Analysis of Optimum Bid and Contractor's Effort in Obtaining Profit

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Abstract— The government in Bali Province, Indonesia offers a limited number of projects, even during 2018-2020 it has decreased by 32% annually. The limited number of projects makes contractors compete to submit low-value bids. That phenomenon raises a question of what the optimal construction bidding for contractors is. A bid could be defined as optimum when it provides both of winning opportunity and the expected profit. Optimum bid analysis was carried out using the Friedman method, where it was discovered that the optimum value of construction bidding is in the range of 1%-9% mark-up or bidding at 76.21%-82.25% of the owner's estimate. Based on a review of projects throughout 2021, only 19% of projects were won with an optimum value but the quality and quantity of the results remained good according to the agreed contract and was acceptable to the owner. The contractor needs to formulate efforts to maintain the targeted profit margin from the bid value that has been submitted. The factor analysis method is used to find the main factors that affect the profit margins expected by the contractor, where it is found that the Financial-Coordination Factor is the main factors that must be considered. The semi-structured interview method is also used to obtain the right implementation strategy in order to strengthen indicators related to Finance-Coordination factor, such as: smooth payment processing from the owner, good internal communication, safe environment, skilled workforce, proper site conditions, cooperation with suppliers, and good response from the community.

Keywords— Bid, Optimum, Effort, Factor, Contractor's Profit

I. INTRODUCTION

The procurement of goods and services which sourced from the state revenue budget or regional revenue budg-et is the procurement in government environment that aims to provide public goods and services. Most of the construction service providers are generally obtained through competitive bidding. The construction service provider in this case is the contractor. This competition has unwittingly become a basic problem in the construction industry. Moreover, the number of construction work packages that offered by the government has de-creased

significantly in recent years. This makes con-tractors compete to provide the best offer to win the project. A bid could be defined as optimum when the bid is able to provide probability to win the project and still provide profits [5]. The optimum condition of the bid can be determined by conducting an analysis to obtain a range of values mark-up which provides a winning probability but still provides the expected profit for the contractor. By knowing the optimum conditions of bid-ding, it may show how effective the bids submitted by contractors are in the Province of Bali. There are three methods of bidding strategy approach that can be used to calculate the

optimum bid value, namely the Friedman, Gates and Ackoff & Sasieni method. The selection of the method must be adjusted to the criteria of the bidder, if the contractor is in dire need of work so that the competition becomes quite tight then use the Friedman method. Whereas if the competitors do not really need the work or the market demand is high, the Gates method should be used [6]. With the tight competition between con-tractors in the current construction project tender, this research uses the Friedman Method. Bids that are in the optimum range indicate that these service providers are able to win at a reasonable profit. Meanwhile, if the bid is outside the optimum range, it means that the service provider made a bid that is too low to be able to win the project tender, so the profits obtained need to be questioned.

Profit is one of the main goals of a company to keep running its activities. In contrast with the general opin-ion from society, in reality this sector has difficulties to earn big profits. The results of a research, it is found that business profits in the construction sector are very small ranging from 2% - 4% [10], so to support that targeted profit, construction companies must spur higher produc-tion. The criteria for the success of a project can be measured from the internal efficiency achieved which are accuration of cost, time, and quality [1]. The reality is from the value of the bids that submitted by contractors, most of them are still able to account for the quantity and quality of work according to the time agreed with the job owner. This success was marked by the avoidance of contractors from being blacklisted and the sign Official Report of Handover by the Commitment Making Officer. By looking at the success of the contractor in completing the job well, it is necessary to further investigate the efforts of contractors in the Province of Bali to benefit from the value of the proposed bid. The efforts will be formed from the factors that affect profits the most and strategies to strengthen these factors. Therefore, the research is continued by analyzing the factors that influence the contractor's profit from the proposed bid. The dominant factor then becomes the contractor's effort to gain profit by also further researching the implementation strategy undertaken to strengthen these factors in order to main-tain the targeted profit margin.

In this research, the aim is to analyze how the opti-mum bidding value for contractors in Bali Province is, and then it can be seen how the realization of bids sub-mitted by contractors in order to win construction pro-jects. Based on the results of the research and the reality of the bid, the contractor's efforts are then formulated in obtaining profits from the value of the proposed bid. Through this research, it is expected that it may assist contractors to find out the optimum value that can be used as a reference in submitting bids in order to have a chance to win while still achieving a decent profit. The results of this study are expected to be used as a reference for success strategies for contractors in an effort to maintain the targeted profit margins from the bids that have been submitted. The study also describes the implementation strategies from contractors who have been able to run and maintain their construction companies until now, so that they are expected to be a motivation for contractors and prospective contractors who are just starting their careers. In addition, this research is also expected to be advice for stakeholders to evaluate their policies, especially related to the procurement of goods and services.

II. LITERATURE REVIEW

2.1. Bid

Bidding can be interpreted as direct costs added to a certain nominal value [5]. That particular nominal then called the mark-up. A bid can be said to be optimum when the bid price is able to provide an opportunity to win the project and still provide profits [1]. Bidding on a project by a contractor will be more accurate and effective if an approach method is used in determining the bidding strategy. Friedman's method is able to formulate the probability of winning for bids with two or more competitors. The calculation of the opportunity to win the bid with the Friedman method is formulated as follows.

$$P(C_o Win/B_o) = P(B_o < B_a)^n$$

$$P(B_o < B_a) = CC / TNB \times 100\%$$

Where:

$P(C_o Win/B_o)$ = Probability of winning against two or more competitors

$P(B_o < B_a)$ = Probability of winning against one competitor

n = Number of competitors

CC = Cumulative Competitors

TNB = Total Number of Bidders

Then this value is used to calculate the expected profit with the following formula.

$$E(P) = mo \times P(Bo < Ba)^n$$

Where:

$E(P)$ = Expected Profit

mo = Mark-Up Value

$P(Bo < Ba)^n$ = Probability of winning against n competitors

2.2. Project Cost Estimation

The profit obtained by the contractor depends on the ability of the estimator in making cost estimates. If the bid price is too high, it is likely that the contractor will lose in the tender competition. On the other hand, if the bid price submitted is too low to win the tender, the contractor will experience difficulties during the project process and even tend to suffer losses. In government projects, the value of the Owner's Estimate (OE) is determined by the Commitment Making Officer after going through an evaluation from the planning stage. The preparation and determination of the OE aims to assess the reasonableness of the bid unit price and the basis for setting the highest legal bid limit in the procurement of goods and services [6].

The estimation of direct project costs for uniformity in this study is assumed with the following conditions; the limit of project indirect costs are 15% [7], income tax on construction service providers for small qualification is 2% [8], and the total value of HPS includes 10% value added tax [6]. So that the direct cost of the project can be calculated by the following formula.

Project Direct Costs = 75.45% x OE

2.3. Project Goals

Success is closely related to our accuracy in determining goals, while goals are targets that we have set [9]. A success has various forms, adjusted back to the goals to be achieved. For example, a construction service entrepreneur or contractor who has a contract with the project owner must be fully responsible for the physical implementation of the project. The criteria for the success of a project can be measured from the internal efficiency achieved, namely the accuracy of costs, time and quality [4].

The reality is from the value of bids submitted by service providers these days, most of them still manage to account for the quantity and quality of their work. This success was marked by the avoidance of contractors from being blacklisted and the sign Official Report of Handover by the Commitment Making Officer.

2.4. Contractor's Profit

Construction projects are jobs with a high level of complexity and risk, so there are many unexpected costs that can reduce company profits. Profit is one of the main goals of a company to keep running its activities. So we want to further explore the efforts that contractors can do to obtain profits from the bids that they have submitted. Efforts in this case are formulated from the factors that affect the contractor's profits as well as the implementation strategy undertaken by the owner of the contractors to strengthen these factors in order to maintain the targeted profit margin. There are several previous studies related to cost risk and indicators that affect the profits obtained by contractors, including indicators of labour, materials, equipment, implementation methods, finance, project characteristics, managerial, planning and unexpected cost.

III. RESEARCH METHOD

3.1. Research Location

The research is located in the Province of Bali by conducting a documentation study at the LPSE of the Province of Bali.

3.2. Data Types and Sources

Primary data is data sourced from the results of distributing questionnaires to respondents regarding the factors that affect contractor profits and the results of semi-structured interviews with selected contractors to formulate implementation strategies in order to strengthen these factors.

Secondary Data is data that have been already collected by and readily available from other sources. In this case Secondary Data was collected from a documentation study on the Bali Province LPSE website in the official report of tender winners to see a list of contractors who participated in construction project tenders throughout 2018-2021 along with a list of bid values submitted by each service provider and the winner.

3.3. Data Collection and Technique

The documentation method is carried out to answer the formulation of the first problem by collecting data on previous bids in the official report of winning construction project tenders for 2018-2021 at the Bali Province LPSE. Bid value data from contractors participating in the tender is collected for processing, so that the optimal range of bids is obtained for contractors to submit bids.

A survey technique with a questionnaire was used to answer the second problem formulation in order to ob-tain data related to factors that might save work costs so that they affect the benefits of the bid value submitted by the contractor. Interview technique was used in this study to strengthen the answer to the second problem formulation. Determination of the source is done by purposive sampling. Informants were interviewed about their strategies for obtaining and maintaining profit mar-gins on projects so that they could complete their work despite submitting non-optimal bids.

3.4. Population and Sample

The population in this study are contractors who won tender for construction projects in Bali Province throughout 2021. The total population was 39 winning contractors from 54 projects at LPSE Bali Province

throughout 2021. Samples taken from each population were assumed to have a 90% probability studied with errors 10%. So that the minimum number of samples in this study is obtained as follows:

n $\quad$ = N / (1+Ne^2)

Where:

n $\quad$ = Sample

N $\quad$ = Population

e $\quad$ = Errors (10%)

So,

n $\quad$ = N / (1+Ne^2) = 39 / (1+39.0,1^2)

n $\quad$ = 28

The minimum number of samples used as respondents is 28 companies. While the selection of informants was done by purposive sampling. The informants selected for interviews are contractors who have won the tender, are able to complete the project well and maintain the company, even though the track record of the tender bid value is outside the optimum range.

3.5. Research Instruments

The instrument used in this research is a questionnaire to collect answers from the respondents regarding the factors that affect the profitability of the proposed bid value. In addition, the researcher himself is a research instrument. The presence of researchers in the field is an absolute requirement in fulfilling the requirements for data collection in the form of interviews.

3.6. Validity and Reliability Test

Measurement of the validity of the research instrument conducted on 10 respondents for a significance level of 5%, it is known that the r-table value is 0.632. This study uses the SPSS program seen from the Cronbach Alpha coefficient and the limit value used to assess the acceptable level of reliability is 0.6.

3.7. Data Analysis Techniques

Quantitative data analysis techniques in this study used the Friedman method and factor analysis. The Friedman method is used to answer the first problem formulation, which is to analyse the optimum value for contractors in submitting bids. While the factor analysis method is used

to answer the second problem formulation, which is to formulate the contractor's efforts to gain profit from the value of the proposed bid by finding the dominant factor that affects the contractor's profit through a questionnaire. Semi-structured interviews were conducted to support the results of factor analysis, so that qualitative data collection with the Miles and Huberman analysis technique was used to analyse the contractor's implementation strategy to strengthen the dominant factors that affect profits in order to maintain the targeted profit margin.

IV. RESULT AND DISCUSSION

4.1. Optimum Bid

In analysing the optimum bid, first determine the range of mark-up values that provide the winning probability and expected profit. The determination begins with collecting construction project data at the Bali Province LPSE to be processed and analysed using the Friedman method.

4.1.1. Data Collection

Based on the results of the documentation study on the Bali Province LPSE website, data on project tenders such as bidders and project data with the sub-classification of BG coded Buildings in Bali Province in 2018-2020 were obtained as many as 69 projects.

4.1.2. Data Processing

Data processing begins with the calculation of the direct cost of each project, the mark-up value of bids from each contractor as well as the frequency distribution and cumulative frequency of bidders. After processing the data, it will be analysed using the Friedman method. The mark-up values that are processed are those that are worth 1% or more. This limitation is taken because if a bid is submitted with a mark-up of less than 1% then the bid is considered not to be profitable.

4.1.3. Data Analysis

The results of the calculation of the winning probability (W) and expected profit (E) using the Friedman Method are as shown in Table 1. Based on the results of these calculations, the mark-up value with a winning chance greater or equal to 60% is chosen for each number of competitors. So that the optimum mark-up value range is 1% - 9%.

Table 1. Results of Analysis by Friedman Method

Mark-up %	% to OE	Bidder Freq.	Cumulative Freq.	1 W(%)	1 E(%)	2 W(%)	2 E(%)	3 W(%)	3 E(%)	4 W(%)	4 E(%)	5 W(%)	5 E(%)	6 W(%)	6 E(%)	7 W(%)	7 E(%)	8 W(%)	8 E(%)	9 W(%)	9 E(%)	10 W(%)	10 E(%)
1	76,21	15	420	97,90	0,98	95,85	0,96	93,84	0,94	91,87	0,92	89,94	0,90	88,05	0,88	86,21	0,86	84,40	0,84	82,63	0,83	80,89	0,81
2	76,96	25	405	94,41	1,89	89,12	1,78	84,14	1,68	79,43	1,59	74,99	1,50	70,79	1,42	66,83	1,34	63,09	1,26	59,56	1,19	56,23	1,12
3	77,72	24	380	88,58	2,66	78,46	2,35	69,50	2,08	61,56	1,85	54,53	1,64	48,30	1,45	42,78	1,28	37,90	1,14	33,57	1,01	29,73	0,89
4	78,47	16	356	82,98	3,32	68,86	2,75	57,14	2,29	47,42	1,90	39,35	1,57	32,66	1,31	27,10	1,08	22,49	0,90	18,66	0,75	15,49	0,62
5	79,23	16	340	79,25	3,96	62,81	3,14	49,78	2,49	39,45	1,97	31,27	1,56	24,78	1,24	19,64	0,98	15,57	0,78	12,34	0,62	9,78	0,49
6	79,98	29	324	75,52	4,53	57,04	3,42	43,08	2,58	32,54	1,95	24,57	1,47	18,56	1,12	14,02	0,84	10,59	0,64	7,99	0,48	6,04	0,36
7	80,74	22	295	68,76	4,81	47,29	3,31	32,52	2,28	22,36	1,57	15,38	1,08	10,57	0,74	7,27	0,51	5,00	0,35	3,44	0,24	2,36	0,17
8	81,49	14	273	63,64	5,09	40,50	3,24	25,76	2,06	16,40	1,31	10,44	0,83	6,64	0,53	4,23	0,34	2,69	0,22	1,71	0,14	1,09	0,09
9	82,25	14	259	60,37	5,43	36,45	3,28	22,01	1,98	13,29	1,20	8,02	0,72	4,84	0,44	2,92	0,26	1,76	0,16	1,07	0,10	0,64	0,06
10	83,00	19	245	57,11	5,71	32,62	3,26	18,63	1,86	10,64	1,06	6,07	0,61	3,47	0,35	1,98	0,20	1,13	0,11	0,65	0,06	0,37	0,04
11	83,75	14	226	52,68	5,79	27,75	3,05	14,62	1,61	7,70	0,85	4,06	0,45	2,14	0,24	1,13	0,12	0,59	0,07	0,31	0,03	0,16	0,02
12	84,51	25	212	49,42	5,93	24,42	2,93	12,07	1,45	5,96	0,72	2,95	0,35	1,46	0,17	0,72	0,09	0,36	0,04	0,18	0,02	0,09	0,01
13	85,26	14	187	43,59	5,67	19,00	2,47	8,28	1,08	3,61	0,47	1,57	0,20	0,69	0,09	0,30	0,04	0,13	0,02	0,06	0,01	0,02	0,00
14	86,02	18	173	40,33	5,65	16,26	2,28	6,56	0,92	2,64	0,37	1,07	0,15	0,43	0,06	0,17	0,02	0,07	0,01	0,03	0,00	0,01	0,00
15	86,77	18	155	36,13	5,42	13,05	1,96	4,72	0,71	1,70	0,26	0,62	0,09	0,22	0,03	0,08	0,01	0,03	0,00	0,01	0,00	0,00	0,00
16	87,53	15	137	31,93	5,11	10,20	1,63	3,26	0,52	1,04	0,17	0,33	0,05	0,11	0,02	0,03	0,01	0,01	0,00	0,00	0,00	0,00	0,00
17	88,28	17	122	28,44	4,83	8,09	1,37	2,30	0,39	0,65	0,11	0,19	0,03	0,05	0,01	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00
18	89,04	18	105	24,48	4,41	5,99	1,08	1,47	0,26	0,36	0,06	0,09	0,02	0,02	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00
19	89,7	17	87	20,21	3,85	4,11	0,7	0,83	0,1	0,17	0,03	0,03	0,01	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

No																							
9				8	8	6								0	0	0		0		0			
20	90,55	6	70	16,32	3,26	2,66	0,53	0,43	0,09	0,07	0,01	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
21	91,30	5	64	14,92	3,13	2,23	0,47	0,33	0,07	0,05	0,01	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
22	92,05	4	59	13,75	3,03	1,89	0,42	0,26	0,06	0,04	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
23	92,81	12	55	12,82	2,95	1,64	0,38	0,21	0,05	0,03	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
24	93,56	8	43	10,02	2,41	1,00	0,24	0,10	0,02	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
25	94,32	4	35	8,16	2,04	0,67	0,17	0,05	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
26	95,07	9	31	7,23	1,88	0,52	0,14	0,04	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
27	95,83	5	22	5,13	1,38	0,26	0,07	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
28	96,58	7	17	3,96	1,11	0,16	0,04	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
29	97,34	5	10	2,33	0,68	0,05	0,02	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
30	98,09	2	5	1,17	0,35	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
31	98,85	2	3	0,70	0,22	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
32	99,60	1	1	0,23	0,07	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

4.1.4. Contractor's Bid

Optimum bid analysis using the Friedman method produces an optimal mark-up value in the range of 1% - 9%, or if the value is converted in the form of a percentage of bids to OE, the optimum range of bids is declared to be 76.21% - 82.25% of OE. In 2021 there will be 54 projects with the sub-classification of Buildings coded BG for small contractors who are tendered at the Bali Province LPSE. As for the 54 projects, only 10 projects were won by submitting bids for the optimum value or it could be said that only 19%, while the other 81% projects were won with non-optimal bids as shown in Fig. 1.
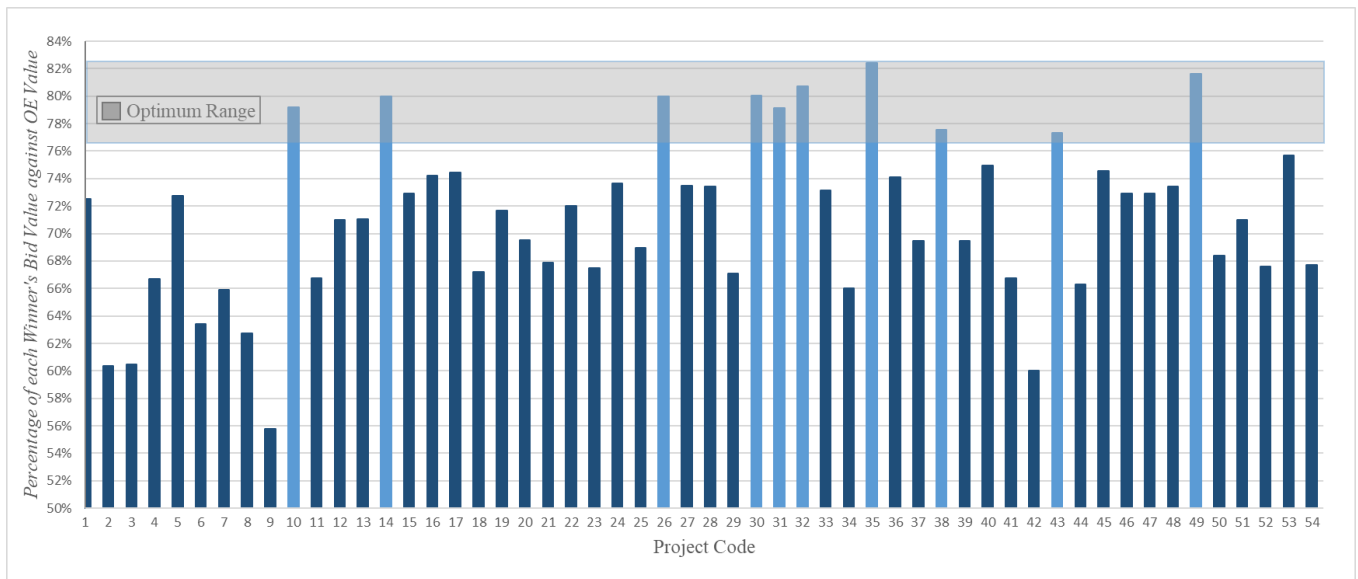
Fig. 1: 2021 tender winner bid value chart

Most contractors win projects by submitting bids with values outside the reasonable limits or optimum ranges. Based on this, it can be concluded that they are trying to suppress the company's profit target in order to increase the chances of winning. With the condition of dwindling profits, therefore contractors need a strategy in an effort to maintain the targeted profit margin from the value of the bids they have submitted. It begins by identifying the dominant factors that affect the contractor's profits. The percentage of optimum bidding for contractors winning tenders in the province of Bali is still very low, but in fact it is followed by the achievement of good quality and time according to the contract and required specifications. Then, further research is conducted on how the contractor's efforts to gain profits in order to maintain the profit margin that has been targeted.

4.2. Factors Affecting Contractors' Profits

The percentage of contractors who won the tender with the optimum bidding value in Bali Province was still very low, however, based on a documentation study at the Bali Provincial PUPR Service, it turned out that this was followed by the achievement of good quality and time according to the contract and required specifications. Then, further research is conducted on how the contractor's efforts to gain profits in order to maintain the profit margin that has been targeted. The minimum number of respondents in this study was 28 respondents, but in this case, 30 companies that won the tender at the Bali Province LPSE in 2021 were taken. The survey was conducted by providing a questionnaire with indicators that affect contractor profits. After doing the analysis, the

dominant factors that affect the contractor's profits will be obtained.

4.2.1. Testing the Questionnaire

Testing the validity and reliability of the indicators in the questionnaire used a sample of 10 respondents. It is known that the r-table for measuring the validity of the instrument to 10 respondents with a significance level of 5% is 0.632. As for the results of the validity test, 22 indicators were declared valid. The test results can be said to be reliable if the Cronbach's Alpha value is greater than 0.6. Cronbach's Alpha value was obtained 0.969, which means that all variables can be declared reliable and measurements using this questionnaire can provide consistent results.

4.2.2. Analysis Feasibility Test

Through the results of data processing with SPSS, indicators that have a fairly high correlation with other indicators can be identified. It can be seen from the value of Bartlett's Test of Sphericity with the provisions that the Sphericity value is less than 0.05, the Kaiser-Mayer-Olkin (KMO) value is greater than 0.5 and the Measure of Sampling Adequacy value (MSA) is greater than 0.5 [10]. The results of data processing with SPSS obtained a Sphericity value of 0.000 and a KMO value of 0.714. The results of the analysis also show that the MSA value of all indicators is greater than 0.5 so all of these indicators meet the eligibility requirements for further analysis. The communalities value of all indicators is also greater than 0.05. So it can be concluded that all indicators can be used to explain factors.

4.2.3. Grouping and Naming Factors

After conducting the analysis feasibility test, the next step is to extract the variables into several groups of factors, to rotate the factors and then to interpret or name the factors. Based on the output obtained from SPSS in the Total Variance Explained table, it is known that the eigen values that are worth more than 1 are 4 factors with a Comulative of Variance of 76.565%. So it can be concluded that there are 4 components that can represent the factors that affect the contractor's profit, where these four factors can explain the overall indicators in the data, which is 76.565%. The four groups of factors include Finance and Coordination Factors, External and Communication Factors, Standard Operational and Procedure Factors, and Decision Making Accuracy Factors which can be seen in Table 2.

Table 2. Results of Grouping and Naming Factors

No	Factor Name	Code	Indicator	Loading Factor	Eigen Value	% of Variance
1	Finance-Coordination Factor	X11	Smooth payment process from the owner	0,788	12,091	54,959
		X14	Good internal communication	0,776		
		X19	Safe environment	0,761		
		X1	Workforce skills	0,711		
		X8	Proper site conditions	0,626		
		X2	Cooperation with suppliers	0,590		
		X21	Good response from the community	0,538		
2	External-Communication Factor	X20	Government policy	0,842	2,019	9,178
		X18	Weather stability	0,830		
		X16	Good communication with supervision	0,694		
		X10	The selection of remuneration methods	0,655		
		X17	Good communication with owner	0,559		
3	Standard-Operational-Procedure Factor	X5	Material quality	0,849	1,552	7,053
		X13	SOP socialization before starting work	0,811		
		X4	Material use	0,771		
		X6	Excellent equipment condition	0,574		
		X22	Honest environment	0,564		
		X9	Precise work area measurement	0,527		
4	Decision Making Factor	X3	Material preparation	0,823	1,183	5,376
		X7	The selection of work methods	0,817		
		X15	Calculation accuracy	0,715		
		X12	Cost Control	0,650		
				Total Variance		**76,565**

4.2.4. Factor Analysis Results

Based on the results of the analysis, it is known that the Financial and Coordination Factors are the dominant factors that affect the contractor's profit with a percent of variance value of 54.959%. Coordination will prevent work that does not have a person in charge of an activity within the organization [11]. So coordination with the division of tasks and good communication will make the team work together in synergy. With good coordination, efficiency in the implementation of a job can be carried out in order to achieve a common goal, in this case, namely to maintain the targeted profit margin. An idea and a work plan will also not be able to run well without coordination. The financial factor in this case refers to the condition of cash flow and capital owned by the company. With good financial conditions, the company will be able to deal with

fluctuations in material prices in the market so that cost efficiency can be carried out. The Financial and Coordination Factors consist of seven indicators, including the smooth payment process from the owner (X11), good internal communication (X14), safe environment (X19), workforce skills (X1), proper site conditions (X8), cooperation with supplier (X2), and good response from the surrounding community (X21).

4.3. Maintaining Contractor's Profit Target

After analyzing and obtaining the dominant factors that affect profits, the indicators that make up these factors are then used as a reference by the contractor in an effort to gain profit from the value of the proposed bid. Therefore, strategies that can be implemented by contractors are then explored to strengthen these indicators in order to maintain the targeted profit margins. The strategy was obtained through semi-structured interviews conducted with informants who won the tender at the Bali Province LPSE in 2021.

The results of the interviews were analyzed using the Miles and Huberman method, which consisted of three stages of activity, namely data reduction, data presentation and conclusion drawing. Data reduction is a process of selecting and simplifying data so that the information obtained is right on target according to the needs, in this case the dominant factor from the results of the Factor Analysis is used as a guide for the topics discussed in the interview so that the interview results remain within the corridor of research objectives. The data presentation process is carried out to display the data in a neat and organized manner so that the data is no longer in the form of raw data.

Based on the results of semi-structured interviews with the contractor directors from 5 companies that won the tender at the Bali Province LPSE in 2021, it is known that the value of their submitted bids has been calculated carefully and according to the company's work ability. It's just that most of them stated that the expected profit was no longer too high, especially with the intense competition and the limited availability of work packages. The average contractor at this time can only get a profit of 2% - 5%. The bid value is considered sufficient to provide these benefits, especially with the support of factors that are able to strengthen the contractor's objectives in order to maintain the profit margins they expect. The implementation strategies that can be formulated to strengthen indicators that affect profits based on the results of interviews with respondents are as follows.

a. Smooth payment process from the owner
   - Assign special personnel to handle administration, especially for project term billing.

   - Provide maximum field progress so that administrative and technical tasks can be completed simultaneously.
   - Prepare working capital, or in the worst case take a bank loan

b. Good internal communication
   - Provide a clear job description and coordination flow chart before the project starts.
   - Organizing regular internal meetings at the end of the week.

c. Safe environment
   - Assign reliable logistics in each project.
   - Tighten security and guard systems around the project.
   - Request assistance from security guards who stay or work in the project area.

d. Workforce skills
   - Combining skilled workforce with fresh graduates in their work
   - Allocate workshops and training for the workforce.
   - Provide trust and loyalty from every workforce.
   - Maintain relationships with workers who have proven their quality and ability to work.

e. Proper site conditions
   - Conduct site investigation before the work starts.
   - Set a comfortable work circulation.

f. Cooperation with supplier
   - Conducting a price survey of materials that have quality in accordance with the specification requirements.
   - Maintain trust and cooperative relationships with suppliers who have good quality materials.

g. Good response from the surrounding community
   - Disseminate the activity plan to the surrounding community before the project starts.
   - Submitting every response and criticism from the surrounding community to the owner.

V.   CONCLUSION AND SUGGESTIONS

5.1. Conclusions

Based on the results and discussions that have been carried out, the conclusions obtained from the formulation of the problem in this study are as follows.

1. The optimum bid is an offer with a mark-up value of 1% - 9% or a bid with a percentage of 76.21% - 82.25% of the OE value. Bids with this value are able to provide winning opportunities and profit expectations for contractors. Based on the results of the study, only 19% of projects throughout 2021 in the Province of Bali were won with optimum value by contractors, which means that most contractors reduce their expected profits to increase their chances of winning.

2. Efforts that can be made by contractors to obtain profits from the value of the bids that have been submitted are by strengthening the Financial and Coordination Factors. This is the dominant factor that affects the contractor's profit with a percent of variance value of 54,959%. The Financial and Coordination factor consists of seven indicators, including the smooth payment process from the owner of good internal communication, safe environment, workforce skills, proper site conditions, cooperation with suppliers, and good response from the surrounding community.

5.2. Suggestions

Based on the results of this study, these are some suggestions can be submitted.

1. The government or authorized goods and service procurement officials need to evaluate their regulations, whether the tender method with the lowest price system is appropriate to produce output that is in accordance with the objectives of the procurement of goods and services itself, to produce quality and reasonable goods and services.

2. Further research if necessary to review the role of all components involved such as planning consultants in making cost estimation, procurement officials in conducting the selection stage, involvement of supervisory consultants and owner in the middle of construction process that affects the contractor profits.

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