winning tenders, especially in terms of compliance with administrative and technical requirements. Therefore, it is important for consulting firms to continue to monitor and understand applicable regulations in order to compete effectively.

Strategy to Win Tenders

Based on the findings of the SWOT analysis, an effective strategy to win the tender involves strengthening the company's internal strengths, such as project management and HR quality, as well as utilizing existing opportunities. Meanwhile, weaknesses such as inefficient administrative management need to be improved, and threats from competition and regulation must be addressed with more adaptive and innovative strategies [23].

[24] also emphasized the importance of implementing e-tendering to increase transparency and efficiency in the tender process. E-tendering not only helps reduce administrative errors but also allows companies to compete more fairly in the selection process.

In an effort to win the tender, consulting firms need to understand and overcome the various challenges that arise from these factors. Therefore, this study is designed to specifically identify the most influential factors in winning the tender for construction management consulting services in Indonesia. Thus, companies can design more effective strategies to face competition.

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RESEARCH METHODS

This study used a mixed method between Delphi and SWOT. The Delphi method involved two rounds of questionnaires to identify supporting and inhibiting factors that affect tender winning. In the first round, experts were asked to identify key factors, and in the second round, experts rated the importance of these factors using a Likert scale. After the Delphi results were analyzed, the identified factors were integrated into the SWOT analysis to produce a more focused optimization strategy.

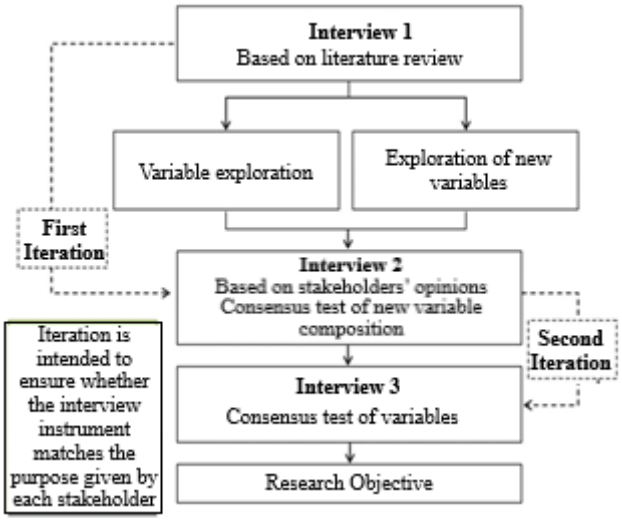

Figure 2. Flow Pattern in Delphi Analysis Source: budiwicaksono.wordpress.com

Steps in a SWOT analysis include:

1. The assessment of internal and external factors is done by giving weights based on their influence on the strategic position of the organization. The total weight in each environment is equal to 1, using a scale of 1.0 (very important) to 0.0 (not important).
2. Rating assessment is done based on the influence of strategic factors, using a scale of 4 (very important) to 1 (not important). In IFAS, strengths are rated positively, while weaknesses are rated negatively. In EFAS, opportunities are rated positively, while threats are rated negatively.

Figure 2. SWOT Analysis Diagram Source: Marimin, 2004

Research Design

This research is descriptive and explorative, where the results of the analysis are based on data collection from experts in the field of construction management through the Delphi method. The Delphi approach was chosen because it can provide comprehensive insights from practitioners who are experienced in the tender process. After obtaining the results from Delphi, the identified factors were analyzed using SWOT analysis to develop a tender winning strategy.

Population and Sample

The population of this study were experts who were experienced in the field of construction management and who had been involved in various tender processes. The sample was selected by purposive sampling, which means that respondents were selected based on their experience in participating in or evaluating tender processes. A total of 134 respondents participated in this study, including practitioners from consulting firms, contractors, and government officials involved in the procurement of large projects. Figures 3, 4, and 5 show the characteristics of respondents who participated in this study.

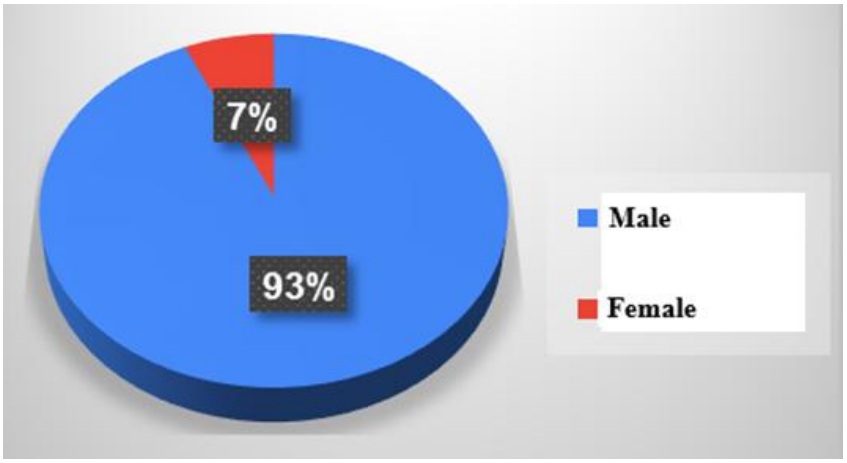

Figure 3. Respondent characteristics diagram based on gender Source: Analysis Results, 2024

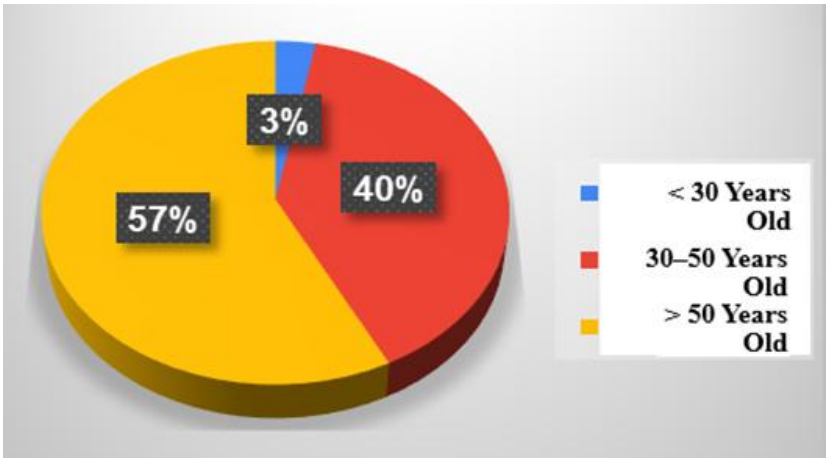

Figure 4. Diagram of respondent characteristics based on age Source: Analysis Results, 2024

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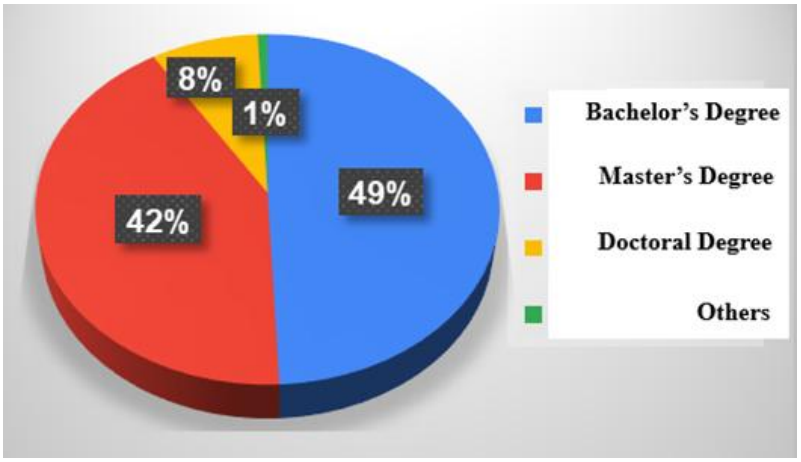

Figure 5. Diagram of respondent characteristics based on education level Source: Analysis Results, 2024

The respondents of this study came from various professional backgrounds, with the majority being 70 construction management consultants. The second largest professional group was contractors with 22 respondents, followed by 10 lecturers. Assessors and retired ASN each numbered 5 people, while freelancers and PNS each numbered 3 people. Other professions, such as engineering, the PUPR ministry, and experts, were also represented by several respondents. This diversity provides a comprehensive view of the issues studied.

Table 3. Respondent characteristics based on occupation

Work	Percentage (%)	Number of people)
Assessor	3.73	5
DBMPR West Java	0.75	1
Developer	0.75	1
Lecturer	7.46	10
Engineering	1.49	2
Executive Advisor	0.75	1
Freelance	2.24	3
Private sector employee	0.75	1
Ministry of Transportation	0.75	1
Ministry of PUPR	1.49	2
MK Consultant	52.24	70
Contractor	16.42	22
Masters Student	1.49	2
Jakarta Provincial Government	0.75	1
Retired ASN	3.73	5
civil servant	2.24	3
Quantity Surveyor	0.75	1
Experts	1.49	2
Businessman	0.75	1
Total	100	134

Source: Analysis Results, 2024

Research Instruments

The research instruments used in this study consisted of a Delphi questionnaire and in-depth interviews. The Delphi questionnaire was designed for two rounds:

First Round Questionnaire**:**

This instrument is open-ended, where respondents are asked to identify supporting factors (strengths) and inhibiting factors (weaknesses) in winning tenders, as well as the external opportunities and threats they face.

Second Round Questionnaire**:**

This instrument is closed-ended, with a list of factors that have been identified from the first round. Respondents are asked to rate these factors using a Likert scale of 1-5, where 1 means "strongly disagree" and 5 means "strongly agree." The results of this questionnaire are used to obtain consensus among experts.

In addition to the questionnaire, in-depth interviews were used to gain further insights into factors that may not have been revealed in the questionnaire, with an in-depth interview guide on relevant SWOT factors.

Data Collection Procedure

The data collection procedure was carried out in two stages using the Delphi approach:

Stage 1 - First Round Questionnaire Data Collection:

An open-ended questionnaire was distributed to participating experts. In this stage, respondents were asked to identify and explain factors that they believe influence the tender process, both from an internal and external perspective.

Stage 2 - Second Round Questionnaire Data Collection:

After the results of the first round were analyzed, the identified factors were compiled into a closed questionnaire. This questionnaire was then distributed back to the respondents, and they were asked to rate the importance of each previously identified factor.

In-depth Interviews:

Several respondents selected based on their experience and role in the construction management industry were invited for in-depth interviews to gain a more detailed understanding of the factors identified.

Data analysis

Data from the Delphi questionnaire were analyzed using descriptive statistical techniques and SWOT analysis:

Descriptive Statistics:

Data collected from the questionnaires were analyzed to calculate the mean, median, and standard deviation of respondents' assessments of the identified factors. The Interquartile Range (IQR) was used to measure the level of consensus among respondents, with a low IQR indicating strong consensus and a high IQR indicating variation in opinion.

SWOT Analysis:

Once consensus is reached, internal factors are grouped into Strengths and Weaknesses, while external factors are grouped into Opportunities and Threats. These factors are then weighted and rated using a Likert scale, where each factor is given a weight between 0.0 and 1.0 to assess its importance, and a rating between 1-4 to assess its impact on the company's strategic position.

Validity and Reliability

Validity:

Validity in this study was tested through data triangulation, namely by comparing the results of the questionnaire with in-depth interviews. Triangulation ensures that the data obtained from the questionnaire is in accordance with the reality in the field, so that the results of the study can be said to be valid and relevant in the context of the construction management industry in Indonesia. In

addition, the contents of the questionnaire were also validated by several experienced experts to ensure that the factors surveyed were in accordance with the research objectives.

Reliability:

The reliability of the instrument is tested using Cronbach's Alpha, where an alpha value above 0.70 is considered adequate to indicate the internal consistency of the questionnaire. This reliability test is carried out to ensure that each question in the questionnaire provides consistent results when used under the same conditions. If the Cronbach's Alpha value is less than 0.70, then some items in the questionnaire may need to be revised or removed to increase its reliability.

RESULTS AND DISCUSSION

Based on the results of the first and second rounds of the Delphi questionnaire analysis, there are various factors identified as supporters and inhibitors in the process of winning the tender for construction management consulting services in Indonesia. In the first round, 58 supporting factors and 47 inhibiting factors were identified from the respondents, which were then confirmed through the second-round questionnaire.

Table 4. Factors supporting the winning of construction management consultant service tenders based on respondent assessments

No	Factors thatsupport the winning of tenders for construction management consulting services in Indonesia	Source
1	Optimal use of experts and supported by independent companies that are in accordance with their field of expertise is required by construction management consulting companies.	Panel 2
2	References from previous service users	Panel 7, Panel 39
3	The use of pokir funds and close relationships with project owners makes it possible to influence technical evaluation scores with the Working Group.	Panel 9
4	Conducting a thorough check before submitting a bid is essential to avoid typos that could have fatal consequences.	Panel 13, Panel 121
5	Reputation of consulting firm	Panel 16
6	Consultant's real cost capabilities	Panel 17
7	Financial capabilities, human resources and equipment	Panel 19
8	Joint Operations (KSO) Experience	Panel 23
9	Connections and interests	Panel 25
10	Company Achievements and Background	Panel 27
11	Prices, working methods, personnel qualifications	Panel 28
12	Compliance with the qualifications of the business entity required in the auction documents	Panel 29
13	Good track record factor	Panel 30, Panel 111
14	Experience of the expert, information about the work shifts of the contractor to be supervised, possibility of exceeding the contract period due to slow contractor work, integrity risks	Panel 33
15	Have strong capital without expecting a down payment	Panel 34
16	Winning factors for construction management consulting services tenders include experience and reputation, team qualifications, strong technical proposals, competitive pricing, work methodology, technological capabilities, financial conditions, regulatory compliance, resource capacity, effective communication, innovation, and client satisfaction.	Panel 35
17	Technical specifications of personnel and TKDN (Domestic Component Level)	Panel 36

No	Factors thatsupport the winning of tenders for construction management consulting services in Indonesia	Source
18	1. Qualifications of Project Manager and Personnel candidates 2. Availability of resources (labor, tools & materials) 3. Working capital (construction costs)	Panel 37, Panel 97, Panel 110, Panel 118
19	Price below HPS (Estimated Price)	Panel 38
20	Appropriate personnel, appropriate bid costs, complete administrative and technical documents.	Panel 40
21	The completeness of the data shared can be verified for authenticity	Panel 42
22	Professional, Honesty and Carefulness	Panel 43, Panel 81, Panel 128
23	Expert requirements according to auction requirements	Panel 48
24	Have experience in the same job, value beyond that offered and reliable workers	Panel 53
25	Suitability of manpower and cost of offer	Panel 54
26	Have competence	Panel 55
27	Working methods, tool support and material support	Panel 57
28	Tenders must be open to the public	Panel 59
29	Experience, technical expertise, quality, RAB (Cost Budget Plan), Risk Management, Advanced (more sophisticated and advanced techniques, tools, or methods used to increase project efficiency and effectiveness), relationships, SDA (Natural Resources) capabilities, finance.	Panel 61
30	Human resource readiness	Panel 65
31	Adding supporting data related to the location of the activity to be handled which is relevant to the technical work and also adding work innovations to improve the quality of work.	Panel 66
32	The company has more experience than required, the personnel experience is more than required by the committee	Panel 67
33	The attitude and ethos of the participants who took part in the tender demonstrated high levels of proactivity and integrity in their interactions.	Panel 68
34	TA (Expert Staff) personnel must have a SKIP (Practice Permit Certificate) and STRI (Indonesian Registration Certificate)	Panel 69
35	IT technology and equipment	Panel 71
36	Implementation factors for field conditions	Panel 75
37	Price quotation, key personnel, company documents	Panel 77
38	Professional work experience, has skilled and certified experts	Panel 82
39	Bargaining and negotiation power	Panel 83
40	Project evaluation methods using Microsoft Project	Panel 84
41	Administrative completeness, company qualifications and supported by technical documents that meet the tender document requirements	Panel 86
42	Apart from those stipulated in the pre-qualification documents and selection documents, no other requirements may be added outside of the pre-qualification documents and selection documents.	Panel 87
43	Willingness to open opportunities to other companies	Panel 88
44	Transparency of information that can be followed by prospective tender participants	Panel 90
45	Smooth fee commitment	Panel 91
46	1. Do proper planning. 2. Promote benefits. 3. Make positive contributions. 4. Prove excellence. 5. Respond directly. 6. Form a superior team. 7. Consider competitive prices. 8. Ensure perfection by correcting the offer before sending it. 9. Send the offer directly via e-mail or the Internet. 10. Ensure the offer is sent on time.	Panel 96

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No	Factors thatsupport the winning of tenders for construction management consulting services in Indonesia	Source
47	Good and quality design results are one of the factors that support tender winning.	Panel 98
48	The ability factor to maintain good relations with local residents or communities, village or sub-district officials, and official security forces.	Panel 99
49	Capacity values should reflect a balance between company and personnel experience.	Panel 101
50	Transparency in the tender process is sometimes not achieved because the project owner is not fair in its implementation.	Panel 102
51	Ability to explain work implementation plans	Panel 109
52	Requires clarification from the working group and a stamped statement of willingness to act as an expert in the project.	Panel 114
53	Ability to analyze projects	Panel 124
54	The technical proposal should be an important assessment besides the suitability of the competing personnel.	Panel 125
55	The placement of experts offered is adjusted to the level of need and type of project.	Panel 126
56	Expert competence, experience, administrative completeness	Panel 130
57	The previous relationship between the assignor and the assignee and the integrity and trust factors of the owner with the assignee	Panel 131
58	Using the e-purchasing method	Panel 133

Source: Analysis Results, 2024

Table 5. Factors that hinder winning the tender for construction management consulting services based on respondents' assessments

No	Factors thathampering the winning of tenders for construction management consulting services in Indonesia	Source
1	Lack of assistance from independent consultants assigned to strengthen the position of Construction Management consultants.	Panel 2
2	Problems with delays and costs	Panel 3
3	Natural factors and extreme weather conditions	Panel 5
4	The lack of close relationships with project owners and Working Groups (Pokja) contributed to adverse technical assessments and fault finding that led to disqualification in the pre-qualification stage, thus preventing the opportunity to proceed to the bidding stage.	Panel 9
5	Lack of thoroughness in reviewing documents	Panel 13
6	Short time	Panel 17
7	Proving that the power used is not the power drawn	Panel 19
8	The existence of an emergency situation such as in 2019, namely the Covid-19 outbreak or a natural disaster which resulted in the budget allocation provided by the budget user changing or there being a budget refocusing.	Panel 20
9	Not proficient in communication	Panel 22, Panel 99
10	Lack of personnel availability	Panel 23
11	Tender arranged	Panel 26
12	No discipline in Construction Administration rules	Panel 27
13	1. Bad track record 2. Lack of socializing and coordinating with project owners	Panel 30

No	Factors thathampering the winning of tenders for construction management consulting services in Indonesia	Source
14	Factors inhibiting tender winning include poor reputation, lack of experience, weak technical proposals, uncompetitive pricing, limited resources, outdated work methods, lack of team certification, weak finances, regulatory non-compliance, poor communication, minimal innovation, and low client satisfaction.	Panel 33, Panel 35
15	1. Acceptability, 2. Accountability, 3. Liquidity4. Capability	Panel 37
16	No replacement personnel, price exceeds HPS	Panel 38, Panel 77
17	The stigma that foreign consultants are better	Panel 39
18	If the administrative, technical and cost documents are incomplete and do not match	Panel 40
19	Non-neutrality of the auction committee	Panel 41
20	Tender Winner does not comply with current Government provisions	Panel 46
21	The existence of Corruption, Collusion and Nepotism (KKN)	Panel 34, Panel 50, Panel 58, Panel 71, Panel 82, Panel 110
22	Unable to present expert staff during clarification	Panel 52
23	No experience, unprofessional, incompetent, minimal relations, communication, regulation, ManRisk, high/low RAB, and inadequate proposals	Panel 47, Panel 55, Panel 61, Panel 130
24	Lack of transparency, accuracy, expertise and objectivity in the tender winner assessment and selection process to ensure fair and optimal results.	Panel 49
25	The role of the media is less than optimal	Panel 59
26	Not showing original contract as company work experience	Panel 42, Panel 68
27	Internet network problems when uploading data	Panel 69
28	The work experience and work capacity of the MK consultant do not match the type and size of the project.	Panel 74
29	Dishonesty and personnel health	Panel 81, Panel 92
30	Does not show critical path in schedule	Panel 84
31	Lack of support from independent consultants to backup the optimal capabilities of Construction Management Consultants	Panel 85
32	Unwillingness to open opportunities to other companies	Panel 88
33	Consignment project	Panel 89
34	1. Expert factor 2. Company experience 3. Incomplete tender documents 4. Technical specifications are less than required 5. Qualifications of managerial personnel for the implementation of the work are not appropriate 6. The number of participants who passed the qualifications is less than 3 (three) 7. Qualifications of personnel and projects are not appropriate	Panel 12, Panel 48, Panel 77, Panel 90, Panel 96, Panel 115, Panel 125, Panel 131
35	The existence of SIMPAN data, especially projects under the auspices of PUPR	Panel 97
36	The design results do not match the RAB (Cost Budget Plan) offered	Panel 98
37	Land acquisition	Panel 100
38	Personnel control and quality of personal and corporate work experience	Panel 101
39	Unprepared explanation of work implementation, regarding readiness of funding, equipment, materials and labor	Panel 109
40	The absence of supporting factors for personnel who do not have the skills according to the auction data requests	Panel 111
41	IT (Information Technology) mastery of service providers and service users	Panel 113

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No	Factors thathampering the winning of tenders for construction management consulting services in Indonesia	Source
42	Experience of similar companies in the last 4 years, incomplete expert staff, work reference attachments and SKK (Work Competency Certificate) are not appropriate, Ustek methodology does not respond to KAK (Work Reference Framework), company experience in the location in the last 4 years	Panel 117, Panel 122
43	The value of the SKPTDN (Certificate of Expert and Non-Expert Provider) really needs to be assessed as a basis for winning	Panel 118
44	The company's condition does not match the documents submitted to the tender committee.	Panel 123
45	Using the flag of an incompetent company	Panel 124
46	The Expertise offered does not match the needs & experience for similar Projects	Panel 54, Panel 126
47	There are personnel who are already contracted to other companies/projects	Panel 127

Source: Analysis Results, 2024

Tables 4 and 5 show that several important factors that support tender winning include optimal use of experts, company reputation, work experience, and availability of human resources and technology (Panel 2; Panel 16; Panel 19; Panel 35). These factors are supported by the results of statistical tests that show an average value (mean) of 4.463 for the technology mastery factor, which is also one of the factors most agreed upon by experts in the second round of the Delphi survey.

On the other hand, the main inhibiting factors identified include incomplete documents, non-compliance with technical specifications, and delays in meeting administrative requirements (Panel 13; Panel 27; Panel 46). These factors are reflected in the low average scores in several aspects, such as the inconsistency between the bidding documents and the project specifications, which led to the failure of the tender.

The Delphi method was used to gain consensus among experts on factors that influence tender winning. In the first round, respondents identified supporting and inhibiting factors individually. Then, the results of the first round were used to create a closed questionnaire in the second round to gain clearer agreement on the importance of each factor.

After obtaining data from the Delphi method, the results were analyzed using a SWOT analysis, where the identified factors were organized into four main categories: strengths, weaknesses, opportunities, and threats. This analysis allows the consulting firm to understand how they can capitalize on existing strengths and opportunities, while addressing weaknesses and threats that may hinder their success in winning the tender.

Based on the research results using the Delphi method, the following is a SWOT Analysis of the Winning of the Construction Management Consultant Services Tender:

Strengths

Based on the supporting factors table, some of the main strengths that construction management consulting companies have are:

Availability of competent experts and appropriate certification (e.g., K3 and OHSAS Certificates). This strengthens the company's competitiveness in the construction sector, as experts and certification are important requirements in the tender process.

Experience in similar projects, which is an important indicator in determining success in the tender process (Panel 6).

Financial stability and banking supportstrong, which can ensure the company has sufficient capital to complete the project (Panel 11).

Company reputation and relationship with project owners, which can provide advantages in tender competition (Panel 8).

Mastery of technology, such as the use of sophisticated project management software and technological innovation in project implementation (Panel 10, Panel 35).

Weaknesses

The main weaknesses found in the table of inhibiting factors include:

Incomplete or inappropriate bidding documentswith the technical specifications requested in the tender. This often results in companies being disqualified at an early stage (Panel 5, Panel 40).

Lack of discipline in administrative managementand the company's inability to meet administrative requirements, such as non-compliance with tax rules or incomplete certification (Panel 27, Panel 41).

Limited human resources, especially if the personnel offered are not qualified for the project being tendered (Panel 23).

Dependence on external expertswhich are not always available when needed (Panel 7).

Opportunities

External opportunities that consulting firms can exploit include:

Increasing demand for construction consulting servicesalong with the growth of the National Strategic Projects (PSN) initiated by the Indonesian government (Panel 8).

Government support in the form of policies and regulations, such as infrastructure development programs and tenders for government projects (Panel 25).

New technologies that can improve project efficiencyand provide added value to tender offers (Panel 35).

Cooperation with international companiesor other local firms that have more advanced technology or resources, enabling the firm to compete at a higher level (Panel 32).

Threats

The main threats faced by consulting firms include:

Increasingly fierce competition from foreign companieswhich has better resources and technology (Panel 17).

Global economic uncertaintyand the risks arising from fluctuations in raw material prices and unstable economic conditions (Panel 51).

Changes to tender regulationswhich may result in difficulties in complying with applicable regulations (Panel 22, Panel 33).

Corruption, collusion and nepotism (KKN)in the tender process which can cause unfairness to companies that follow the procedures correctly (Panel 21).

CONCLUSION

This study formulates optimization strategies that can be implemented by construction management consulting firms in Indonesia to increase their chances of winning tenders. Project experience, human resource quality, and financial stability are the main strengths that must be utilized, while administrative management and completeness of documents must be improved. Opportunities from national infrastructure projects must be utilized with innovative strategies that utilize new technologies. Threats of competition and regulation can be overcome with adaptive and innovative strategies. The implementation of these strategies is expected to help companies improve their

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competitiveness and strengthen their position in the Indonesian construction market. Based on the results of this analysis, several optimization strategies are suggested, including: 1) improve Project Management: Ensure that all administrative documents are complete and in accordance with tender specifications, 2) utilization of Technology, 3) adopting the latest project management technologies, such as Building Information Modeling (BIM), to improve efficiency and competitiveness, 4) strengthening Relationships with Project Owners: Building trust with project owners through effective communication and timely project completion.

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