Perception on challenges impacting bid decision of indigenous building contractors in Dar es Salaam, Tanzania

**ABSTRACT**

**Purpose:** The acknowledged mode of securing work by contractors is through the bidding process. However, the bidding decisions undertaken by some indigenous contractor’s in developing countries are fraught with challenges that often engender bidding practices (such as collusion through price fixing, and intentional lower bidding), and threaten business survival. Therefore, in the quest to better understand these challenges and viable advocate solutions for overcoming them, this study sought to identify the key challenges impacting the bid decision process by small indigenous building contractors in Dar es Salaam, Tanzania; and establish the strength of their relationship between the pairs of key challenges

**Design/methodology/approach:** A comprehensive literature review was conducted to identify nine challenges impacting the bid decision of indigenous building contractors in Tanzania, which were employed to design a questionnaire survey. Data collected were analysed using descriptive statistics, mean score, inferential statistics (One sample t-tests), Kendall’s concordance and correlation analysis.

**Findings:** Challenges identified from a literature review were empirically tested using survey responses accrued from 33 participating small indigenous building contractors in Dar es Salaam, Tanzania. .The findings illustrate that *lack of liquidity*, *profit returns*, *lack of equipment, lack of experience of several works* and *procurement procedures* are perceived as being the five most critical challenges. *Project location*, *site accessibility* and *lack of labour* were least critical. The major finding from the correlation analysis was the existence of the strong and positive correlation between ‘*project location’* and ‘*site accessibility’*

**Practical implications –** Measures for addressing the identified challenges impacting the bidding decisions of the indigenous small building contractors would be undertaken. The findings will enable contractors to not only reconcile the challenges with the industry and in so doing benefit both themselves and the clients, but enable them to be better prepared to deliver contractual obligations but also generate socio-economic wealth. *Government* and *policy* makers will also be able to appropriately develop macro interventions for managing these challenges, and which could be custom-tailored to indigenous small contractors. Finally, improving the ability of local firms to compete in the construction industry has been recognized as having the potential of advancing socio-economic development within the comity of developing countries

**Limitations:** The study is limited by its sample and geographical settings which focussed and confined the results on one country, Tanzania. However, the findings can be considered as important for other developing countries wishing to gain insights into the challenges impacting bid decisions.

**Originality:** The study enhances government, client and practitioners’ understanding of the challenges affecting the bidding practices among the indigenous building contractors in Tanzania. This area of investigation has previously been under explored particularly sub-Saharan Africa.

**KEYWORDS:** Bidding decision; construction contractors, bid decisions, challenges, survey, Tanzania.

**INTRODUCTION**

In today’s globally competitive business environment, construction contractors must carefully deliberate and decide whether to bid or not to bid for a project (Duygu, 2016); not least because such decisions invariably impact upon business profitability and ultimately survival. These decisions also impact upon the wider macro- and socio-economic development of a nation in most developed and developing countries particularly, sub-Saharan Africa. This is because the sector is a major contribution to the Gross Domestic Product (GDP) and employment (Voordijk, 2012; Enshassi.*et al*. 2013). According to Tanzania Invest (2019), the Tanzanian construction industry (TCI) contributes about 7.8% of the country’s GDP or 1.6 billion USD in 2010 rising to 13.6% GDP contribution during 2015, reaching almost 6 billion USD. Moreover, the TCI employs about 10% of the national workforce and is the fifth largest employer among all sectors (Sambasivan *et al*. 2017). Combined, these statistics provide compelling evidence that underscores the sectors importance to national economic prosperity.

Despite its economic significance, the sector is characterized as being highly competitive, with indigenous contractors in facing several challenges such as high equipment higher rates, stiff competition, lack of liquidity, inadequate management skills, and project complexity that doggedly persist and competition from technological advanced foreign contractors (Olatunji *et al*. 2017; Odediran *et al*., 2012; Chileshe and Kikwasi, 2014; Oke *et al*. 2018; Kikwasi and Escalante, 2018; Somiah *et al*. 2019; Wegenast *et al*. 2019). These challenges are further exacerbated by the composition of construction markets which include both indigenous and foreign contractors (Burke, 2007; Owolabi *et al*. 2019). The TCI is no exception within the developing world as Somiah *et al*. (2019) indicated that the same challenges are apparent with the Ghanaian context. Consequently, indigenous contractors are competitively disadvantaged and risk being marginalized amidst strong competition posed by their foreign counterparts (Odediran *et al*., 2012), and are very prone to bankruptcy (Ugochukwu and Onyekwena, 2014; Oke *at al*. 2018).

Moreover, according to Burke (2007), the only serious competition faced by these foreign firms (who tend to be mostly Chinese contractors) in Tanzania was amongst themselves [foreign contractors]. For instance, Olatunji *et al*. (2017) considers the competition within the Nigerian construction industry as extreme with high risks and where uncertainty is rife. Evidence of the negative perceptions of Chinese workers among indigenous populations in sub-Saharan African countries derives from the belief that they are crowding out local employment (Kikwasi and Escalante, 2018; Wegenast *et al*. 2019). This belief is further compounded by incidents where Chinese firms operating in Africa prefer to use all-Chinese inputs and usage of local workers and contractors is based on negotiations (Alli, 2018). Similarly, according to Kikwasi and Escalante (2018), competition within the TCI consists of 8,000 registered contractors who struggle for few work opportunities. Consequently, new entrants in the TCI are fraught with challenges affecting their bid decision practices which require solutions. According to Kikwasi and Escalante (2018), these challenges include: 1) inadequate management and human resource skills; 2) high equipment hire rates; 3) stiff competition; 4) low financial base (e.g. poor liquidity and high gearing); 5) lack of capital; and 6) late payment/ disputes. In addition to competition issues, indigenous contractors have also proven to be inept at executing their contractual obligations yet they are constantly awarded the majority of road projects (Ogbu and [Adindu,](https://www.emerald.com/insight/search?q=Chinedu%20Chimdi%20Adindu) 2019). This begs the question of whether challenges currently faced by these indigenous contractors are ever taken into consideration.

Asante *et al*. (2019) noted that very little is known about the needs (support) required by small- and medium-scale building contractors. This trend is evident across many developing countries. For instance, Debra and Ofori (2005) previously acknowledged difficulties indigenous Tanzanian construction firms find in competing with foreign companies for projects whilst similarly, Oke *et al*. (2018) demonstrated that foreign contractors have better strengths than their Nigerian indigenous counterparts.

However, a plethora of studies on the criticality of the bid decision factors predominantly focus upon developed economies (Ahmad and Minkarah 1988; Odusote and Fellows 1992; Oo *et al*. 2012; Shokri-Ghasabesh and Chileshe 2016) – a notable dearth of attention has been given to exploring the challenges faced by contractors, particularly small indigenous ones undertaking bidding practices. Therefore, this study sought to bridge this knowledge gap by: 1) identifying the key challenges faced by small indigenous building contractors in bid decision in Dar es Salaam, Tanzania; and 2) providing some advocated solutions and recommendations. Drawing upon Hatamleh *et al*. (2018), the study’s objectives are to: 1) identify the key challenges impacting the bid decision process; and 2) establish the strength of their relationship between the pairs of key challenges.

**CHALLENGES IMPACTING THE BID DECISION PRACTICES**

Several studies have reported upon the bid decisions of contractors in emerging markets and developing economies (Shokri-Ghasabeh and Chileshe, 2016; Olatunji *et al*. 2017; Shofiyah *et al*. 2018; Chisala, 2017). However, the majority of these studies have largely focused on identifying influencing bid factors in developing and developed countries. However, with the exception of studies by Olatunji *et al*. (2017) and Oke *et al*. (2018) limited studies have focussed on the bidding challenges facing the indigenous contractors. Instead, other scholars have focussed on: survival practices of indigenous construction firms (ICF) (Ogbu, 2018; Aghimien *et al*. 2018); and critical success factors against competitive advantages of ICF (Somiah *et al*. 2019). Table 1 presents a summary of selected reviewed studies that have explored challenges influencing the bid decision making practices.

In addition to these aforementioned challenges and within the Tanzanian context, procurement challenges not only affect indigenous small building contractors. Other challenges not listed in Table I includes lack of procurement contract management capacity among the local government; low levels of support from higher level LGAs; guidelines for lower level procurement contract management which reflect current legal issues and the lack of a legal framework for procurement at the lower level of local government ([Rasheli,](https://www.emerald.com/insight/search?q=Geraldine%20Arbogast%20Rasheli" \o "Geraldine Arbogast Rasheli) 2016); and capacity weaknesses among public procurement institutions (Manu *et al*., 2019). There also cases where construction the sector’s proclivity to become embroiled in corrupt practices, especially in developing countries is evident (Owusu *et al*. 2019). In a similar view, other studies observed that the experience and skills of consultants can affect the accuracy of cost estimates in Nigeria (Alumbugu *et al*. 2014) and Jordan (Hatamleh *et al*. 2018). Other challenges though not specifically targeted on the bidding practices but facing indigenous contractors are evident in literature. For example, Bala *et al*. (2009) classified these challenges in two thematic groups related namely to: 1) external as in the ‘*government*’; and 2) internal as in the ‘*firms*’. Lack of entrepreneurial skills has also been identified as among the major cause of business failures for small contractors in South Africa (Thwala and Phaladi, 2009). The majority of challenges listed in Table I falls into the ‘*firm*’ category and include: limited finance (Ugochukwu and Onyekwena, 2014; [Okpara](https://www.emerald.com/insight/search?q=John%20O.%20Okpara), 2011), limited managerial experience (Chileshe and Kikwasi, 2014), limited technical expertise (Shakantu, 2012), limited plant and equipment (Edwards *et al.,* 2017), lack of entrepreneurial skills (Bala *et al*. 2009) and lack of strategic vision (Debrah and Ofori, 2005). Some challenges identified in literature are further influenced by other factors. For instance, according to Ugochukwu and Onyekwena (2014), the level of working capital requirements is affected by various factors comprising: inflation, delays in interim payments, taxation at source and deduction of retention funds. In summary, the literature review highlighted limited empirical Tanzanian specific bidding practices studies on the associated challenges facing indigenous building contractors. Therefore in filling this knowledge gap, this present study not only investigates and identifies the critical challenges faced by small indigenous building contractors in bid decision in Tanzania but also proposes practical solutions to common identified challenges.

**RESEARCH METHODS**

To identify the key challenges impacting the bid decision process of small indigenous building contractors, this research adopted an explorative approach. The methodology is a review of literature to identify the challenges impacting the bid decisions of small indigenous building contractors, a survey with a group of constructional professional to assess and rank the challenges, analysing the survey data descriptive and parametric tests, and discussing the top-ranked challenges. Such an approach has previously been used by Ameyaw *et al*. (2017).

**Sample frame**

Tanzanian small building contracting firms in Dar-es-Salaam constituted the population frame. Dar-es-Salaam is the largest city and economic capital of Tanzania and 17.68 % of indigenous contractors have registered offices located here thus, substantiating the rationale for selecting this regional area of economic activity. According to the Contractors Registration Board (CRB, 2019), 425 small indigenous building contracting firms operate in Dar es Salaam comprising of 179 and 246 Classes VI and VII categories respectively. Most importantly, the Classes VI and VII represent the majority of the contractors in Tanzania (van Egmond, 2012); with Classes IV to VII alternatively known as *small contractors* (Tesha *et al*. 2017), accounting for 84 per cent of the total, with Class VII alone accounting for 34 per cent of the total (Kikwasi and Escalante, 2018). Furthermore, according to Wells (2012), some of these unregistered (*informal*) contractors whilst relying on some registered (*formal*) contractors do occasionally bid for work in the private sector which makes understanding their perspective on the challenges impacting the bidding decisions very important. Equally, strong linkages exist between the two groups (‘*unregistered*’ and ‘*registered*’) through sub-contracting. According to Kikwasi and Escalante (2018), the class in which a contractor is registered is important for determining the maximum value of any single contract that this firm can access.

*Determination of sample size and data collection*

In determining the sample size for a finite population (where the population is less than 50,000), the final population size of 40 respondents was derived by determining the actual number of the registered small indigenous building contracting firms operating in Dar es Salaam. As highlighted within the previous section, Dar es Salaam, Tanzania has 425 contractors comprising of 179 and 246 Classes VI and VII. As recommended by Forza (2002), based on the total population of the small building contractors of classification, Grades VI and VII, the sample size from infinite population, taking the variance of the population elements, and in comparison, with previous surveys of similar populations, the sample size from finite population was determined. Such an approach has been used previously in bid related studies (Shokri-Ghasabeh and Chileshe, 2014; Olatunji *et al*. 2019). Therefore, a questionnaire survey data collection instrument was distributed to contracting firms. The non-probability sampling technique of purposive sampling was used (Rowley, 2014). Purposive sampling was deemed appropriate because the sample was *hand-picked* based upon the researchers’ first-hand knowledge of the indigenous construction firms (cf. Bryman 2012; Rowley, 2014; Saunders *et al.,* 2016) – a decision supported in previous bid studies such as Oke *et al.* (2018) in Nigeria and Perera et al. (2019) in Sri Lanka.

 *Research instrument: The questionnaire*

The questionnaire was divided into the following three distinct sections (cf. Shokri-Ghasabeh and Chileshe, 2016) viz:

* ***Section 1*** encompassed collating general demographic information on participating organisations such as class type of organisation; years of experience, involvement in the bidding decisions and number of projects; where responses to nominally coded questions could be entered into one of various pre-prepared categories (cf. Forza, 2002). This enabled cross comparative analysis to be conducted as part of a robust data mining protocol.
* ***Section 2***comprised of the rating and ranking of the 30 common bid bid decision criteria from the participants’ perspective.
* ***Section 3*** captured the rating and ranking of the nine challenges affecting the bidding process of participating firms.

For both the ‘bid’ and ‘challenges’ sub instruments (sections 2 and 3), respondents were asked to identify and *rate* the ‘bid’ and ‘challenges’ they perceived as influential and significant to the decision making process; using a five point Likert-scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree). Results reported upon herein relate to the *first* and *third* sections of the questionnaire since it is beyond the scope of this paper to report on all issues covered within the broader research project.

*Survey administration*

Prior to administering the questionnaire, a pilot survey implemented on 10 senior academics with subject specific knowledge and experience were undertaken to ascertain the questionnaire’s accuracy, clarity and validity (cf. Fellows and Liu, 2008; Forza, 2002; Kelly *et al*.*,* 2003). Several options for distributing the questionnaires were considered including electronic, postal and hand-delivery (Shokri-Ghasabeh and Chileshe, 2016). Given the contextual backdrop of a comparatively small sample size and relatively local geographical distribution, Rowley (2014) recommends that hand-delivery as representing the best option to enhance the response rate. Consequently, a census sampling technique (cf. Olatunji *et al*., 2017) was used in administering 40 questionnaires via hand (or circa 10% of the total number of Class VI and VII contractors).

A total of 33 responses were received, representing a high 82.50% response rate; where Akintoye and Fitzgerald (2000) cited in Odeyinka *et al*. (2008) state that a 20-30 % response rate is the norm in most postal questionnaires distributed in the construction industry. From an alternative perspective, the sample size could be criticised as being small but two reasons for this are apparent. First, a large number of construction firms have become insolvent due to the prevailing economic conditions arising from the instability of the local currency led to most large projects being awarded wholly or partly in a foreign currency (Kikwasi and Escalante, 2018). Second (and again perhaps due to macro-economic), some firms have either relocated to other regions, or have diversified from construction to other industrial activities such as agriculture. The third plausible reason for the small sample size is that despite the study by Kikwasi and Escalente (2018) showing that the numbers of the construction firms have increased over the years, and taking into consideration the entry and exit of contractors in construction business as a normal occurrence, which could neither amount to recession nor explain the small sample size as employed, some external factors have attributed to that. For instance, post publication of the Kikwasi and Escalente (2018) study, according to Africa News (2019), the Tanzanian Government ordered the relevant authorities to deregister incompetent contractors on the basis that, there was no room for shoddy construction projects in the east African nation. On that basis, the number of indigenous building contractors in Dar es Salaam has declined, and hence the small sample size. More so, the closure of such construction firms is not only unique to the developing countries but a global problem (Amankwah-Amoah, 2015).

*Data analysis*

 Quantitative data was analysed using the IBM *Statistical Package for Social Sciences* (SPSS) version 25. Three methods were employed viz:

 *Parametric tests* undertaken sought to measure the significance of the ‘challenges’ affecting the bidding practices. Independent sample t-tests were then used to measure for differences in the sample means between the two groups of class VI and VII contractors, and the one-sample t-tests of the challenges based on the overall sample (Pallant, 2005).

1. *Descriptive statistics tests such as measures of central tendencies and frequency analysis* enabled further ranking analyses to obtain relative criticality of the challenges.
2. *Pearson correlation* analysis was used to examine the interaction and strength of the relationships (both positive and negative) among identified challenges (Pallant, 2005).
3. The *Coefficient of Variation (COV)* was used as a general measure of the standardised skewness or variability of the responses (Hatamieh *et al*., 2018). This was computed using the standard deviation as a percentage of the mean score. Rank differentiation was also used where two or more ‘challenges’ had the same mean values. This was achieved through examination and selection of the variable (challenge) with the lowest standard deviation or COV.

The data analysis techniques described have previously been used in other bid studies in both developed (see Shokri-Ghasabesh and Chileshe, 2016) and developing countries (see Olatunji *et al*. 2017; Hatamleh *et al*. 2018) as well as survey related research (Chileshe and Kikwasi, 2014; Kavishe *et al*. 2018; Manu *et al*. 2019). Moreover, the identified techniques are appropriate as noted by Forza (2002) and Bryman (2012). For instance, the independent t-test of the mean was used to measure the significance of the challenges affecting the bid decisions, and the cut-off point for five-point scale was set at 3.5 (µ = 3.5) where µ is the test value (Owusu-Manu *et al*. 2019; Chileshe and Kikwasi, 2014; Field, 2005). Procedures for the single-sample *t*-test were conducted as outlined in Cronk (2012). Likewise, the Pearson correlation analysis is nested within the correlational type of research design which is aimed at determining the possibility of interrelationships of different elements in a certain environment (in this instance, the TCI) (Bryman, 2012).

***Characteristics of the sample***

The characteristics of the respondents and their organisations are summarised in Table II. This includes respondents’ characteristics according to their organisation’s class and includes a demographical description that comprises of their years of experience, professional background, involvement in bidding decisions and the number of projects they have managed. Most respondents (54.5%) can at least be classified as class VI building contractor and the remainder are class VII (45.5%).

Table II shows that the majority (53.1%) of the respondents are engineers, followed by quantity surveyors (40.6%). The minority (6.3%) were architects. The proportion of the respondents in terms of experience was: The majority (48.5%) and 36.4% of the survey participants have between 1-5 years and 6 -10 years of experience of working in the industry respectively. Only a minority, 3.0% have > 20 years of experience. More than 50% of participants indicated that they have bidding decision process experience. There was a reasonable distribution of project management experience, with a minority 16.1% having been involved in over ten projects and the majority 38.7% in less than three projects. Furthermore, in light of the contractor’s decision whether to bid being highly dependent on intuition, subjective judgment and experience (Chisala, 2017), the reported lack of experience is likely to affect this important and complex activity.

**SURVEY RESULTS AND FINDINGS**

***Agreement and consistency of responses***

To establish whether there were any agreement and consistency responses around the challenges inhibiting the bid decision practices, Kendall’s concordance analysis at a pre-defined test value of *p* = 0.05 was undertaken (Kavishe and Chileshe, 2018; Osei-Kyei and Chan, 2017; Oyeyipo *et al*. 2016) – refer to Table III.

The *W* values obtained for the challenges inhibiting the ‘bid decision factors’ was 0.282, with significance values of 0.000. As suggested by Kavishe *et al*. 2019; Osei-Kyei and Chan, 2017), the chi-square (χ2) was used for the bid /or no-bid factors than the computed *W* values due to the number of attributes (i.e. bid challenges) exceeding seven. From the results obtained, the critical value of the χ2 was 15.51 and less than the computed value of 67.763 with degrees of freedom (*df* = *N* - 1) of 8 thus, confirming that there was agreement in the levels of consensus in the scoring of the challenges inhibiting the bid factors decision practices among respondents.

***Overall ranking of the criticality of the challenges***

Tables IV and V shows mean score analysis and one-sample *t*-tests of challenges affecting the bid decisions respectively. In the case of having equal means, the criterion with a lower standard deviation is ranked higher since a smaller standard deviation illustrates that the values are closer to the calculated arithmetic mean. Whereas previous bidding studies such as Olatunji *et al*. (2017) investigating the influencing factor have based the ranking on the significance values, this study draws up Alsaedi *et al*. (2019) that used the mean score or relative importance index (RII) as the basis of discussion the highly ranked factors, and using the significance values to flag up and supplement the discussion of those among the highly ranked factors. Likewise, Oyeyipo *et al* (2016) used the mean score as the basis for ranking the 48 factors affecting the bid/no bid decisions based on the overall sample, and significance applied to detecting the differences in the ranking of two different types contractors (i.e. indigenous and expatriate contractors).

Examination of the results reveal that the mean scores of the nine challenges impacting upon the bid factors ranged from 2.87 (*lack of labor*) to 4.88 (*lack of liquidity*) with an average score of 3.64. The COV of the challenges also ranged between 6.27 and 50.7 percent illustrating the different levels of agreement amongst the respondents.

Further examination of Tables IV and V shows that the *lack of liquidity* challenge was the highest ranked factor based on the overall sample (mean = 4.70). The lower value of standard deviation (std. dev = 0.421) further reinforces the consensus among respondents in ranking this challenge highly. This factor was also statistically significant (*t* (31) = 18.446, *p* = 0.000 < 0.05). The second overall ranked challenge influencing the bid decision making practices was *profit returns* (mean = 4.10). Despite the higher value of standard deviation (std. dev = 1.165), this factor ***w***as nevertheless statistically significant (*t*(31) = 2.852, *p* = 0.008 < 0.05). The third overall ranked challenge influencing the bid decision making practices was that of *lack of equipment* (mean = 3.84). The lower value of the standard deviation (SD = 0.987) further reinforced the respondents’ consensus in their higher ranking of this challenge. Notwithstanding that, this factor was not statistically significant (*t* (31) = 1.970, *p* = 0.058 > 0.05). This was followed by “*lack of experience of several works”* which was ranked fourth (mean = 3.72) and assessed as not statistically significant (*t* (31) = 1.033, *p* = 0.310 > 0.05)*.* The fifth overall ranked challenge influencing the bid decision making practices was that of procurement procedure, (mean = 3.65). Despite the higher value of the mean score, examination of Table this challenge **w**as nevertheless statistically significant (t(31) = 2.852, *p* = 0.008 < 0.05).

In the lower quartile, *project location* (mean = 3.10), *site accessibility* (mean = 3.10), and *lack of labor* (mean = 2.87) ranked 7th, 8th and 9th respectively. The following sub section discusses some of the challenges. Except for *lack of* *labour* which was also statistically significant (*t* (31) = -2.408, *p* = 0.022 < 0.05), the remaining two challenges of *project location* and *site accessibility* were not statistically significant (*t* (29) = -1.948, *p* = 0.061 > 0.05) and (*t* (30) = -2.408, *p* = 0.076 > 0.05 respectively).

***Parametric tests***

Pearson’s correlation coefficient and the coefficient of determination were computed for the nine challenges affecting the bid decision practices (refer to Table VI). Figure 1 illustrates how these challenges are grouped into these two levels (viz: ‘external government’ and ‘internal firms’ (Bala *et al*., 2009)) and how such a relationship could impact on each other. The positive relationships among the challenges are denoted by a + sign and further shown by thick lines indicating their *medium* levels of *strength* with values ranging between = 0.300 and 0.49. The dashed lines indicate *small* levels of *strength* which range between.10 to .29. This classification of *strength* is based on the interpretation and guidelines of the Pearson correlation (*r*) according to Cohen (1988 cited in Pallant, 2005).

Figure 1 further illustrates criticality of the challenge of ‘*procurement procedures*’ as evidenced by the number of positive and medium relations that has with other challenges such as *lack of experience of several works* (r = 0.384); *lack of equipment* (r = 0.394) and *lack of labour* *(r* = 0.322). Further examination of Table VI reveals that that none of the correlations were of large strength (*r* = 0.50 to 0.10 or *r* = -0.50 to -1.0) as defined by Cohen (1988 cited in Pallant 2005). In addition, Table VI also reveals that eight (22.22 percent) out of the 36 correlations were significant at *p* < 0.01 and *p* < 0.05 levels with *project location* and *site accessibility* showing medium strength positive correlations (*r* = 0.436, *n* = 32, *p* = 0.004 < 0.01). Examination of Table VI and Figure 1 further highlights a number of negative and weaker associations. For instance, the small and negative correlation between *lack of liquidity* and *profit returns* (r = - 0.140, *n* = 31, *p* = 0.405 > 0.01) which is also noteworthy. Table VI further shows that the weakest or *small* correlation (*r* = -0.012, *n* = 31, *p* = 0.939 > 0.05) was between *profit returns* and *site accessibility* which was also negative and not significant (*p* = 0.939 > 0.05). The second weakest and negative relationship was between *lack of liquidity* and *project location* (r = -0.024, *n* = 31, *p* = 0.886 > 0.05).

**DISCUSSION**

The results of the data analysis presented in the previous sections show that only 3 out of the 9 identified challenges are statistically significant and are regarded as among the critical challenges (Table V). However, five challenges attained a mean value greater than 3.5. The following subsections present a brief discussion of challenges in the top and lower quartiles.

* *Lack of liquidity*

The highest ranked challenge was “lack of liquidity”. The finding is consistent with several earlier studies that report that a lack of liquidity stifles a contractor’s ability to successfully bid for a contract (cf. Adams, 1977; Muhegi and Malongo, 2004; Olatunji *et al*. 2017; Oyeyipo *et al.* 2016; Ugochukwu and Onyekwena, 2014; Kikwasi and Escalante, 2018). This challenge has led to contractors increasing the amount of working capital as a business survival mechanism (Ogbu, 2018). Ogbu and Adindu (2019) investigated the effect risks on contractors’ cost performance (profit) and found that most indigenous contractor’s do not bid mostly due to the lack of capital (investment) needed to develop a project. As a viable solution, Tanzanian contractors could draw lessons from Nigeria (cf. Oke, 2018) where contractors could engage in a construction bond agreement with guarantors as a mechanism for generating capital.

* *Profit returns*

The challenge of “profit returns” was the second highest ranked**.** This challenge is quintessentially important because profit return dictates whether indigenous contracting firms should bid or not. However, as observed by Leeds (2016), the Tanzanian construction sector faces several challenges arising from the easy entry into, and stiff competition within the sector. This prevailing sector context makes business survival for local contractors very difficult and often worsened by ill-advised practices such as submitting overtly competitive bids with very low profit margins. For example, the majority of construction organisations in China are subsidized state-owned-enterprises and able to operate on 5% profit margins in comparison to the indigenous and other foreign companies which operates on 15-25% margins (Burke, 2007). The competitive environment described here is also consistent with construction markets within other developing countries (Olatunji *et al.,* 2017; Kikwasi and Escalante, 2018). Likewise, in developed countries such as Australia, it is acknowledged that local contractors equally need to choose a potentially profitable project to bid for, and herein lays the challenge (Shokri-Ghasabeh, and Chileshe, 2016), and developing countries in sub-Saharan African such as Malawi, Chisala (2017) identified rate of return on investment’ among the bidding factors and challenges.

* *Lack of equipment*

The third ranked challenge was “lack of equipment”. The finding is also consistent with previous studies (Muhegi and Malongo, 2004; Kikwasi and Escalante, Chisala, 2017; Mwombeki, 2017; 2018; Olatunji *et al*. 2017). For instance, Kikwasi and Escalante (2018) established the negative relationship between the *lack of liquidity* and *lack of equipment* as the indigenous contractors lacked the capital to acquire the necessary equipment and facilities for a project. Most importantly, the same study (*ibid*) noted that despite the contractor’s desire to hire equipment and/or plant, the rates were nevertheless too high for indigenous contractors to afford. Other Tanzanian studies in support of this are by Mwombeki (2017) who identified inadequate equipment and plant in the construction sector among the main challenges contractors faced. Likewise, within the Nigerian context, Olatunji *et al*. (2017); and among the contractors in the Malawi contract construction market (Chisala, 2017), and other developed economies such as New Zealand (Ma, 2011) drew similar conclusions.

* *Lack of experience of several works*

The fourth ranked challenge to bid decisions was “lack of experience of several works.” Extant literature on developing countries (and specifically Tanzania) has highlighted the challenges around the lack of experience of several works that affects the biding practices of the ICF (Debra and Ofori, 2005; Kikwasi, 2011; Odediran *et al*., 2012; Alumbugu *et al*., 2014; Chileshe and Kikwasi, 2014; Leeds, 2016; Hatamleh *et al*., 2018; Kikwasi and Escalante, 2018; Oke *et al*., 2018). For instance, according to Kikwasi and Escalante (2018), this challenge led to the failure of the Tanzanian indigenous construction contractors to register companies due to their inability to find engineers to employ. Furthermore, this issue is further exacerbated by most Tanzanian contractors’ unwillingness to test skilled workers’ competency before engaging them (Kikwasi, 2011). Whilst technology transfer (Bakar and Tufail, 2010; Edwards *et al.,* 2017) and joint ventures with foreign contractors has been advocated as a solution to addressing this challenge (Chileshe and Kikwasi, 2014), there is contradictory evidence on foreign contractors providing employment to indigenous contractors. For example, some studies have reported upon Chinese contractors’ preference for employing a ‘homeland’ workforce rather than hire locally (Burke, 2007; Wegenast *et al*. 2019; [Kinyondo](https://www.emerald.com/insight/search?q=Godbertha%20Kinyondo) and [Chatama,](https://www.emerald.com/insight/search?q=Yuda%20Julius%20Chatama) 2015). In contrast, according to the Global Construction review (2019),Chinese contractors have been the main contributors to construction sector job creation in absolute terms within developing countries like Ethiopia and Angola. Earlier studies such as Burke (2007) have shown that Chinese construction companies prefer to not to engage using this approach – thus raising questions about ‘trust’ and which in-turn anecdotally fuels a widespread perception that indigenous partners have little to offer. The issue of lack of experience appears to affect other developing countries in sub-Saharan Africa. For instance, in South Africa, Martin and Root (2010) attributed ‘lack of experience’ among the reasons emerging contractors failed to develop into sustainable enterprises, which affected their bidding decisions. Likwise, Chisala (2017) identified “Past experience in executing similar jobs” among the factors affecting the bidding process for contractors in the Malawi contract construction market.

* *Procurement procedure*

The challenge of “procurement procedures” was the fifth ranked. The implication of this finding is that the procurement procedures in Tanzanian construction industry are sympathetic to the development of small local contractors. Within the Tanzanian context, several studies have identified ‘*procurement procedures/policy’* among the challenges and major barrier to entry for local firms when it comes to tendering for work (Malongo, 2015; Kikwasi. and Escalante, 2018; Kavishe and Chileshe, 2018). However, whilst the Tanzanian bidding process includes open tendering which is also among the preferred methods in East African countries, prevailing laws state that the other methods of procurement will be used only in exceptional circumstances. For example, according to the Tanzanian Procurement Act (2011), Tanzania contractors or consultants are eligible to be granted a margin of preference, and exclusively preferring local individual contractors or firms registered as local contractors (Kikwasi. and Escalante, 2018).

*Lower quartile challenges*

Project location, site accessibility and lack of labor were the least ranked, seventh, eighth and ninth respectively*.*  Bidding challenges affecting indigenous small building contractors in developing countries, particularly some sub-Saharan African countries are well documented (cf. Aje *et al.,* 2016; Oyeyipo *et al*., 2016; Olatunji *et al.,* 2017). For example, Olatunji *et al*. (2017) identified and ranked project location among the major challenges facing contractors. The *site accessibility* challenge is further complicated by the acquisition of construction permits in Tanzania. According to Kikwasi and Escalante (2018), there are over 24 different procedures for securing these construction permits, suggesting a leaner process is required if indigenous contractors are to remain competitive.

**Pearson’s correlation analysis**

Figure 1 highlighted the importance of the challenge of “procurement procedures” as evidenced by its strength of association with a number of challenges. According to Williams-Elegbe (2018), procurement within the public sector in developing countries has been identified as a source of corruption. The same study (*ibid*) noted that, this is largely due to institutional weaknesses and a lack of enforced accountability mechanisms and specifically in the case of Tanzania, the country has weak institutional structures (World Bank, 2016). Procurement aspects have begun to attract attention in bidding related literature (Oke *et al*., 2018).

Thishighlights the significance of identifying the appropriate project location should be accompanied by having access to the selected site. One of the plausible reasons for the strong and positive correlation is that, for participants, site accessibility is one of the major challenges that limit most of these firms. This observation is consistent with findings presented in previous studies such as El-Mashaleh (2010) who found that site accessibility is the most influential factor that can make contractors decides to bid or not bid. Likewise, Huan (2011 cited in Oke *et al*. 2018) identified project location among the factors of cost performance with the most impact on bidding decisions. The *coefficient of determination* (0.4362 = 0.1900) further illustrates that 19.00 percent of the variance in the project location can be accounted for by site accessibility.

The small and negative association between “*lack of liquidity”* and “*profit returns”* implies that the lack of liquidity (and hence inability to bid) will certainly affect the ability to generate any profit returns – a finding that is consistent with previous studies (Egemen and Mohamed, 2007; Oyeyipo *et al*. 2016; Mwombeki, 2017; Olatunji *et al*. 2017). The emergent implication from this finding is that most contractors do not bid because they lack sufficient finances needed to develop a project. Consequently, this would explain why there is no business growth of the small local building contractors in Dar es Salaam, Tanzania.

The other weaker associations between “*profit returns”* and “*site accessibility”* emphasises the following: 1) the importance of capital injection and finance for participating contractors in Tanzania and other developing countries; 2) how the *lack of site access* has a negative impact on profit returns; and 3) how the *lack of liquidity* can also have a negative impact depending on the location of the project - that is, the further the project location from business operations, the higher the transportation costs, and hence capital needed. The results and findings presented are further supported and reinforced by previous studies such as Shakantu (2012) and earlier Tanzanian and Kenyan studies (Mwita, 2013, Mwagainye, 2014) which highlighted access to finance, financial management and enough capital as major challenges facing small, medium and micro-enterprises (SMEEs) in developing countries.

# CONCLUSION

This paper has presented the findings from a questionnaire survey conducted in Dar es Salaam, Tanzania which sought at identifying the key challenges faced by small indigenous building contractors in their bid decisions. Ranking and frequency analyses were used at identifying the criticality of nine challenges identified through the manually reviewed and search of the literature. In addition, correlation analysis was employed to establish the strength of relationships amongst the paired challenges. The overall ranking of the challenges impacting the bid decisions of the indigenous small contractors indicated that *lack of liquidity, profit return, lack of equipment, lack of experience of several works,* and *procurement procedures* were the five top ranked challenges for bidding decisions in Tanzania. The least ranked challenges were as follows: *project location, site accessibility, availability of labour,* and *lack of labour*. The results of the one sample t-tests indicated that except for three (out of 9) identified challenges, there is no statistically significant difference in the perception of the practitioners on challenges impacting the bidding decisions for small indigenous building contractors in Tanzania.

Finally, the Kendall’s concordance analysis was used to establish and test whether they were any agreement and consistency responses among the small indigenous building contractors around the 9 challenges impacting the bid decision factors. The results of the Kendall’s concordance analysis demonstrated that there was agreement in the levels of consensus in the scoring of the challenges affecting bid decisions among the respondents, irrespective of the class (VI or VII) of the indigenous contractors. The major finding from the correlation analysis was the existence of negative correlation between *profit returns* and *site accessibility*. The apparent implication from the results suggests that the indigenous small contractors should factor in the proximity of the project location. Therefore, site accessibility as the associated transportation costs should be built into the working capital required to improve the profit maximisation.

The findings of this study further highlight the key challenges around the bid decisions affecting the majority of the indigenous building contractors in Tanzania. Most importantly, the finding reinforces how the bidding opportunities are missed out by the small local building contractors due to lack of enough capital. As a result, there is no business growth of the small local building contractors in Dar es Salaam, Tanzania.

*Limitations*

There are several limitations related to the sample. First, the sample represented a case study of Tanzania and although extant literature supports the findings presented, it would be difficult to generalize to other industries or organisations operating in other East African or sub-Saharan African (SAA) countries. Therefore, this study should be replicated and cross compared to other developing countries to establish a broader understanding of the issues involved together with common solutions. Furthermore, in replicating the study and to enhance the generalization of the findings, future studies could either use a focus group discussion or expert interviews to validate the results. Notwithstanding that the findings represent a snapshot on the perception on challenges impacting the bid decisions of the challenges faced by small indigenous building contractors. Second, future research should also attempt to differentiate the perceptions of the challenges across the different grading of the contractor (Class I through VII); as each class of contractors (according to grading) as well as ownership (local or foreign) may have its own challenges and problems in their approach to making bid decisions. Third, there is the issue of population validity which refers to whether the sample is representative and whether the results are significant. Although the sample of this study (33) was limited, the findings represent a snapshot of the challenges affecting the bid decisions of the indigenous contractors. Fourth, the study did not include the perceptions of the foreign contractors based in Dar es Salaam hence, future studies should seek to address this issue.

**IMPLICATIONS**

The study’s findings have several implications for practitioners, government policy makers and other stakeholders. For practitioners, these findings identify challenges when considering whether to bid or not to bid decisions as an important first step towards reconciling these as an industry. In turn, this provides a cogent argument for demanding change within the sector for the benefit of practitioners and the clients they serve (both public and private). This argument is based upon the premise that a strong and competitive indigenous contractor will not only be better prepared to deliver contractual obligations but also generate socio-economic wealth for the nation. For policy makers, understanding of key challenges could provide pointers and directions for the design of appropriate macro interventions which could be custom-tailored to indigenous small contractors. Typical interventions could include access to affordable investment achieved through contemporary financial mechanisms such as micro-finance or crowd funding. In addition, supporting professional bodies such as the Contractors Registration Board (CRB) could contribute to designing appropriate procurement and contract management related training courses which are conducive for the TCI. This would further assist the indigenous small registered contractors given the identified problems associated with lack of experienced workers (Mwombeki, 2017; Kikwasi and Escalante, 2018).

**Recommendations**

*Training* *and workshops* – to address *procurement procedures* as a challenge, the CRB could invest in practitioner workshops and seminars to provide core continual professional development (CPD) materials/training on bidding matters. Such an approach would contribute towards building a national community of practice (and thus body of expertise) in bidding activities. Most notably, these CPD workshops would optimize the contractor’s decisions and stimulate growth within the sector. The workshops could further be extended to working capital management given the higher ranking (see Table VI) of this challenge.

*Technology transfer* – given the significance of *lack of experience of several works*, the capacity and capability of contractors surveyed could be enhanced through technology transfer. Such an approach is tried and tested in developing countries (Bakar and Tufail, 2010; Chileshe and Kikwasi, 2014) provided appropriate procurement measures are implemented to engage foreign contractors during and after contract period. Procurement clauses could be implemented to contractually oblige foreign contractors to share their intellectual and technology knowledge base in key target areas of educational need within indigenous partners. Such would help circumvent current issues of low-level knowledge transfer in machine operation only (cf. Burke, 2007).

The literature review reveals that no attempt has been made to explore the challenges faced by small indigenous building contractors undertaking bidding practices within the Tanzanian context. Therefore, this study makes a significant research contribution by identifying an ordered grouped set of challenges affecting the bid decisions for these contractors in Tanzania. The research also sheds light and provides insights on the understanding of challenges affecting their bidding practices, an area previously under-researched. It also expands the efforts of studying and evaluating the challenges across the developing economies and particularly within the (East) African context.

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**Caption: List of Tables and Figures (in order of appearance in manuscript)**

**Table I:** Summary of selected studies on challenges inhibiting the bid or no-bid decision practices (arranged in chronological order).

**Table II:** Demographic description for the indigenous Tanzanian small building contractors

**Table III:** Kendall's *W* test - bid or no-bid challenges

**Table IV:** Descriptive statistics of the challenges influencing the bid / no bid decision criteria based on overall sample

**Table V:** One-sample test

**Table VI:** Inter-item Kendall’s tau\_b correlations of the challenges affecting the bid / no bid practices

**Figure 1**: Challenges affecting the bid decisions for indigenous small contractors in Tanzania

**Table 1:** Summary of supporting literature on challenges influencing the bid or no-bid decision practices

|  |  |  |
| --- | --- | --- |
| **No.** | **Challenge** | **Supporting literature** |
| 1. | Lack of liquidity | Adams (1977)\*; Shakantu (2012); Oyeyipo *et al*. (2016)\*2; Bageis and Fortune (2009)2; Mwita (2013)1, Mwagainye, (2014)1 Mwombeki (2017)1a; Egemen and Mohamed (2007); Egemen and Mohamed (2007); Olatunji *et al*. (2017)\*; Oke *et al*. (2018)\*; Kikwasi and Escalante (2018)1a Bageis and Fortune (2009)4; Odediran *et al*. (2012)\*; Ugochukwu and Onyekwena (2014) |
| 2. | Profit returns | Burke (2007); Oke *et al*. (2018)\*; Shofiyah *et al*. (2018)\* Shokri-Ghasabesh and Chileshe (2016)2,4 |
| 3. | Lack of equipment | Mwombeki (2017)1a, Chisala (2017)\*; Muhegi and Malongo (2004)1a; Kikwasi and Escalante (2018)1a;Jarkas *et al*. (2014)2,4; .Ma (2011)2,4 |
| 4. | Lack of experience of several works\*\* | Kikwasi (2011)\*; Oke *et al*. (2018)\*; Kikwasi and Escalante (2018)1a Leeds (2016); Alumbugu *et al*. (2014)\* Hatamleh *et al*. (2018); Odediran *et al*. (2012)\*; Martin and Root (2010)\* |
| 5. | Procurement procedures | Malongo (2015)1a; Kissi *et al*. (2017)\*; Kikwasi. and Escalante (2018)1,a, Kavishe and Chileshe (2018)1a;  |
| 6. | Number of competitors | Olatunji *et al*. (2017)\*2; Muhegi and Malongo (2004)1a; Aje *et al*. (2016 )\*2; Ngai *et al*. (2002); Kikwasi and Escalante (2018)1a; Hatamleh *et al*. (2018) |
| 7. | Project location | Olatunji *et al*. (2017)\*2; Oyeyipo *et al*. (2016)\*2; Enshassi *et al*. (2013); Shokri-Ghasabesh and Chileshe (2016)2,4; Ahmad and Minkarah (1998)4; Fayek *et al*. (1998)3,4 |
| 8. | Site accessibility | El-Mashaleh (2010); Enshassi *et al*. (2013)\* |
| 9.. | Lack of labor | Chileshe and Kikwasi (2014)1a; Kikwasi and Escalante (2018)1a |

**Notes**:\*sub-Saharan Africa studies; 1 East African specific study (Tanzania**a** and Kenya**b**); 2Focussed on bid or no bid influencing factors; 3Focused on bid or no-bid practices; 4 Developed countries; \*\* The interpretation of the challenge related to "Lack of experience of several works" is similar to “Experience in similar project” as reported by Oyeyipo et al (2016); Fayek et al. (1998; 1999); “amount of experience on such projects” as reported by the seminal study of Shash (1993).

**Table II:** Survey respondents’ years of experience, bidding involvement and number of projects

|  |  |  |  |
| --- | --- | --- | --- |
| **Characteristics** | **No of respondents**  | **%** | **Cumulative** |
| *Professional background* |  |  |  |
| Architect | 2 | 6.3 | 6.3 |
| Engineer | 17 | 53.1 | 59.4 |
| Quantity surveyor | 13 | 40.6 | 100,0 |
| *Class of contractors\*1* |  |  |  |
| Class VI | 18 | 54.5 | 54.5 |
| Class VII | 15 | 45.5 | 100.0 |
| *Experience (Years)* |  |  |  |
| 1-5  | 16 | 48.5 | 48.5 |
| 6-10  | 12 | 36.4 | 84.8 |
| 11-20  | 4 | 12.1 | 97.0 |
| More than 20  | 1 | 3.0 | 100.0 |
| *Involvement in bidding decisions* |  |  |  |
| Yes | 31 | 93.9 | 93.9 |
| No  | 2 | 6.1 | 100.00 |
| *Number of projects* |  |  |  |
| 1-3  | 12 | 38.7 | 38.7 |
| 4-6  | 7 | 22.6 | 61.3 |
| 7-10  | 7 | 22.6 | 83.9 |
| Over 10  | 5 | 16.1 | 100.00 |
|  |  |  |  |

**Notes**: \*1According to the Contractors Registration Board (CRB), local contracting firms are those whose majority shares are owned by citizens of the United Republic of Tanzania. Firms not meeting these criteria will be registered as a foreign one

**Table III:** Test statistics for Kendall’s coefficient concordance

|  |  |
| --- | --- |
| **N** | 30 |
| **Kendall’s Wa** | .282 |
| **Chi-Square** | 67.763 |
| **df** | 8 |
| **Asymp. Sig** | .000 |

**Notes: a** Kendall’s Coefficient of Concordance

**Table IV:** Descriptive statistics of the challenges influencing the bid or no-bid decision criteria based on overall sample

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Challenge** | **N** | **Min** | **Max** | **MSa,,b** | **Std. dev** | **COV** | **Std. error mean** | **Percentiles** | **R** |
| **25th** | **50th (Median)** | **75th** |  |
| Lack of liquidity | 32 | 3 | 5 | 4.88 | .421 | 6.27 | .074 | 5.00 | 5.00 | 5.00 | 1 |
| Profit returns | 31 | 1 | 5 | 4.10 | 1.165 | 28.4 | .209 | 3.00 | 4.00 | 5.00 | 2 |
| Lack of equipment | 32 | 2 | 5 | 3.84 | .987 | 25.7 | .175 | 2.00 | 3.00 | 4.00 | 3 |
| Lack of experience of several works | 32 | 2 | 5 | 3.72 | 1.198 | 32.2 | .212 | 2.00 | 4.00 | 5.00 | 4 |
| Procurement procedures | 31 | 2 | 5 | 3.65 | .877 | 24.0 | .158 | 3.00 | 4.50 | 5.00 | 5 |
| Number of competitors | 30 | 1 | 5 | 3.47 | 1.252 | 36.1 | .229 | 2.00 | 3.00 | 4.00 | 6 |
| Project location | 30 | 1 | 5 | 3.10 | 1.125 | 36.3 | .205 | 2.75 | 3.50 | 5.00 | 7 |
| Site accessibility | 31 | 1 | 5 | 3.10 | 1.221 | 39.4 | .219 | 3.00 | 4.00 | 4.00 | 8 |
| Lack of labor | 31 | 1 | 5 | 2.87 | 1.455 | 50.7 | .261 | 2.00 | 3.00 | 4.00 | 9 |
| *Average* |  |  |  | 3.64 |  |  |  |  |  |  |  |

**Notes:** aMean score based on valid n =33 (list wise), b MS = mean score of the bid decision challenges where 5= strongly agree; 4=agree; 3=neutral; 2= disagree; 1= strongly disagree. The higher the mean score the more critical the challenge; COV = Coefficient of variation; R = Rank

|  |  |
| --- | --- |
| **Table V:** One-sample test |  |
| Challenges\* | Test value( = = 3.5t | *df* | Sig. (2-tailed) | Mean difference | 95% Confidence interval of the difference | Significant(*p* < 0.05 |
| Lower | Upper |
| Challenge 1 | 18.466 | 31 | ***.000*** | 1.375 | 1.22 | 1.53 | Yes |
| Challenge 2 | 1.970 | 31 | .058 | .344 | -.01 | .70 | No |
| Challenge 3 | -2.408 | 30 | ***.022*** | -.629 | -1.16 | -.10 | Yes |
| Challenge 4 | 1.033 | 31 | .310 | .219 | -.21 | .65 | No |
| Challenge 5 | 2.852 | 30 | ***.008\**** | .597 | .17 | 1.02 | Yes |
| Challenge 6 | -1.948 | 29 | .061 | -.400 | -.82 | .02 | No |
| Challenge 7 | -.146 | 29 | .885 | -.033 | -.50 | .43 | No |
| Challenge 8 | .921 | 30 | .364 | .145 | -.18 | .47 | No |
| Challenge 9 | -1.839 | 30 | .076 | -.403 | -.85 | .04 | No |

**Notes**: *df* = degrees of freedom, \*Significant at the 95 per cent level (*p* < 0.05); \* See Table I for the for full list of challenges and associated labels

**Table VI:** Inter-item Kendall’s tau\_b correlations of the challenges affecting the bid / no bid practices

|  |  |
| --- | --- |
|  | Coefficient of determination (2) or amount of variance |
| *Challenge 1* | *Challenge 2* | *Challenge 3* | *Challenge 4* | *Challenge 5* | *Challenge 6* | *Challenge 7* | *Challenge 8* | *Challenge 9* |
| *Challenge 1* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | 1.000 | 0.108 | 0.706 | 6.97 | 1.96 | 0.058 | 1.00 | 1.88 | 12.54 |
| Sig. (2-tailed) | . |  |  |  |  |  |  |  |  |
| *Challenge 2* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | .033 | 1.000 | 15,44 | 3.46 | 4.20 | 2.53 | 7.12 | 15.52 | 4.623 |
| Sig. (2-tailed) | .838 | . |  |  |  |  |  |  |  |
| *Challenge 3* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | -.084 | ***.393\*\**** | 1.000 | 0.063 | 5.29 | 5.19 | 1.12 | 10.36 | 9.67 |
| Sig. (2-tailed) | .608 | .010 | . |  |  |  |  |  |  |
| *Challenge 4* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | .264 | .186 | -.025 | 1.000 | 7.84 | 1.69 | 0.152 | 14.75 | 0.518 |
| Sig. (2-tailed) | .106 | .224 | .870 | . |  |  |  |  |  |
| *Challenge 5* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | -.140 | -.205 | .230 | .280 | 1.000 | 3.02 | 2.045 | 0.129 | 0.014 |
| Sig. (2-tailed) | .405 | .190 | .133 | .072 | . |  |  |  |  |
| *Challenge 6* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | -.024 | .159 | .228 | .130 | .174 | 1.000 | 13.98 | 1.44 | 19.00 |
| Sig. (2-tailed) | .886 | .308 | .135 | .403 | .268 | . |  |  |  |
| *Challenge 7* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | -.100 | .267 | .106 | .039 | -.143 | .*3****74\**** | 1.000 | 0.384 | 5.95 |
| Sig. (2-tailed) | .546 | .085 | .484 | .803 | .360 | .015 | . |  |  |
| *Challenge 8* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | .137 | .***394*\*** | **.322\*** | ***.384\**** | .036 | .120 | .062 | 1.000 | 7.62 |
| Sig. (2-tailed) | .416 | .012 | .039 | .014 | .820 | .449 | .694 | . |  |
| *Challenge 9* |  |  |  |  |  |  |  |  |  |
| Correlation coefficient | .112 | .215 | *.****311*\*** | .072 | -.012 | .*436*\*\* | .244 | .276 | 1.000 |
| Sig. (2-tailed) | .492 | .159 | .036 | .634 | .939 | .004 | .107 | .077 | . |

**Notes**: n=32, the values in *italics* (and bold) with asterisks are significant at appropriate levels. The values on the right side of the diagonal are for the “Coefficient of determination”. This is the value of the correlation squared, and it provides the proportion of variance accounted for by the relationship. For the detailed explanations of the challenges, see Table 1.

\*\*. Correlation is significant at the 0.01 level (2-tailed); \*. Correlation is significant at the 0.05 level (2-tailed).

**0.264**

**+**

**+**

**+**

**+**

**+**

**Figure 1**: Challenges affecting the bid decisions for indigenous small contractors in Tanzania

**Medium** + 0.300 – 0.490

**Low** + 0.100 – 0.290

**Legend**

**+**

**+**

**+**

**+**

**+**

**+**

**0.436**

**0.244**

**+**

**+**

**+**

**+**

**0.276**

**0.228**

**0.186**

**0.178**

**0.374**

**0.215**

**0.311**

**0.393**

**0.322**

**0.384**

**0.394**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**+**

**Firms**

**Government**