Journal of Civil Engineering and Vocational Education

EISSN: 2622-6774
Vol. 12 No.1 March 2025
http://cived.ppj.unp.ac.id/index.php/CIVED

Study of Technical Qualification Evaluation for Construction Work Tender on Under Bid Price Contract

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Received 4th February 2025; Revision 19th February 2025; Accepted 7th March 2025

ABSTRACT

Based on data from LPSE Padang City for the 2021 and 2022 fiscal years, it was found that one third of the work packages in those fiscal year had an Under Bid Price Contract (UBPC) or an offer with less than 80% of the Owner's Estimate (OE). The purpose of this study is to examine the conformity between field implementation and technical qualification documents in construction work tenders with less than 80% OE or under bid price contracts in Padang City and its impact on small qualifications. Qualitative analysis based on the results of interviews with implementing contractors from several institutions or agencies involved in the procurement process of goods/services in Padang City was used in this study. This study only focuses on the technical qualifications of construction work tenders on under bid price contracts in Padang City using the tender method and the one-envelope method with a small category Construction Services Business License for the 2023 Fiscal Year. The results of the study show that qualification documents and contract documents with HPS of less than 80% in the implementation in the field are still appropriate. The results of interviews with seven contractors showed that the main equipment and managerial personnel used were also still appropriate. The profit target has been achieved by 4 out of 7 respondents (57.14%) and the remaining 3 out of 7 respondents did not get any profit, this is known from the end of the contract period. 3 out of 7 respondents (42.86%) have minor disabilities and 4 out of 7 respondents do not have minor disabilities. 7 respondents (100%) also did not experience delays in work. 3 out of 7 respondents experienced one contract addendum and the remaining 4 out of 7 experienced two contract addendums.

Keywords: *Under Bid Price Contract; Major Equipment; Managerial Personnel; Impact*

DOI: https://doi.org/10.24036/cived.v12i1.716

INTRODUCTION

The construction industry plays a significant role as a key driver of global economic growth. According to the report Future of Construction: A Global Forecast for Construction to 2030 [1], the global construction industry is predicted to grow at an average rate of 4.4% per year between 2020 and 2025. This indicates that the sector will continue to be one of the pillars of the world economy. In Indonesia, the construction sector holds a vital role in national development, particularly through infrastructure projects that are prioritized by the government.

Based on data from the Ministry of Finance Infrastructure Budget of Indonesia (2016–2021), the average allocation for the infrastructure sector reached 11.63%. This budget is focused on three main sectors: the Ministry of Public Works and Housing, the Ministry of Transportation,

and General Transfer Funds for Infrastructure[2]. With significant budget allocations, infrastructure development at both central and regional levels continues to be implemented, even serving as a driver of national economic recovery following the Covid-19 pandemic in 2020.

The success of infrastructure development heavily depends on competent construction service providers. Ideal outcomes can be achieved if project implementation meets key criteria: quality aligned with specifications, controlled costs, and timely completion [3]. To determine responsible partners for project execution, a tender or bidding process is conducted.
Tender evaluation and contractor selection for project execution are recognized as complex tasks involving significant uncertainty [4]. Given the integral role contractors play in the success of a project, contractor selection is a critical decision-making process within the scope of project management practices [5]. Choosing a contractor for a specific job is not an easy task [6].

According to the Indonesian Government's Procurement Policy Agency (Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah, LKPP) Regulation No. 12 Year 2021 [7], qualification evaluations include assessments of administrative, legal, and technical aspects using a pass and fail system. This process aims to ensure that selected contractors possess the capacity and competence to complete projects according to established standards.

However, the tender process does not always proceed smoothly. The selection process often faces challenges such as tight timelines and/or subjective factors in determining who will carry out the construction work. Richo Andi Wibowo [8] stated that selection is considered one of the most vulnerable stages. Research by Sigit Wibowo [9] highlights the persistence of bid-rigging in government procurement systems due to abuse of authority by business actors seeking to unfairly secure projects. This includes improper communication or collaboration in preparing bidding documents, leading to unhealthy competition (pseudo-competition) despite the use of electronic procurement systems (e-Procurement).

One significant issue is the phenomenon of under bid price, where bid prices fall below 80% of the Owner's Estimate (OE). Based on data from the Electronic Procurement Service (Layanan Pengadaan Secara Elektronik, LPSE) of Padang City (2021–2022), one-third of work packages had bids below 80% of the OE. Excessively low bids often impact project implementation, such as risks of cost overruns and schedule delays. According to Subrata, Halimah, and Alexandri [10], good planning and scheduling are crucial to maintaining the quality of project outcomes.

Beyond pricing issues, previous studies tend to focus on deviant behaviors such as corruption, collusion, and nepotism in the procurement of goods and services. Meanwhile, other technical problems, such as price evaluation and contractor qualification, often receive less attention. Yet, these technical aspects are crucial to ensuring project sustainability.

To address these challenges, further research is needed to evaluate the tender process in construction projects with bids below 80% of the OE. Such evaluations aim to provide a clearer understanding of the contractor qualification assessment process and its impact on project implementation. By understanding these factors, solutions can be identified to improve quality and transparency in the tender process, resulting in more effective and efficient development outcomes.

Contractor selection is a critical decision in project management because contractors play a

CIVED Journal of Civil Engineering and Vocational Education
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direct role in the success of a project. However, this process is neither easy nor without challenges. The complexity of tender evaluations, coupled with time constraints and risks of subjectivity, demands a more systematic and transparent approach. In this context, it is essential to optimize qualification evaluation mechanisms, ensure the reliability of e-Procurement systems, and reduce potential irregularities that could jeopardize the overall project.

To enhance the quality of infrastructure development, collaboration between the government, construction service providers, and other stakeholders is crucial. By implementing strict evaluation standards, thorough planning, and effective oversight, the construction sector can continue to contribute to national and global economic growth.

Based on the previous explanation, the objective of this study is to examine the alignment between field implementation and technical qualification documents in construction work tenders with bids below 80% of the Owner's Estimate (OE), also known as Under-Bid Price Contracts (UBPC) in Padang City, along with their impacts.

The output of this research is expected to provide a general overview of the technical qualifications in construction work tenders under under-bid price contracts. The study is limited to the technical qualifications of construction work tenders under under-bid price contracts in Padang City. The selection method includes open tenders (general procurement) or direct selection using post-qualification and a single-envelope method for small-category Construction Business License holders in the 2023 fiscal year.

METHOD

Primary Data, it was collected through interviews with key informants. The interviews were conducted face-to-face, involving direct communication between the interviewer and the respondents. Respondents in this study were institutions or agencies involved in the procurement process of goods/services, related agencies represented by the PPK for each activity, the Procurement of Goods and Services Section of the Padang City Regional Secretariat represented by the Selection Working Group, while respondents in business entities in the construction services sector or contractors were directors or those representing directors. The interviewer asked specific questions about the research object that had been designed in advance[11].

The interview results will be collected and then analyzed one by one from each respondent. The results are then entered into a table classified based on the main equipment, managerial personnel, and additional reasons from each respondent.

To gain deeper insights, the researcher employed a semi-structured interview method for this study. This approach involved preparing a list of questions beforehand, as outlined in the Data Collection Preparation section. The steps in conducting the interviews are as follows[12]:

a. Initial Design, it includes identifying research questions, selecting the type of interview, and formulating interview questions.
b. Data Collection, it involves sample selection, ethical reviews, interview simulations/ refinements, and conducting the interviews.
c. Analysis and Writing, it includes drawing conclusions and providing feedback on the results to the participants.

Secondary Data, the data was gathered from books, journals, relevant regulations, and the list of work packages categorized under bids at 80% of the Owner's Estimate. These data were sourced from the LPSE of Padang City. The regulation used is Presidential Regulation (or

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Perpres) of the Republic of Indonesia Number 12 of 2021 concerning the Procurement of Goods and Services[7]. Regulation of the Minister of Public Works and Public Housing Number 14 Year 2020 on Standards and Guidelines for the Procurement of Construction Services through Providers[13].

Flowcharts are used to present research stages, as follows :

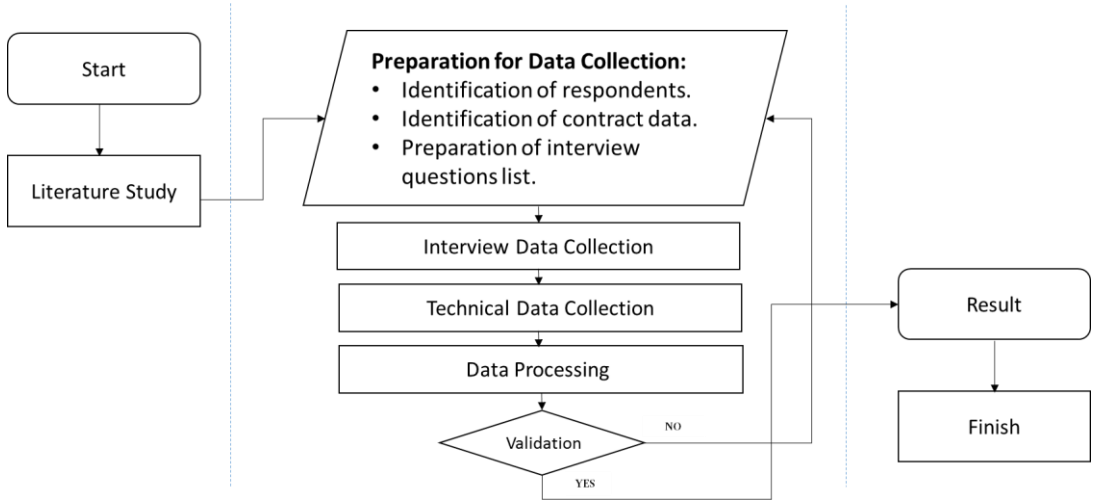

Figure 1 Flowchart of this research

The stages of this interview process are illustrated in Figure 2 below:

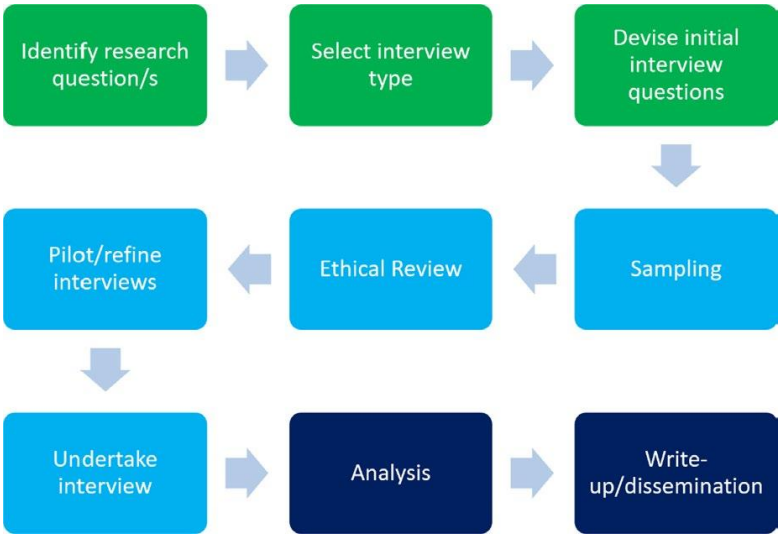

Figure 2 Basic stages in an interview process: initial project design (stages 1–3), data gathering (stages 4–7), analysis and write-up (Stages 8–9) [12]

Validation is carried out as a form of ensuring the final state of the implementation of work on the 80% HPS offer or under bid price contract, namely by comparing the research results with *Laporan Hasil Pemeriksaan Kepatuhan Atas Belanja Daerah Tahun Anggaran 2023* (until November 30 at the Padang City Government).

RESULTS AND DISCUSSION

The procurement of goods and services for construction work through provider tenders within the Padang City Government in the 2023 Fiscal Year involved 87 construction work packages.

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Among these, 13 packages, or 14.94%, were contracted at less than 80% of the OE. However, this study examined 8 of these packages, with one company handling two packages with bids at 80% of the OE. The details of these packages are provided in the following Table 1 below:

Table 1 List of Works with Bids Below 80% of the Estimated Cost

No	Scope of Work	Contract Value (CV*)	OE*	CV/OE	Contractor
1	Civil Road Construction 1	699.11	899.40	77.73%	PT A
2	Building Construction 1	351.69	450.70	78.03%	CV T
3	Civil Road Construction 2	1,102.79	1,400.00	78.77%	CV R
4	Civil Road Construction 3	2,841.44	3,600.00	78.93%	PT F
5	Exterior Decoration	1,437.04	1,800.00	79.84%	CV A
6	Building Construction 2	2,397.65	3,000.00	79.92%	CV S
7	Irrigation and Drainage Construction	799.85	1,000.00	79.99%	CV N
8	Civil Road Construction 4	959.82	1,200.00	79.99%	CV N

*) CV and OE in billion Rupiah

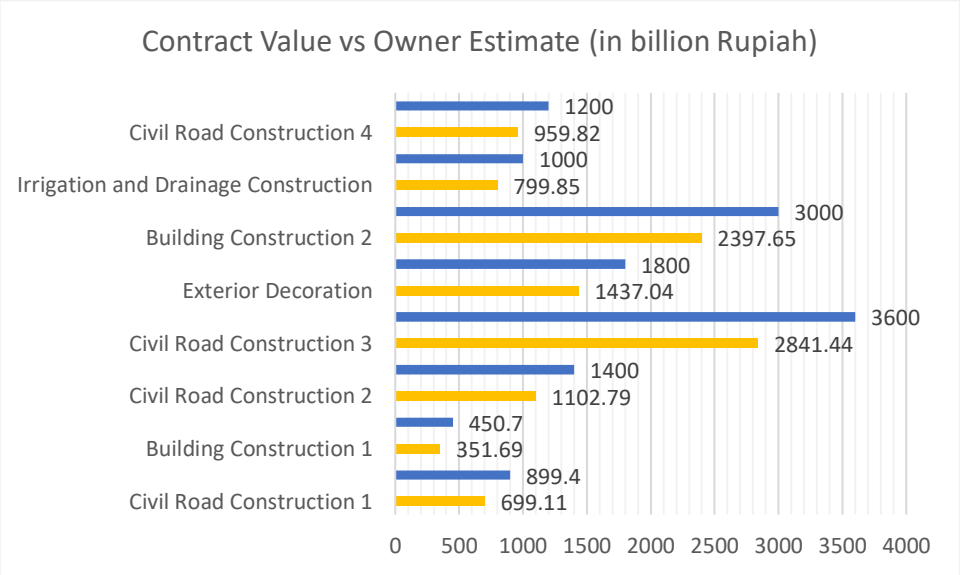

Figure 3 List of Works with Bids Below 80% of the Estimated Cost

1. Evaluation of the Main Tools

The Procurement Selection Team examines the main equipment through the documents submitted by the participants and verifies the proof of ownership or rental agreement. Physical inspection of the equipment depends on the requirements stated in the Bid Data Sheet (Lembar Data Pemilihan, LDP) of the procurement documents. Some equipment is clarified, while others are not subject to clarification.

The Procurement Selection Team involves the Contractors in examining the main equipment through the documents submitted by the participants and verifying the proof of ownership or rental agreement.

2. Evaluation of the Managerial Personnel

The Procurement Selection Team examines the managerial personnel and the company's work experience by accessing data through the LPSE and utilizing supporting tools such as One Stop Progress. The Procurement Selection Team reviews the qualification documents submitted by

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the tender participants, checks them against the requirements, and conducts clarifications if necessary. Additionally, the team verifies the personnel's experience based on the conditions outlined in the procurement documents. The qualification verification process is carried out by inviting the participants, and the Procurement Selection Team inspects the original documents, including contracts and the Work Handover Minutes. In this way, the Procurement Selection Team ensures the accuracy and quality of the work experience in the provider selection process.

The contract implementation begins with the issuance of the Work Commencement Order (SPMK). After the contract starts, there are several changes or contract addendums until the Provisional Hand Over (PHO). As mentioned in the Table of Work List with Bids Below 80% of the Owner's Estimate (Harga Perkiraan Sendiri, HPS), this diagram will explain the project implementation period up to the PHO process and the work retention period.

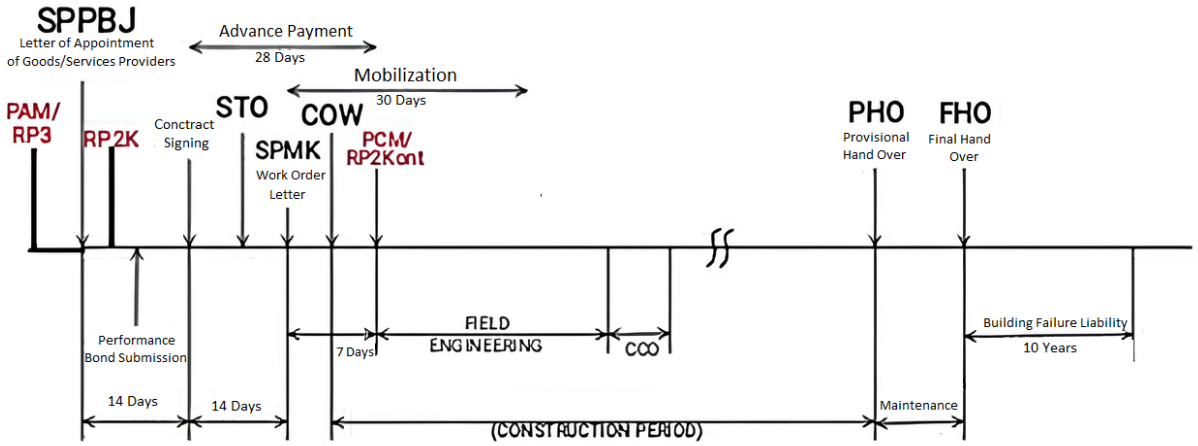

Figure 4 Construction Business Process[14]

From the Civil Road Construction 1 work, it was concluded that there is still a profit in the costs, no improvements in quality, no delays in the timeline, and one contract addendum. This conclusion is illustrated in the following Figure 5 below.

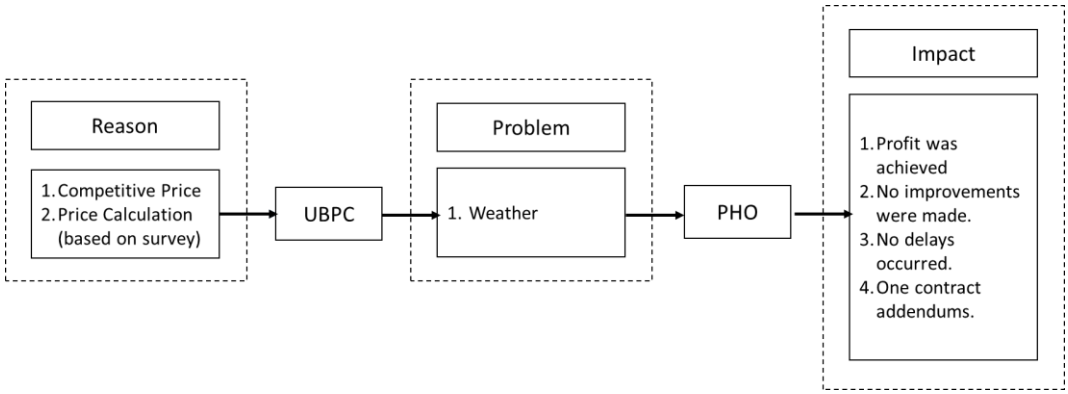

Figure 5: Cause-and-Effect Diagram of Under Bid Price and Its Impact on Civil Road Construction 1

From the Building Construction 1 work, it was concluded that a profit was still achieved in the costs, no improvements were made in quality, no delays occurred, and one contract addendum was made. This conclusion is illustrated in the following Figure 6 below.

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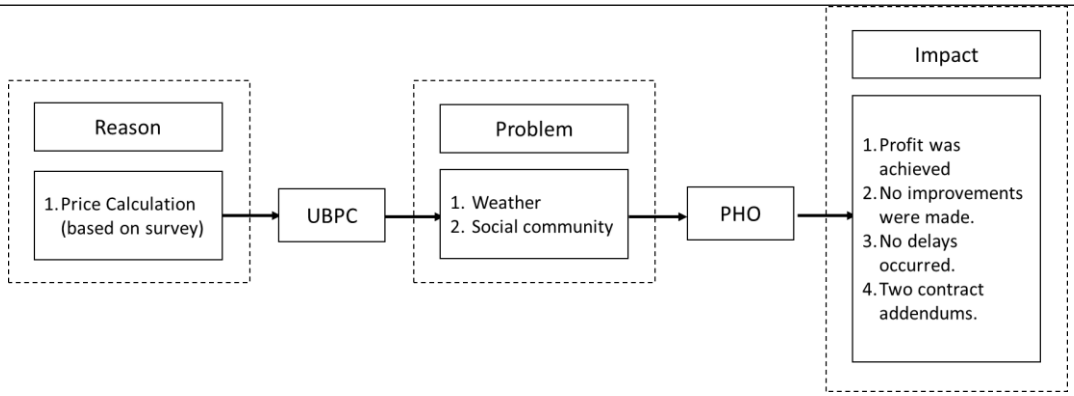

Figure 6 Cause-and-Effect Diagram of Under Bid Price and Its Impact on Building Construction 1

From the Civil Road Construction 2 work, it was concluded that a profit was still achieved in the costs, there were slight improvements in quality, no delays occurred, and two contract addendums were made. This conclusion is illustrated in the following Figure 7 below.

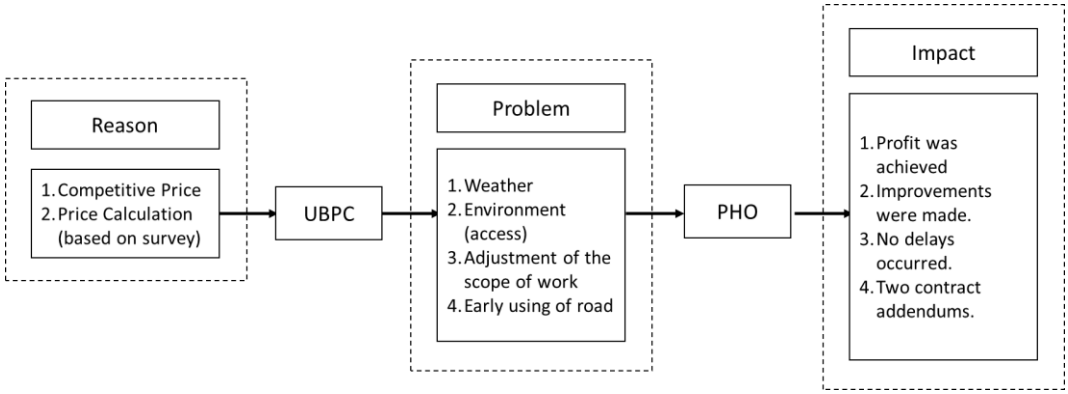

Figure 7 Cause-and-Effect Diagram of Under Bid Price and Its Impact on Civil Road Construction 2

From the Civil Road Construction 3 work, it was concluded that a profit was still achieved in the costs, there were improvements in quality, no delays occurred, and two contract addendums were made. This conclusion is illustrated in the following Figure 8 below.

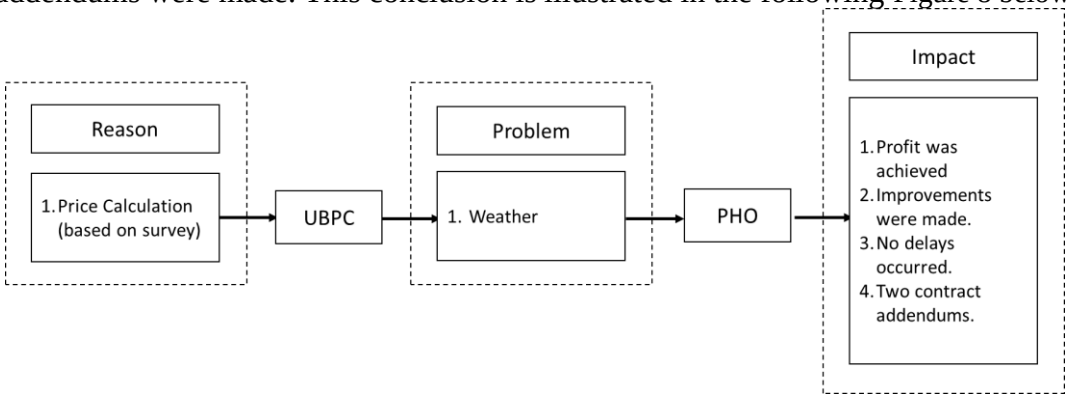

Figure 8 Cause-and-Effect Diagram of Under Bid Price and Its Impact on Civil Road Construction 3

From the Exterior Decoration work, it was concluded that no profit was achieved in the costs, there were slight improvements in quality, no delays occurred, and two contract addendums were made. This conclusion is illustrated in the following Figure 9 below.

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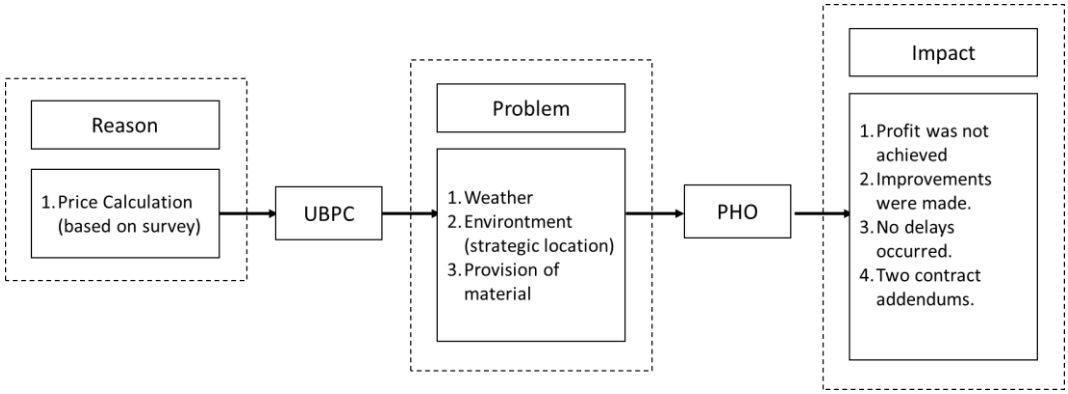

Figure 9 Cause-and-Effect Diagram of Under Bid Price and Its Impact Exterior Decoration

From the Building Construction 2 work, it was concluded that no profit was achieved in the costs, there were improvements in quality, no delays occurred, and one contract addendum was made. This conclusion is illustrated in the following Figure 10 below.

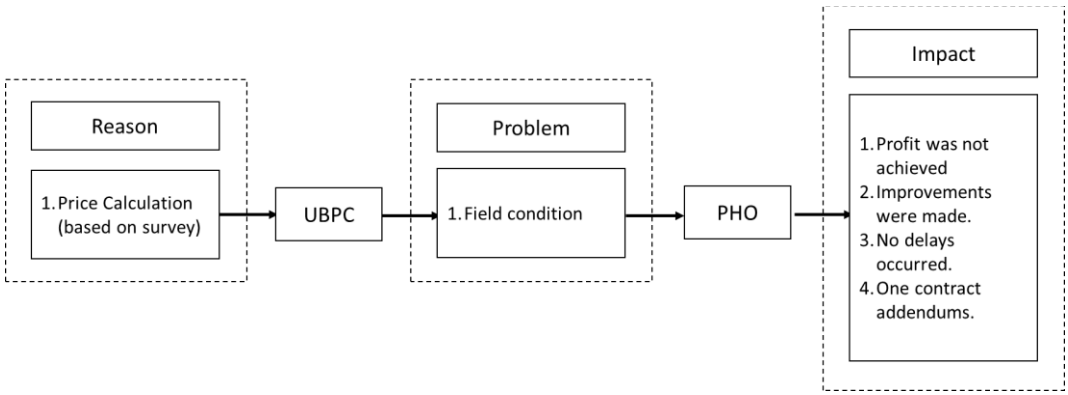

Figure 10 Cause-and-Effect Diagram of Under Bid Price and Its Impact Building Construction 2

From the Irrigation and Drainage Network Construction and Civil Road Construction 4 work, it was concluded that a profit was achieved in the costs, there were slight improvements in quality, no delays occurred, and two contract addendums were made. This conclusion is illustrated in the following Figure 11 below.

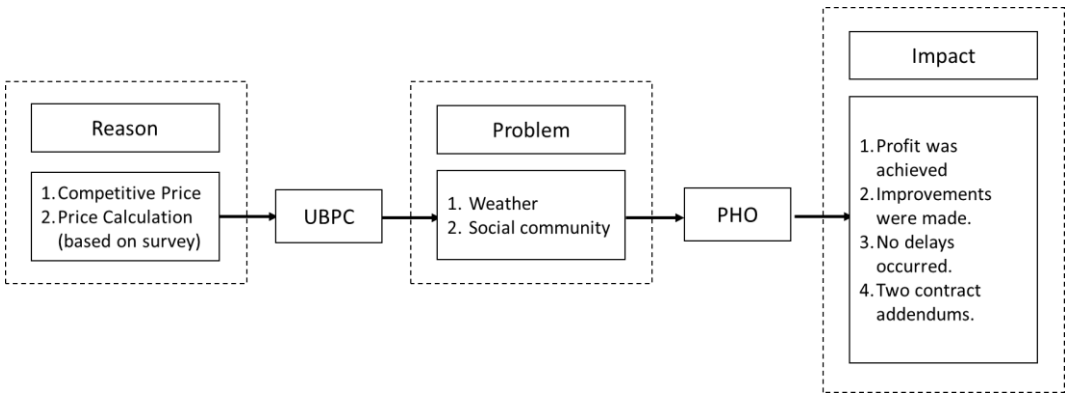

Figure 11 Cause-and-Effect Diagram of Under Bid Price and Its Impact on Irrigation and Drainage Network Construction and Civil Road Construction 4

Based on the explanation above, the managerial personnel in the contract and on-site are in

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accordance. The alignment between the bidding documents, the contract documents, and the implementation on-site is detailed in the following Table 2.

Table 2 Alignment of On-Site Implementation with Contract and Bidding Documents

No	Contractor	Main Equipment	Mng. Personnel	Addendum reason
1	CV R	Consistent	Consistent	New items & method adjustments
2	PT F	Consistent	Consistent	New items
3	PT A	Consistent	Consistent	New items
4	CV A	Consistent	Consistent	Adjustments to site conditions & material replacement
5	CV T	Consistent	Consistent	Final quantity
6	CV N	Consistent	Consistent	Adjustments to site conditions & final quantity
7	CV S	Consistent	Consistent	Additional funding, adjustments to site conditions, and final quantity.

Impact of Bids Below 80% of the OE or Under Bid Price Contract on Seven Contractors

According to H. R. Kerzner Research [3], an explanation related to the risks of loss, quality defects, delays, and the occurrence of contract addendums up to the end of the contract with bids at 80% of the OE can be seen in the following Table 3:

Table 3 Impact of Bids Below 80% of the OE on Seven Contractors in Padang City

No	Conctractor	Cost (Inflated?)	Quality (Any defects?)	Time (Delayed?)	Addendum Occurred
1	CV R	No	Yes	No	Two
2	PT F	No	Yes	No	Two
3	PT A	No	No	No	One
4	CV A	Yes	No	No	Two
5	CV T	Yes	No	No	One
6	CV N	No	Yes	No	Two
7	CV S	Yes	Yes	No	One

Response								
	No	57,14%	No	57,14%	No	100,0%	1	42,86%
	Yes	42,86%	Yes	42,86%	-	0,0%	2	57,14%

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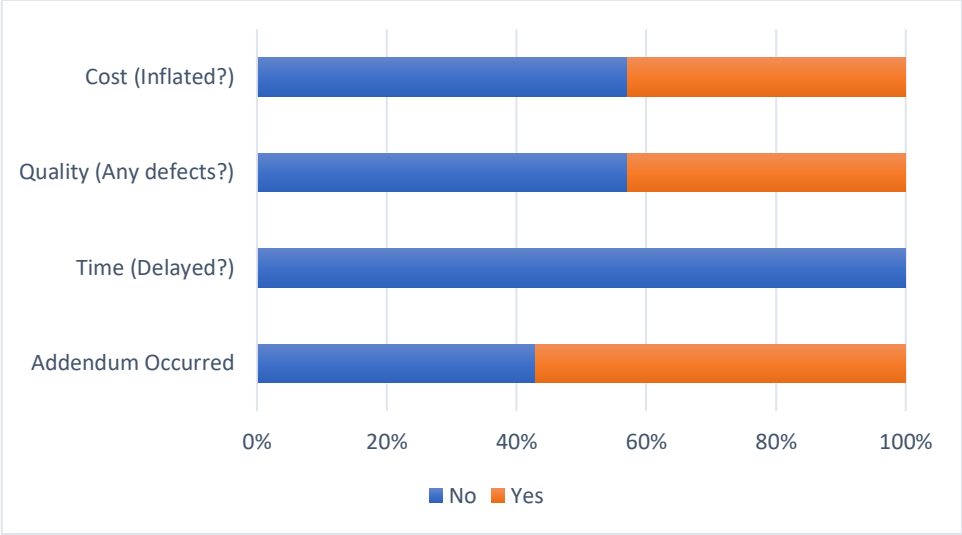

Figure 12 Impact of Bids Below 80% of the OE on Seven Contractors in Padang City

The statement from the PPK is supported by the Compliance Audit Report on Regional Expenditures for the Fiscal Year 2023 (up to November 30) by the Audit Board of the Republic of Indonesia (Badan Pemeriksa Keuangan Republik Indonesia, BPK RI) [15], which indicates that eight work packages with bids at 80% of the OE or under bid price do not present significant risk of loss.

CONCLUSION

The results of the study showed that the qualification of documents and contract documents with HPS of less than 80% in the implementation in the field were still appropriate. The results of interviews with seven contractors showed that the main equipment and management personnel used were also still appropriate.

The profit target has been achieved by 4 out of 7 respondents (57.14%) and the remaining 3 out of 7 respondents did not get any profit, this is known from the end of the contract period. 3 out of 7 respondents (42.86%) had minor defects and 4 out of 7 respondents did not have minor defects. 7 respondents (100%) also did not experience delays in work. 3 out of 7 respondents experienced one contract addendum and the remaining 4 out of 7 experienced two contract addendums. In the implementation of the contract up to the Temporary Handover of Work (PHO), it was found that the contractor's constraints were weather, social environment, and supply of materials.

The Padang City Government has tried to avoid offers below 80% HPS by issuing a Circular Letter from the Mayor of Padang concerning the Ethics of the Implementation of the Goods and Services Selection Process. This circular letter determines the value of the minimum wage coefficient limit for labor so that the potential for offers below 80% HPS can be reduced. This is a form of risk mitigation so that the offer by the Service Provider is not too low.

The researcher's suggestion for further research is to analyze the construction sector with medium and large classifications in other government agencies. Further research is also conducted to determine the level of complexity in the procurement of construction services with these classifications. Suggestions that can be given to the Implementing Contractor are to bid at a reasonable price and consider various aspects of risk and be open when providing

clarification and suggestions to policy makers (stakeholders) to regulate in more detail the final quality commitment of the work.

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