

FACTORS INFLUENCING BID/NO BID DECISION OF FOREIGN CONTRACTORS IN TANZANIA

Neema Kavishe¹ and Nicholas Chileshe²

¹ *School of Architecture, Construction Economics and Management, Ardhi University, P.O. BOX 35176, Dar es Salaam, Tanzania*

² *University of South Australia, UniSA STEM, Scarce Resources and Circular Economy (ScaRCE), Adelaide, Australia*

Construction sector is an investment-led sector hence revolves around how to best allocate capital to maximize the returns. Bidding decision is critical to both foreign and local contractors and cannot be undertaken through perception or feeling, rather the bidder has to go through several decision-making process involving the consideration of both internal and external factors. Submitting a lot of non-winning bids in responding to request for tender is costly and also can damage contractor's reputation. Therefore, the purpose of this study is to investigate the factors influencing the bid no bid decision of foreign contractors in Tanzania. A quantitative approach using survey-based questionnaire was used to collect data. The study revealed that "Financial capability of the client", "Terms of payment", "Client payment history" "Project type" and "Project size", were the most top 5 significant factors identified by the foreign contractors. The results of this study will foster a better understanding of the factors influencing bid no bid decision of foreign contractors in Tanzania and also increase the awareness of existing decision-making practices and play a critical role in the future decisions of the construction companies, where foreign bidders need to evaluate the next opportunities encountered. Moreover, awareness of these identified "bid/no bid" factors would enable foreign contractors to select projects with greater likelihood of success in the future, which result in financial benefits and higher performance. Lastly, the consciousness of these factors might contribute to improving the contractor's behaviors when bidding in a competitive market.

Keywords: bidding decision, decision factors, foreign contractors, Tanzania

INTRODUCTION

Globally, the competitive environment in the construction industry is rapidly increasing. This has necessitated the need for investigating the bidding strategies and the factors influencing the bidding decisions become a popular topic of research since the mid-1950s (Harris *et al.*, 2006). Bidding decision is made out only on the likelihood of winning the tender, but also considering the possibility and capacity that the firm can finish the project successfully as per the contract agreement. Therefore, on receiving an invitation to bid, it puts the interested bidders in the dilemma of whether to bid or not to bid for a project (Li *et al.*, 2019). Failing to bid on a suitable

¹ neykluvert@yahoo.com

project can result in loss of opportunity to realize profit, similarly, submitting a lot of non-winning bids in response to request for tender is costly and also can damage contractor's reputation (Lin and Chen, 2004). For that reason, bidding decision is critical to both foreign and local contractors and cannot be undertaken through perception or feeling, rather the bidder has to go through several decision making process involving the consideration of both internal and external factors simply because deciding to bid on a project may cause both tangible and intangible losses (Li *et al.*, 2019). Additionally, Oo *et al.* (2012) contends that, winning a certain job will convey implications for capacity level of a firm, in terms of its resources available to carry out future projects. Similar studies have also reported that the decision to bid or not to bid on a particular project is normally complex and very challenging because it involves consideration of numerous factors (Oke *et. al.*, 2020; El-Mashaleh, 2013). Specifically, Li *et al.* (2019) remarked that, factors affecting the bid/no-bid decisions of international projects are more complex than those of domestic projects because overseas projects are riskier due to differences in culture, economy, technology, laws and regulations, hence requiring more attention before deciding to bid. This implies that, foreign contractors need to pay special attention when it comes to deciding which projects to bid for or not to bid for. Numerous similar studies have been undertaken in other developed and developing countries including Nigeria, New Zealand, Australia, Vietnam, United Kingdom, Singapore, Auckland, Cyprus, Saudi Arabia, Jordan, Palestine, Pakistan and Egypt (Oke *et. al.*, 2020; Maqsoom *et.al.*,2018: Shokri-Ghasabeh and Chileshe, 2015; El-Mashaleh, 2013). However, with the exception of Chileshe *et al.* (2020a, b) and Kawimbe (2017) studies which only focused on local contractors, there are very limited empirical studies undertaken within the East African context. This study aims to bridge the knowledge gap by conducting a survey among the foreign contractors operating in Tanzania. Therefore, the purpose of this study is to examine the factors influencing the bid no-bid decision of foreign contractors in Tanzania.

LITERATURE REVIEW

For decades, bid/no-bid decision continued to be one of the key problems for contractors across the globe (Maqsoom *et al.*, 2018). Similar studies have been conducted by different researchers in different countries. But the problem remains the same to individual contractors. Tanzania's construction sector comprises of indigenous and indigenised firms, as well as several foreign firms. Foreign Contractors/companies referred in this study are those whose majority shares are not owned by Tanzanians and are operating in local context. Based on Tanzanian National Bureau of Statistics, the market value of the construction sector at current prices increased from approximately US\$6.6bn in 2016 to more than US\$7bn in 2017. This growth is underpinned by the increase of major public infrastructure development projects in which the majority of such projects are carried out by foreign contractors due to lack of local experts. For instance, currently a number of huge infrastructure development projects including the Tanzania Standard Gauge Railway, Ubungu interchange project and Stiegler's Gorge Power Station to mention a few are all designed and constructed by foreign contractors. Thus, foreign contractors in Tanzania dominate the large-complex project market and play a huge role towards successful execution of these projects by providing unique skill sets lacked by the local contractors, stimulate technical efficiency and technology transfer. Furthermore, the presence of foreign companies in developing countries like Tanzania help to improve the skills of local contractors and contracting capabilities through

knowledge/technology transfer. Thus, to secure projects, it is necessary for firms to go through tendering procedure to perfectly bid for a certain project or work. The preparation of bidding documents is time consuming and costly (Oke *et al.*, 2020; Maqsoom *et al.*, 2018). Most of the contractors pay attention to the benefits of bidding against the resources and the bidding costs such as document prices and required bond. The bidding process involves bid or no bid decisions, besides; it is normally associated with uncertainty and complexity because of subjective considerations such as the nature, capacity, and competition to mention a few. But since the contractors bidding behavior are influenced by several factors internal and external as well as interactive factors. A number of existing studies, have focused on either investigating factors affecting the bid/no-bid decision specifically for local firms or proposed/developed an empirical framework for making the bid/no-bid decision as indicated in Table 1 while, those for foreign firms remain scarce (Fegade, 2016).

Table 1: Summary of existing studies on bid no-bid decision factors

Country ¹	Authors	Purpose of study
Nigeria	Oyeyipo (2016) *	Evaluated the factors that affect contractors' decisions to bid for a project
Nigeria	Olatunji <i>et al.</i> , (2017) *	Investigated the factors that affect the decision of indigenous construction contractors to bid or not to bid in Nigeria.
Nigeria	Oke, <i>et al.</i> , (2020) *	Assessed the factors related to time and cost performance with a view to examining their effect on bidding decisions.
Pakistan	Maqsoom <i>et al.</i> , (2018) *	Analyzed the strategic factors influencing bid/No-bid decision of Pakistani contractors
Palestine	Enshassi, <i>et al.</i> , (2010) *	Identified and ranked the factors that affect the bid/no bid decision
Canada	Fayek, (2019) *	Investigated the bidding practices of Canadian civil engineering construction contractors
Tanzania	Kawimbe (2017) *	Explored the factors influencing building contractors bidding decision in building projects in Dar Es Salaam
Jordan	El-Mashaleh <i>et al.</i> , (2014) *	Proposed an empirical framework for making the bid/no-bid decision
Saudi Arabia	Bageis and Fortune (2009) *	Investigate how bid/no bid decisions are influenced by different characteristics of contractors.
Qatar	Jarkas, (2014) *	Identified, explored, and ranked the relative importance of the critical factors determining contractors' decisions to bid or not bid for local construction projects.
India	Holla <i>et al.</i> , (2018) *	Identified strategic factors influencing bid decision in Indian construction industry
Australia	Shokri-Ghasabeh and Chileshe, (2016) *	Identified the common bid/no bid decision factors in the Australian construction industry
New Zealand	Ma, (2011) *	Investigated the factors affecting the bid/ no bid decision making for small and medium sized contractors
Hong Kong	Oo <i>et al.</i> , (2007) *	Compared the contractors' decision to bid behavior between Hong Kong and Singapore
Taiwan	Lin and Chen, (2004) *	Devised a method for bid/no-bid decision-making using fuzzy linguistic.
China	Li <i>et al.</i> , (2019) **	Identified and ranked decision factors considered by variously sized Chinese international contractors (CICs) and categorize those groups of factors important to experienced practitioners.
Malawi	Chisala (2017) **	Developed a bid or no-bid decision support model
USA	Duygu (2016) **	Developed a practical decision-making tool to assist decision makers in making construction project bidding decisions
Northern Cyprus and Turkish	Egemen, and Mohamed, (2007) **	Developed a framework for contractors to reach strategically correct bid/no bid and mark-up size decisions
Jordan	El Mashaleh, (2013) **	Proposed an empirical framework for making the bid/no-bid decision.
Asia	Utama <i>et al.</i> , (2018)★	Introduced a decision support aid for deciding an overseas construction project

Notes: *Studies which identified/assessed/ranked factors affecting bid no bid decision; **Studies which developed a bid decision framework/model and ★Studies on bidding decision for overseas construction projects; ¹Countries in bold are from sub-Saharan Africa

Additionally, based on Table 1 the majority of studies were undertaken in Asia and Middle East. Unlike Africa in which only three countries undertook similar studies and were all based on local contractors. Hence, this study intends to bridge the gap by exploring the factors influencing the bid no bid decision of foreign contractors based in Tanzania. The awareness of these factors can contribute to innovative bidding and improving contractors’ behaviors when bidding in a competitive market.

Factors influencing bid no bid decision for foreign contractors

Several studies have attempted to identify the factors influencing the bid or no bid decision as shown in Table 1 above with the majority being focused on domestic contractors. Table 2 below present a list of bid/no bid decision factors for foreign/overseas construction Projects as identified from literature.

Table 2: Summary of international factors of foreign construction projects decision making

S/N	Factors	S/N	Factors
1	Financial capability of client	19	Rigidity of specifications
2	Terms of payment	20	Contribution to increase firm identity and brand
3	Client payment history	21	Number of competitors with qualifications
4	Project size	22	Competitors bid and win
5	Project type	23	Penalty conditions
6	Completeness bid documents	24	Bid preparation duration
7	Contribution to firm’s future	25	Firms staff expertise
8	Current workload of project	26	Financial situation of company
9	Clients stability and characteristics needs	27	Political stability and sensitiveness
10	Profit made on similar projects	28	Subcontractors and materials suppliers
11	Project duration	29	Similar project size management
12	Ability to fulfill tender requirements	30	Required qualified materials
13	Building relationships with key parties	31	Required qualified labor
14	Availability of basic infrastructure	32	Economic health and stability
15	Work client carries frequent	33	Required plants and equipment
16	Experience/familiarity with similar project	34	Consultant construction works
17	Construction site conditions	35	Technological difficulty
18	Maintain long term relations with market		

Source: El-Mashaleh, (2013); Shokri-Ghasabeh and Chileshe, (2016); Maqsoom *et.al.*, (2018); Utama *et al.*, (2019); (Oke *et. al.*, 2020).

Examination of Table 2 demonstrates that there are some unique factors to consider when deciding to bid for international projects unlike bidding for domestic projects. For instance, “Political stability and sensitiveness”, “economic health and stability” are among those factors, just to mention a few. Due to this uniqueness features this study intended to investigate the bid no bid decision factors influencing the foreign contractors based in Tanzania when bidding for Tanzanian projects.

RESEARCH METHODS

This study adopted a questionnaire survey method (quantitative research) to collect data. The targeted population was all the foreign contractors working in the Tanzanian Construction industry (TCI). The study identified from the Contractors Registration Board (CRB) that there is a total of 46 foreign contractors from all across Tanzania. However, it was noted that some of the registered contractors had finished their projects and have returned home or shifted their companies to different countries for the sake of market search and some went bankrupt. Therefore, a purposive sampling was the approach used amongst the targeted population, namely, the foreign contractors involved in construction projects in Tanzania in order to obtain valid and relevant information needed. The rationale for selecting this non-probability sampling

technique is that it can facilitate a closer inspection and understanding of the cases by hand picking them (Rowley, 2013). More so, this type of sampling has been used in similar bid no-bid studies in developing economies such as Nigeria (Oke *et al.*, 2018); and developed economies such as Australia (Shokri-Ghasabeh and Chileshe, 2016). The key criterion used in selecting the respondents included been registered as a foreign company and have ongoing projects or have completed a project in Tanzania. In this regard, a total of 25 questionnaires were hand delivered to the identified foreign contractors, out of which 19 were completed.

Research instrument: Based on the review of the literature (see Table 1) 35 potential factors influencing the foreign contractors bid no bid decision were identified. These items formed the basis of the questionnaire survey administered to the foreign contractors. The respondents were then asked to rate the identified bid no-bid decision using a five-point Likert scale where 1= strongly disagree, 2 = disagree, 3 = neutral, 4= agree and 5= strongly agree.

Data analysis: This was analyzed using the Statistical Package for Social Sciences (SPSS) 25.0 and included descriptive statistics such as frequencies, measures of central tendencies, and the independent one sample t-test with test value of 3.5 (Chileshe *et al.*, 2020a, b). The overall computed Cronbach alpha (α) value for the 35 items was 0.942 (F-statistic = 3.488, sig. = 0.000). This was deemed as appropriate and acceptable as the threshold value for Cronbach alpha coefficient (α) = 0.7. Table 3 presents the demographical profile of the respondents.

Table 3: Respondents demographic information

Respondent	Professional	Years of experience	Types of projects	Bidding decision
A	Quantity surveyor	6 to 10	Civil	No
B	Engineer	1 to 5	Building	Yes
C	Quantity surveyor	6 to 10	Building	No
D	Engineer	6 to 10	Civil	Yes
E	Quantity surveyor	6 to 10	Building	Yes
F	Quantity surveyor	11 to 20	Building	Yes
G	Const. manager	6 to 10	Civil & Building	Yes
H	Quantity surveyor	6 to 10	Building	Yes
I	Quantity surveyor	6 to 10	Building	Yes
J	Quantity surveyor	6 to 10	Building	Yes
K	Quantity surveyor	1 to 5	Building	Yes
L	Architect	1 to 5	Building	No
M	Quantity surveyor	6 to 10	Civil & Building	Yes
N	Quantity surveyor	1 to 5	Building	Yes
O	Engineer	1 to 5	Civil	Yes
P	Const. manager	6 to 10	Building	No
Q	Engineer	6 to 10	Building	Yes
R	Quantity surveyor	6 to 10	Building	Yes
S	Engineer	11 to 20	Building	Yes

Examination of Table 3 shows that, the majority (63%) of the respondents have experience of between 6-10 years with the construction industry whereas few (26%) had 1-5 years of experience. Only (10%, n=2) had an experience of over 10 years. This profile of the respondents suggests that, most of the respondents have worked long enough with the foreign contractor hence possess sufficient knowledge in making bid no bid decisions. Therefore, this justifies the reliability and validity of the findings.

FINDINGS

Table 4 shows the ranking results whereby the findings show that their mean score ranged from 4.53 (Financial capability of client) to 2.89 (Technological difficulty). In contrast, the standard deviation of all 35 factors ranged from 0.5133 to 1.499, the highest ranked bid no bid factor has the lowest standard deviation which further reinforces the consensus amongst the respondents with regards to the importance of this bid/no-bid decision factor.

Table 4: Ranking of factors influencing bid no-bid decision

Bid no-bid factors	t-test ($\mu = 3.5$)	df	Sig (2-tailed)	Mean Score (Ms)	Std. dev	Rank
1. Financial capability of client	8.721	18	0.000*	4.53	.5133	1
2. Terms of payment	3.712	18	0.005*	4.21	.976	2
3. Client payment history	2.817	18	0.010*	4.11	.937	3
4. Project size	1.837	18	0.083	4.05	1.129	4
5. Project type	2.133	18	0.047*	4.05	1.311	5
6. Completeness bid documents	1.901	18	0.073	3.95	1.026	6
7. Contribution to firm's future	1.497	18	0.152	3.89	1.150	7
8. Current workload of project	1.027	18	0.318	3.79	1.228	8
9. Clients stability and characteristics needs	1.580	18	0.132	3.74	.653	9
10. Profit made similar projects	0.641	18	0.530	3.63	.895	10
11. Project duration	0.382	18	0.702	3.58	.902	11
12. Ability fulfill tender requirements	0.254	18	0.795	3.58	1.305	12
13. Building relationships with key parties	-0.091	18	0.929	3.47	1.264	13
14. Availability of basic infrastructure	-0.094	18	0.926	3.47	1.219	14
15. Work client carries frequent	-0.388	18	0.739	3.42	1.017	15
16. Experience familiarity similar project	-0.283	18	0.780	3.42	1.216	16
17. Construction site conditions	-0.382	18	0.707	3.42	.902	17
18. Maintain long term relations with market	-0.492	18	0.628	3.37	1.165	18
19. Rigidity of specifications	-0.641	18	0.530	3.37	.895	19
20. Contribution to increase firm identity and brand	-0.760	18	0.457	3.32	1.057	20
21. Number of competitors with qualifications	-0.694	18	0.497	3.32	1.157	21
22. Competitors bid and win	-0.643	18	0.592	3.32	1.250	22
23. Penalty conditions	-1.042	18	0.311	3.26	.991	23
24. Bid preparation duration	-1.042	18	0.311	3.26	.991	24
25. Improve firms staff expertise	-1.223	18	0.237	3.21	1.032	25
26. Financial situation of company	-.791	18	0.436	3.21	1.584	26
27. Economic health and stability	-1.157	18	0.262	3.11	1.487	27
28. Subcontractors and materials suppliers	-1.564	18	0.311	3.11	1.100	28
29. Similar project size management	-1.564	18	0.311	3.11	1.100	29
30. Required qualified materials	-1.326	18	0.202	3.05	1.471	30
31. Required qualified labor	-1.586	18	0.131	3.00	1.374	31
32. Political stability and sensitiveness	-1.541	18	0.141	3.00	1.414	32
33. Required plants and equipment	-1.638	18	0.119	2.95	1.471	33
34. Consultant construction works	-2.516	18	0.022*	2.89	1.049	34
35. Technological difficulty	-1.821	18	0.085	2.89	1.449	35

Notes: ^a Mean score based on valid n = 19 (list wise), df = degrees of freedom, *Significant at the 95 per cent level ($p < 0.05$).

The top five ranked bid or no-bid factors from the perspectives of the foreign contractors included (1) Financial capability of client, (2) Terms of payment, (3) Client payment history, (4) Project type and (5) Project size. For ease of discussion, only the top quartile ranked bid and no-bid factors as well as the least ranked are included in these discussions.

Financial capability of client

A number of studies have acknowledged that, the ultimate goal for a contractor to undertake construction projects is to earn profit which results from payment. Therefore, “Financial capability of client” was the highest ranked and also statistically significant ($t(18) = 8.721, p = 0.000 < 0.05$). This finding also suggests a strong indication of the impact of client payment capability as none of the contractors would want to work with a client who will end up not paying them due to their financial incapability. For instance, Oke *et al.*, (2020) identified the reputation of the client as the most prominent factor related to time performance that affects bidding decisions, whereas the other Nigerian study by Oyeyipo (2016) also identified financial capability of client as the most highly ranked factor in bid no bid decision

“Terms of payment” and “client payment history” were the second and third ranked factors as shown in Table 4. The factors were also statistically significant ($t(18) = 3.172, p = 0.005 < 0.05$) and ($t(18) = 2.817, p = 0.011 < 0.05$) respectively. These two factors are more associated with payments and these are also very important as they demonstrate the existence of payment risk and also a check as to whether the client has put forward clear payment terms and what has been his payment history in previous projects. Bageis and Fortune, 2009; El-Mashaleh, 2014 had comparable findings in Saudi Arabia and Jordan top contractors.

Project size

Project size or size of project has been regarded as part of the Construction business environment broader factors and ranked highly among the indigenous contractors in developing countries such as Nigeria (Olatunji *et al.*, 2019). However, in Tanzania, despite the foreign contractors accounting for only 2.4% of the total number of all contractors including the local contractors still account for the half of contractors within the Class I category (Kikwasi and Escalante, 2018). Class I contractors are thus allowed to bid for projects of unlimited value. Therefore, project size was ranked fourth however, the result was not statistically significantly different ($t(18) = 1.873, p = 0.083 > 0.047$). This finding was equally ranked high in previous studies in developed economies (Shash 1998; Ahmad and Minkarah 1988, and Shokri-Ghasabeh and Chileshe 2016).

Project type

Project type was ranked fifth but with equal mean scores to project size which had a lower standard deviation (1.129) thus showing more consensus amongst the respondents with regards to the importance of this decision factor. However, the factor was also statistically significant ($t(18) = 2.133, p = 0.005 < 0.047$). The study noted that similar Nigeria study by Oyeyipo *et al.* (2016) ranked this factor 13th with a mean score of 4.16, whereas El-Mashaleh (2013) had project type with a mean score of 4.36 The implication emergent from this finding is that both foreign and local contractors highly consider this factor before they decide to bid. Despite the foreign contractors, and predominantly the Chinese operating in Tanzania having a bigger share of the contracts obtained by value, they equally require the knowledge on these factors to consider the project type and size for the appropriate allocation of resources (materials, labor and plants) to meet contractual requirements stipulated by the client.

In the lower quartile, required qualified labor, Political stability and sensitiveness, required plants and equipment, consultant construction works, and technological difficulty ranked 31st, 32nd, 33rd, 34th and 35th respectively. As shown in Table 4, with

the exception of consultant construction which was statistically significantly different ($t(18) = -2.516, p = 0.022 < 0.05$) the rest were not significant.

CONCLUSION

Despite the fact that numerous studies have been conducted on identifying significant factors influencing the bid no bid decision, limited studies have been undertaken within the African context. Besides, majority of the existing studies are heavily skewed towards local contractors. Therefore, in order to bridge the knowledge-gap, this study aimed at investigating the factors influencing the foreign contractors on the bid no bid decision in the TCI. Ranking and frequency analyses were used at identifying the criticality of the 35 bid and no-bid factors identified through the manually reviewed and search of the literature. The overall ranking indicated the following top five as highly ranked factors: (1) Financial capability of client, (2) Terms of payment, (3) Client payment history, (4) Project type and (5) Project size. In contrast, the following were identified as the least ranked factors: required qualified labor, Political stability and sensitiveness, required plants and equipment, consultant construction works, and technological difficulty. The results of the one sample t-tests indicated that except for five (out of 35) identified bid and no-bid factors; there is no statistically significant difference in the perception of the foreign contractors operating in Tanzania. However, the results as obtained are similar to those conducted in other developed and developing economies. What is nevertheless notable is that the ranking of these factors varies from country to country. This implies that the list of bid no bid decision could be the same across the globe, but the significance of each factor varies depending on the uniqueness of each contractor, project nature, client and country.

Whilst only one data collection approach was undertaken, some emergent contributions are evident. The first is through the identification and ranking of an ordered grouped set of bid or no-bid factors for the Tanzanian foreign building contractors. Another significant contribution of this paper is that it sheds light and provides insights, knowledge and understanding of the factors that influence bid or no bid decision factors to contribute to the growth of building contractor in Tanzania. Such knowledge would enable future international construction organizations seeking to operate within the Tanzanian environment on how to be more effective when deciding to bid for projects. Finally, the study expands the efforts of studying and evaluating the bid or no-bid factors across sub-Saharan countries sharing similar economic conditions, particularly within the (East) African context. Most importantly, the point of departure of our current study is that, whereas previous studies have mainly focused on local contractors, by exploring the factors influencing the bid no bid decision of foreign contractors based in Tanzania, which is the genesis of our study, would also be used as comparator of best bidding practices with the local contractors. The main limitation of this study was the small sample size ($n=19$) of the existing foreign contractor in the TCI. Future studies should include a larger sample of the foreign contractors, and a comparative study of foreign contractors bidding practices could be undertaken with other developing countries. Also, relationship between specific firm characteristics and bid/no bid decisions should be further explored in future.

REFERENCES

- Ahmad, I and Minkarah, I (1988) Questionnaire survey on bidding in construction, *Journal of Management in Engineering*, 4(3) 229-243.

- Bageis, A S and Fortune, C (2009) Factors affecting the bid/no bid decision in the Saudi Arabian construction contractors, *Construction Management and Economics*, **27**(1) 53-71.
- Chileshe, N, Edwards, D J, Kavishe, N and Haupt, T C (2020a) Perception on challenges impacting bid decision of indigenous building contractors in Dar es Salaam, Tanzania, *Journal of Engineering, Design and Technology*, (ahead of print), <https://doi.org/10.1108/JEDT-10-2019-0280>
- Chileshe, N, Kavishe, N and Edwards, D J (2020b) Critical factors influencing the bid or no-bid decision of the indigenous small building contractors in Tanzania, *Construction Innovation*, (ahead of print), <https://doi.org/10.1108/CI-09-2019-0098>
- Chisala, M (2017) Quantitative bid or No-bid decision-support model for contractors, *Journal of Construction Engineering and Management*, **143**(12), 04017088-11.
- Dulaimi, H G S (2002) The factors influencing bid mark-up decisions of Large and medium-size contractors in Singapore, *Construction Management and Economics*, **20**(7) 601-610.
- Duygu, A (2016) *Bid or No Bid Decision Making Tool Using Analytic Hierarchy Process*, Master's Thesis, Colorado State University, Department of Construction Management
- Egemen, M and Mohamed, A.N (2007) A framework for contractors to reach strategically correct bid/no bid and mark-up size decisions, *Building and Environment*, **42**,1373-1385.
- El-Mashaleh, M (2013) An empirical framework for making the bid/ no-bid decision, *Journal Management in Engineering*, **29**(3).
- Enshassi, A, Mohamed, S and El Karriri, A (2013) Factors affecting the accuracy of pretender cost estimates in the Gaza strip, *Journal of Construction in the Developing Countries*, **18**(1)73-94.
- Enshassi, A, Mohamed, S and El Karriri, A (2010) Factors affecting the bid/no bid decision in the Palestinian construction industry, *Journal of Financial Management of Property and Construction*, **15**(2) 118-142.
- Fayek, A, Ghoshal, I and AbouRizk, S (1999) A survey of the bidding practices of Canadian civil engineering construction contractors, *Canadian Journal of Civil Engineering*, **26**(1) 13-25.
- Fegade, D and Bhangale, P (2016) To study efficient bid process management for construction projects, *Civil Engineering Systems*, **5**(1), 46-48.
- Harris, F, McCaffer, R and Edum, F (2006) *Modern Construction Management*, Chichester, UK: Wiley.
- Holla, B R K, Sudhanvakrishna, G, Shetty, K K and Rao, V A S (2018) A qualitative study of strategic factors influencing bid decision in Indian construction industry, *International Journal of Civil Engineering and Technology*, **9**(1) 290-300.
- Jarkas, A M, Mubarak, S A and Kadri, C Y (2014) Critical factors determining bid/No bid Decisions of Contractors in Qatar, *Journal of Management in Engineering*, **30**(4) 05014007.
- Kawimbe (2017) *Factors Influencing Building Contractors Bidding Decision in Building Projects in Dar Es Salaam*, BSc Unpublished thesis, Ardhi University, Dar es Salaam, Tanzania.
- Kikwasi, G J and Escalante, C (2018) *Role of the Construction Sector and Key Bottlenecks to Supply Response in Tanzania*, WIDER Working Paper 2018/131, Prepared for the United Nation Universities (UNU-WIDER).

- Li G, Chen C, Zhang G and Martek I (2019) Bid/no-bid decision factors for Chinese international contractors in international construction projects, *Engineering, Construction and Architectural Management* (ahead-of-print), <https://doi.org/10.1108/ECAM-11-2018-0526>.
- Lin, C-T and Chen, Y-T (2004) Bid/no-bid decision-making - A fuzzy linguistic approach, *International Journal of Project Management*, **22**(7) 585-593.
- Ma, H (2011) *Factors Affecting the Bid/ No Bid Decision Making Process of Small to Medium Size Contractors in Auckland*, BSc Unpublished thesis, Unitec Institute of Technology.
- Mahamid, I (2012) Factors affecting contractors business failure: Contractors perspective, Engineering, *Construction and Architectural Management*, **19**(3) 269-285.
- Maqsoom, A, Farjad, M M, Abbas, S M, Ehtesham U H M, Irfan, M and Malik U (2018) Strategic factors influencing bid/No-bid decision of Pakistani contractors, In: K W Chau, I Y S Chan, W Lu and C Webster (Eds.) *Proceedings of the 21st International Symposium on Advancement of Construction Management and Real Estate*, Springer, Singapore.
- Oke, A, Omoraka, A and Olatunbode, A (2020) Appraisal of factors affecting bidding decisions in Nigeria, *International Journal of Construction Management*, **20**(2) 169-175.
- Olatunji, O A, Aje, O I and Makanjuola, S (2017) Bid or no-bid decision factors of indigenous contractors in Nigeria, *Engineering, Construction and Architectural Management*, **21**(3) 378-392.
- Oo, B L, Drew, D S and Lo, H P (2007) A comparison of contractor's decision to bid behavior according to different market environments, *International Journal of Project Management*, **26**, 439-447.
- Oo, B L, Lo, H P and Lim, B T K (2012) The effect of bidding success in construction bidding, *Engineering, Construction and Architectural Management*, **19**(1), 25-39.
- Oyeyipo, O O, Odusami, K T, Ojelabi, R A and Afolabi, A O (2016) Factors affecting contractors' bidding decisions for construction projects in Nigeria, *Journal of Construction in Developing Countries*, **21**(2), 21-35.
- Rowley, J (2014) Designing and using research questionnaires, *Management Research Review*, **37**(3) 308-330.
- Shash, A (1998) Subcontractors bidding decisions, *Journal of Construction Engineering and Management*, **124**(2) 101-106.
- Shokri-Ghasabeh, M and Chileshe, N (2016) Critical factors influencing the bid/no bid decision in the Australian construction industry, *Construction Innovation*, **16**(2), 127-157.
- Utama, W P, Chan, A P C, Zahoor, H, Gao, R and Jumas, D Y (2019) Making decision toward overseas construction projects, *Engineering, Construction and Architectural Management*, **26**(2) 285-302.
- Wanous, M, Boussabaine, A H and Lewis, J (2000) To bid or not to bid: A parametric solution, *Construction Management and Economics*, **18**(4) 457-466.