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# Assessment of Impact Factors Affecting of Lowest Bidder Bid Accuracy Evaluation System: In Case of Assosa Town

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**Abstract:** The construction industry is one of the most complex industries worldwide. In Ethiopia also the difficulties and complex industry, it related to low tenders to win project work. These problems continue to lead to a lesser quality of construction facilities, a high rate of claims and litigation, and frequent cost and schedule overruns have become the key indicators of Ethiopian public construction work contracts. This research was taken on to assess the performance of public-owned construction projects awarded on a least bidder bid awarding system and its impacts on quality in the case of Assosa City. 20 pieces of paper were distributed as a questionnaire survey and 12 were collected from among the different stakeholders of Assosa city project members in Assosa city such as clients, contractors, and the construction department of the public construction works city. The collected questionnaires were analyzed by using MS Excel version 19. The results found that currency exchange variation/oscillation, variability in the economy of the nation, and material price/accessibility/source/quality /imports are 0.92, 0.88, and 0.78, (RII) with 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ranked respectively. It was resolved that more than 80% of the construction projects overrun the budget and end up with a higher cost, and its results accomplish that due to one of the top impact factors of the least bid procurement system. It suggests that further needs to investigate how the Federal procurement administration system embraces features of other alternative bidding methods for evaluation and award.

**Keywords:** Bid Awarding, Construction Industry, Complex, Quality, Procurement

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## 1. Introduction

The construction industry can be described as the sum of all economic activities related to civil and building works. Such works normally comprise capital investment in the form of roads, railways, airports, ports, maritime structures, dams, power generating stations, irrigation schemes, health centers and hospitals, educational institutions, warehouses, factories, offices, and residential premises [1]. Construction is widely acknowledged as the most important single constituent in a developing country's investment program like Ethiopia. Because of such a high contribution, the construction industry has a major influence on the economic growth of a Country [2]. In this respect, the present procurement development level of Ethiopia, compared to other developing countries, is low. Additionally, the overall influences on the economic development construction sector of Assosa city are also difficulties and problems, due to the lowest bid award of

the procurement system that provided false information during the win project.

Practices of providing full information for lost prices and avoiding misinformation are almost acceptable in developed countries [3]. In addition to this, the construction sector in Ethiopia has got a decisive role in the economic development process of the district in strengthening linkages, and interdependence and in attaining a balanced regional development [4]. However, in the construction sector of the procurement system in Assosa city, no significant research activity is observed other than the limited oral talking about the poor procurement system in the city. Generally, the major scientific and technological problems of this procurement system in the Assosa city are low capability, low capacity in designing and supervising large construction projects, less attention to improve and develop indigenous construction

technology and the application of labor-intensive construction techniques, inadequate local production of hand tools with acceptable quality, lack of well-developed design standard codes and non-conductive system of collection, and use and dissemination of information according to article review of different literature. Therefore, at present, engineering and consultancy, and technology transfer and development capabilities that enable the reduction of dependence and promote self-reliance through time are not well established in the Assosa city construction sector. This research was aimed at familiarizing low bidders in Assosa city with the concept of the procurement system of construction contracts.

## 2. Literature Review

In Ethiopia, the most common purchaser is the federal government and it is usually adopted to analyze other unique factors that may impact the decision for bid evaluation and contractor selection [5]. The responsibility of the bidder should be distinguished from the responsiveness of the bid, bidder responsibility relates to the bidder's ability to satisfactorily perform the work whereas responsiveness of the bid relates to the form of the bid and sufficient criteria for contractors [6]. A price only evaluation is sometimes undertaken by evaluating the quantity or product offered for a certain price of the total budget allocated by the contractors [6]. In contrast, the most often used approach to evaluation, probably more common than price-only is to evaluate based on both price and quality. Sometimes this approach is referred to as criteria subject to qualitative assessment [7]. In addition to informing the weighting split between price versus technical or quality, each criterion (within these two groups) should have a specific weighting reflecting the relative importance of the different objectives and informing the bidders of the government's priorities [8]. However, relying significantly on qualitative assessment may be possible when there is significant confidence in the equality and fairness of the evaluation process, which will only be possible in countries/markets with a high recognition in the investor community [9]. The criteria used for bid evaluation should reflect the client's aims. These are that bids are fully responsive to the contract and bidders are sufficiently well qualified to undertake the contract [10]. There is no further providing respected Statistical evidence to the Assosa Town, clients, consultants and contractors, and other stakeholders who desire to improve bidding systems through practice of ways to rally the performance of contractors and to protect the project from contractors using poor quality of construction materials. The criteria for selecting the successful bidder are then that bid that maximizes the return on the client's investment [11]. Thus, he has proposed that bidders should submit a schedule of the payments they expect to fall due to them during the contract [12]. In a survey conducted on the evaluation of the performance of the lowest responsive bid contract and the quality of materials used on governmental building projects in Jima Town,

Oromia regional state, poor existence of competition during contractors' selection to improve the lowest bidding procedures were the major problems associated with the existing approach of delivering projects [13]. Thus, bid evaluation is the organized process of examining and comparing bids to select the best offer in an effort to acquire goods, works and services necessary to achieve the goals of an organization. The best offer recommended as a result of bid evaluation is referred to as the lowest responsive evaluated bid. It may also be called the most economical [14].

Finally, there is a feature in the evaluation process that is sometimes (in some countries) described and committed to in the lowest bidder bid accuracy evaluation system where some jurisdictions will consecutively evaluate the technical and financial criteria. This means that the financial (price) criteria will be only evaluated and the financial envelope will only be opened, once technical evaluation is finished and scores are assigned to each proposer [15]. This case provides further discussion of lost bidder bid evaluation criteria where procurement regulations universally adopt a good approach.

## 3. Research Methodology

Based on the information acquired from literature reviews and input from various local experts, questionnaires were developed for the survey. Both quantitative and qualitative research designs are used in this research. The target populations of this research work were developed for three parties, the construction supervision department, contractor, and client. A total of 35 questionnaires were deployed to collect information from a specified public organization who are participating in public construction, but it was replied to only 20 questionnaires: 10 (clients), 7 (% contractors), and 3 (%consultants). The important relative index was used to analyze the respondent's rank for further identifying the impact of the selection lowest bidding procurement system in Assosa Town. The following formula was used to investigate the respondent opines.

$$RII = \frac{\sum W}{A * N} \quad (1)$$

Where RII= Relative Importance Index (range from 0 to 1), W= the weight given to each factor by the respondent and reaches from 1 to 5 and the most elevated weight (5), N= the all outnumber of respondents.

## 4. Results and Discussion

The research was conducted only through questionnaire surveys, distributed to construction contractors, consultants, and owners that are involved in the Assosa Town construction sector. Totally 10 companies were included in the sample; of which 3 are contractors, 2 consultants and the remaining 5 are owners. 20 pieces of questionnaires were distributed to construction professionals (office engineers, site engineers, contractors, and owners) and only 16 properly completed questionnaires were returned by respondents.

Respondents Profiles

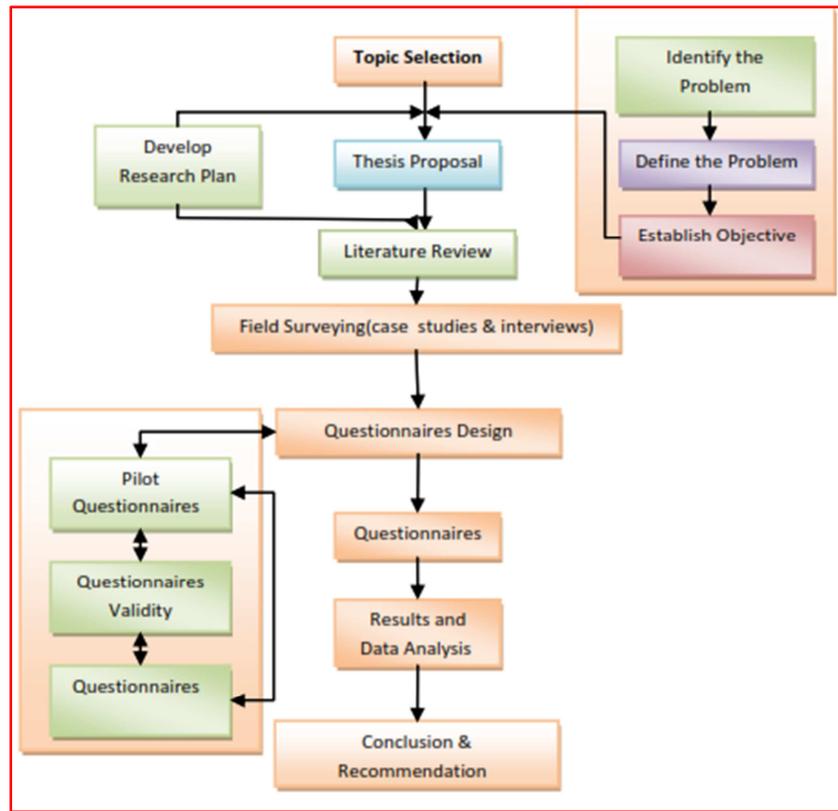


Figure 1. Illustration of research design for research activities.

Table 1. Respondents Profiles.

Name of respondents	No. of distributed	No. of return back	Average (%)
Contractors	10	8	40
Consultants	5	4	20
Owners	5	4	20
Totals	20	16	80

As the result above shows that experienced or more mature people are involved in the construction sector. It is also shown that 40% of the respondents were contractors and only 20% consultants and clients are respectively. This indicates that consultants' and clients' participation is near the ground as compared to contractors'. The results were obtained based on the opinion of respondents (public clients, consultants, contractors), and based on the average values of RII. Relative importance indexes for clients, consultants, and contractors' opinions were processed for each impact factor in all groups and the impact was located as separate perspectives. The average RII for all impact factors was managed for average aligning the factors

from the average perspectives of all respondents.

Respondants profiles

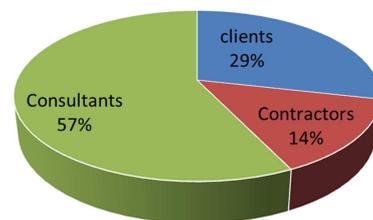


Figure 2. Respondents' profiles.

Table 2. RII and ranking of impact factors affecting the accuracy of lowest bidder evaluation.

Top five factors affecting the accuracy of the lowest bidder evaluation system	clients		contractors		consultants	
	RII	Rank	RII	Rank	RII	Rank
Currency exchange variation/oscillation	0.96	1 <sup>st</sup>	0.89	1 <sup>st</sup>	0.90	1 <sup>st</sup>
Variability in the economy of the country	0.94	2 <sup>nd</sup>	0.86	2 <sup>nd</sup>	0.83	2 <sup>nd</sup>
Material price/accessibility/source/quality /imports, as well as equipment productivity	0.87	3 <sup>rd</sup>	0.82	3 <sup>rd</sup>	0.65	3 <sup>rd</sup>
Financial situations of the Owner.	0.81	4 <sup>th</sup>	0.80	4 <sup>th</sup>	0.84	4 <sup>th</sup>
Experience and ability of the consultant on the nature/type of project	0.76	5 <sup>th</sup>	0.73	5 <sup>th</sup>	0.73	5 <sup>th</sup>
Total	0.87		0.82		0.79	

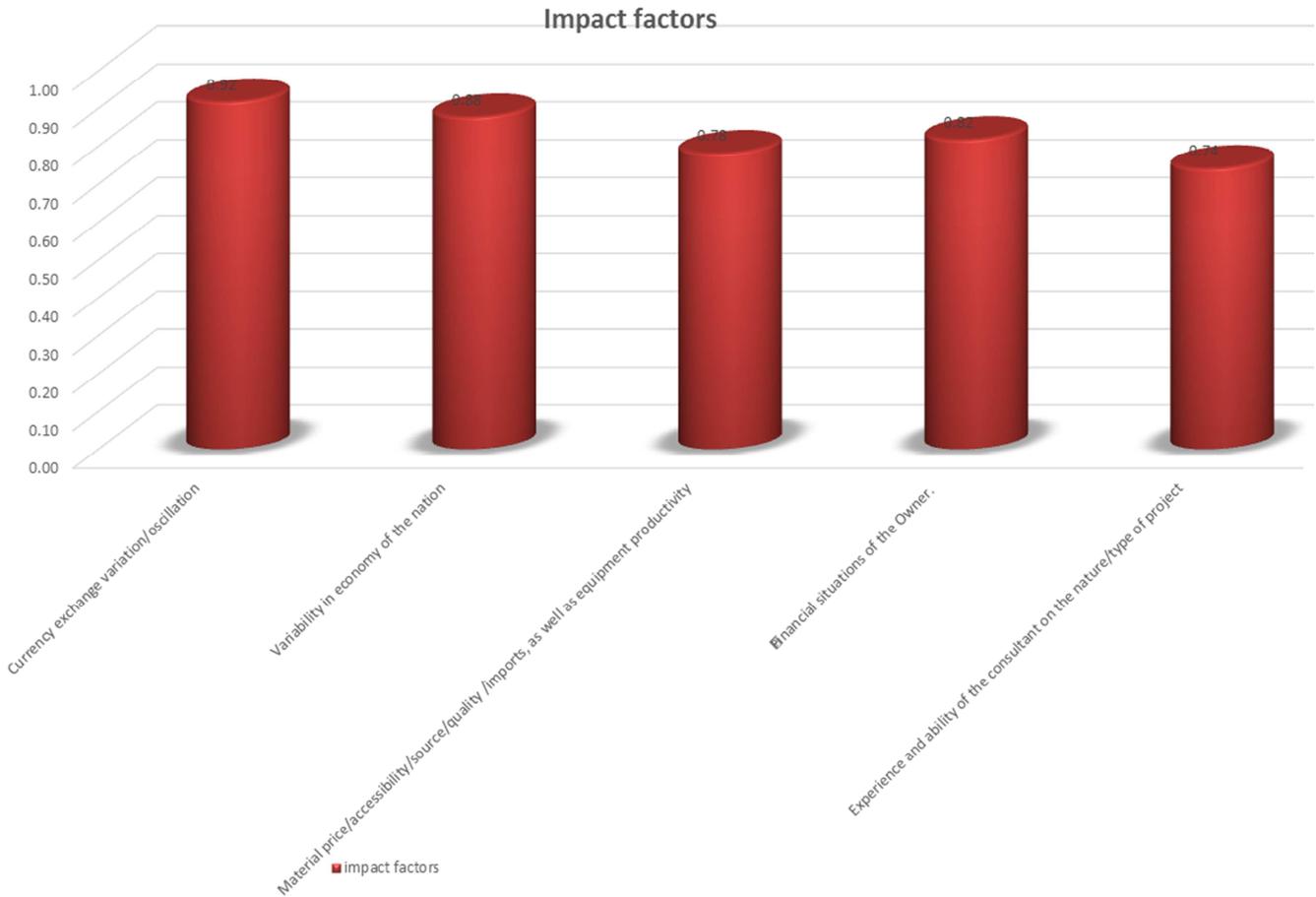


Figure 3. RII and Ranking Top five impact factors affecting the lowest bidder evaluation system.

From above Table 2 and Figure 3 obtained results, it observed that currency exchange variation/oscillation, variability in the economy of the nation, material price/accessibility/source/quality /imports, as well as equipment productivity, financial situations of the owner, and experience and ability of the consultant on the nature/type of project are 0.92, 0.88, 0.78, 0.82 (RII) and 0.74 with 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> ranked respectively. It implies that the 1<sup>st</sup> to 3<sup>rd</sup> impact factors were the most Top influenced lowest bidder bid evaluation system in the Assosa Town. The previous studies also support that the currency exchange variation/oscillation was the most important factor affecting the accuracy of the lowest bidder evaluation system. so, the finding was strongly agreed with the previous researchers who have studied [11]. found results show that the lowest bidder bid evaluation system of building projects in Assosa Town directly affects the quality of the work. Thus, from these points of view, there is the dissatisfaction of last users or customers' construction projects in town related to quality, time, and cost as well.

Thus, it remarks that the difficulties subjects of a building project are financial shortage of contractors, unreasonable cost estimation, awarding many numbers of projects at the same time, the system of awarding by lowest responsive contract was corrupted by stakeholders of handing out contract agreements, unfair estimation of the project contract

period, poor scheduling during construction, missed and change of design, unreasonable estimation for variation works, financial shortage of client, lack or shortage of cooperation from a client, inefficient utilization of construction material, lack of proper work planning and scheduling, selection of the lower grade of a contractor, lack of creative on-site, delay in material supply to sites. Those indicate which causes of poor performance most respondents agreed on the lowest bidder bid evaluation system undertaking top five factors affecting the accuracy of the lowest bidder evaluation system in Assosa Town.

### 5. Conclusion

The contractors attempt to acquire work by submitting an artificially low price and hoping to make up the difference through claims later on without bearing in mind currency exchange variation/oscillation, variability in the economy of the country, material price/availability/source/quality /imports, as well as equipment productivity, financial situations of the owner and experience and ability of the consultant on the nature/type of project. Some factors also contribute to claims and unforeseen or uncertain situations during the execution of the Construction Projects. It is resolved that more than 80% of the construction projects overrun the budget and end up with a higher cost, and its

results accomplish one of the top impacts of the least bid procurement system. It further needs to investigate how the Federal procurement administration system embraces the feature of other alternative bidding methods for evaluation and award.

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