

Examining the Causes of Disregarding Influencing Factors on Artisan Performance in Tanzania's Building Construction Projects

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Abstract: Poor artisans' performance during construction is often attributed to disregarding influencing factors that affect their performance. This study aims to identify the causes behind the disregard of influencing factors in artisans' performance in Tanzanian building projects, categorising them into external and internal factors. External factors include motivation, formal training and informal training, while internal factors involve qualification-related factors. A qualitative approach was used for data collection through semi-structured interviews and purposive sampling was employed to select supervisors as interviewees. The data was analysed using content and narrative analysis. The result from the semi-structured interview revealed several causes for disregarding motivational factors frequently mentioned by interviewees. These included employers offering work at low prices, supervisors neglecting to apply motivational techniques and employers undervaluing artisans' importance compared to material requirements. Regarding formal and informal training factors, interviewees emphasised supervisors' reliance on constant monitoring to correct mistakes and address poor workmanship during construction. For qualification factors, interviewees noted that construction activities prioritise experience and practical abilities over formal certifications. Based on these findings, this study guides policymakers in preventing disregarding influencing factors in artisans' performance in construction projects. The study concludes by advocating for all stakeholders to support apprenticeships and internships in developing practical skills and recommends the formation of an artisans' association.

Keywords: Building construction projects, Artisan performance, Artisans in the construction sector, Disregarding influencing factors, Tanzanian building projects

INTRODUCTION

Performance in building construction projects typically depends on three key resources: materials, equipment and labourers (Evarist, Luvara and Chileshe, 2022). Labourers, in particular, are responsible for using materials and equipment to transform drawings into tangible structures (Kikwasi, 2011). Similarly, Akomah, Ahinaquah and Mustapha (2020) emphasise that without labourers, the concepts of architects and the designs of engineers cannot become a reality in construction projects. Labourers are categorised as either skilled or unskilled (Hussain, Xuetong and Hussain, 2020). Different authors refer to skilled labourers using various terms,

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such as skilled workforce, skilled labourers, artisans or tradesmen, all of whom carry out the necessary physical tasks required to complete construction projects under contractors (either main contractors or subcontractors) or clients (in the private or government sector) (Alinaitwe et al., 2005; Farmer, 2016; Karimi, Taylor and Goodrum, 2017; Moradi, Nasirzadeh and Golkhoo, 2017; Hussain, Xuetong and Hussain, 2020). In this study, skilled labour will be referred to as artisans.

In Tanzania, artisans play a crucial role in construction project performance, working across various trades. These include block or bricklaying, plastering, tiling, painting, steel fixing, carpentry, welding, plumbing, electrical work, aluminium fabrication and equipment operation (Kikwasi, 2011). The skills of artisans in these trades are overseen by the National Council for Technical and Vocational Education and Training, with certification managed by the Vocational Education and Training Authority (VETA). Notably, only the electrical and plumbing trades receive formal recognition from the Energy and Water Utilities Regulatory Authority (United Republic of Tanzania 2019; 2020), while other trades lack licensing recognition. This disparity affects the attainment of higher competence levels and adherence to safety standards.

Artisans in the construction sector are directly employed by contractors (main contractors or sub-contractors), private clients for informal construction projects and government clients for projects executed under force account procurement methods. When working for main contractors or subcontractors, artisans operate under the supervision of their immediate superiors. However, when working for private clients using informal construction methods, they are expected to manage themselves, a scenario Kikwasi (2011) categorised as individual performance.

According to Zannah et al. (2017), artisans' performance is influenced by various influencing factors, which are categorised as internal or external and these factors must be considered to achieve optimal performance in construction activities. Zannah et al. (2017) and Kikwasi and Escalante (2018) emphasise that artisans' performance depends on their qualifications, the type of training they receive (formal or informal), their motivation during physical construction tasks and the training environment in which they acquired their skills – all of which are key influencing factors. Kikwasi (2011) and Zannah et al. (2017) note that failure to account for these influencing factors results in defects, poor workmanship and lower productivity compared to expected daily output, ultimately affecting overall project performance in terms of quality, time and cost. Zannah (2016) further explains that neglecting influencing factors during artisans' participation in construction projects leads to substandard workmanship and reduced productivity in the final outcomes, especially regarding quality and output.

Salleh et al. (2022) define workmanship as the quality of the final construction output, determined by the level of knowledge and skill applied to a task. Productivity, on the other hand, is described as the amount of output produced relative to the time spent within a given measurement unit (Gundecha, 2012). Whether artisans meet the minimum output per hour depends on the degree to which influencing factors affecting their performance are considered. Poor workmanship leads to subpar performance in building construction projects compared to the expected project value (Kikwasi, 2011; Karimi, Taylor and Goodrum, 2017). Additionally, low productivity causes project delays and negatively impacts the successful completion of construction projects (Hussain, Xuetong and Hussain, 2020), further affecting overall project performance, particularly when compared with the anticipated completion timeframe (Hussain, Xuetong and Hussain, 2020).

Various studies (Alinaitwe et al., 2005; Fagbenle, 2011; Gundecha, 2012; Mahamid, 2013; Othman and Mydin, 2014; Zannah et al., 2017; Tam, Huong and Ngoc, 2018) consistently highlight the neglect of key influencing factors, such as unfair wage payment, lack of incentive schemes, insufficient training in emerging technologies, limited experience, inadequate transportation and weak recognition by regulatory agencies within the construction industry, particularly in comparison to other professions. This gap in addressing these factors indicates the need for a more effective approach to incorporating them and improving artisan performance. This study aims to investigate the reasons for the neglect of influencing factors in Tanzanian construction projects and propose practical solutions to enhance their integration.

LITERATURE REVIEW

Factors Influencing Artisans' Performance

Individual performance in construction activities is a key factor influencing the success of construction projects, specifically among artisans (Akomah, Ahinaquah and Mustapha, 2020). Bergman et al. (2008) and Campbell and Wiernik (2015) emphasise that individual performance is shaped by the actions an artisan takes to meet an organisation's expected goals. According to Campbell et al. (1993), individual performance is determined by an individual's understanding of task requirements, mastery of the necessary physical skills, self-management, interpersonal skills and motivation. Campbell et al. (1993) also note that task comprehension and physical skills, along with self-management and interpersonal abilities, are internal factors influencing artisans' performance (Shengeza, Msambichaka and Mwishwa, 2023). On the other hand, motivation factors, such as incentive schemes (e.g., food allowance, health coverage, transportation, on-site housing, hygiene facilities, drinking water, rest hours, weekly rest, public holiday breaks, accreditation awards and loan services) wage payments (daily, weekly or monthly), standardised salary scales for specialisation and the type of contract (permanent contract or temporary), are considered external factors influencing artisans' performance (ibid.).

External factors are elements in the environment that influence artisans' performance rather than internal attributes. Zannah (2016) views these factors as supports that enhance artisans' performance, serving as motivation during construction activities, providing training facilities for acquiring vocational skills and ensuring the availability of quality tools, equipment, plants and effective site management. Zannah et al. (2017) highlight motivational and training facilities as key factors in artisans' performance. Furthermore, Campbell et al. (1993) identify motivation as a critical factor for individual performance when executing tasks. Similarly, Cox, Issa and Koblegard (2005) refer to motivation as the drive to act to satisfy needs or desires in related work.

Ryan and Deci (2000) and Bergström and Martinez (2016) categorise motivation into intrinsic and extrinsic factors. Intrinsic motivation, driven by personal satisfaction, enhances creativity and job fulfilment, while extrinsic motivation, based on external rewards or promotions, has a significant impact on individual performance in construction activities.

Moreover, Khamis (2019) defines training as acquiring specific knowledge and skills for a given role or profession, emphasising practicality. In construction, recruiting artisans based on their skills is crucial for achieving workmanship and productivity due to the uniqueness of the construction process (Kikwasi, 2011; Evarist, Luvara and Chileshe, 2022).

Impact of influencing factors on artisans' performance

Various authors (Egwunatum, 2017; Zannah et al., 2017; Kikwasi and Escalante, 2018; Hussain, Xuetong and Hussain, 2020) have critically analysed the challenges of monitoring project time and quality performance among participants, identifying these as major problems that necessitate consideration of influencing factors. Artisans, in particular, are often a primary cause of poor workmanship, affecting both the quality of work and the proper implementation of construction techniques as specified throughout the process. According to Egwunatum (2017), a construction project is considered successful only if it is completed on time, stays within budget and meets the contractual specifications. Addressing Ifs that influence artisan performance—whether by contractors or employers—can help minimise project delays and improve output quality, leading to successful project completion within the estimated timeframe and budget (Kikwasi, 2011). Olomolaiye, Jayawardane and Harris (1998) categorise these influencing factors into two groups: internal factors, which are within the control or scope of the artisans themselves and external are beyond the immediate control of the artisans.

Neglecting internal factors, such as the qualifications and experience of artisans, along with external factors, particularly motivational aspects, can lead to construction delays, subpar performance and increased costs (Zannah et al., 2017). For example, artisans may work as carpenters without adequate consideration of influencing factors when installing a door lock; however, the fitment may be improper or malfunctioning shortly after installation. Similarly, in masonry work, block walls may be misaligned, reflecting poor performance, which can be assessed through workmanship and productivity. Minimising these issues depends on the degree to which influencing factors are addressed to help artisans meet their performance goals during construction activities (Zannah et al., 2017).

Existing Gap in Artisans' Practice Regarding Their Performance in Tanzania

In Tanzania, artisans undergo certification overseen by VETA accredited by a National Vocational Awards (NVA) in three levels: NVA 1 (Certificate of Competence Level 1), NVA 2 (Certificate of Competence Level 2) and NVA 3 (Certificate of Competence Level 3), each lasting a full year (Rutayuga, 2014). This three-year training programme ensures comprehensive skill development for certified artisans.

However, per the Contractors Registration Board (CRB) and Public Procurement Regulatory Authority (PPRA), the current practice neglects the recognition and progress of artisans compared to other professionals in the construction industry under the section of qualification criterion information required. This hinders their advancement within the sector (United Republic of Tanzania, 2008; 2013; 2016).

The current practice of artisans' involvement in building construction projects involves acquisition, evaluation and award processes in both the formal and informal sectors. In the formal sector, contractor performance is assessed based on financial capability, equipment and technical personnel (United Republic of Tanzania, 2008; 2013; 2016), neglecting influencing factors for artisans. This oversight results in defects, time wastage and rework during the post-contract stage. In the informal sector, project-related information is obtained informally from friends or skilled labourers and a structured evaluation process is lacking (Kikwasi, 2011; Evarist, Luvara and Chileshe, 2022). Post-contract inspection in the formal sector focuses on project particulars, execution requirements and technical personnel while checklist documents are reviewed (United Republic of Tanzania, 2008; 2015; Architects and Quantity Surveyors Registration Board, 2022). Improvements are needed to consider influencing factors for artisans' performance throughout these practices to produce more effective construction outcomes.

The available practices waive out and lack the coordination of artisans as key personnel who execute the physical works to accomplish the projects. Also, it is a means of determining artisans' performance in terms of the requirement for their characteristics and the extent of influencing factors for their performance (Malinga and Wells, 2002; Jason, 2005) during both pre-contact and post-contract stages.

METHODOLOGY

A qualitative methodology was employed to investigate the causes of disregarding influencing factors for artisans' performance and propose practical solutions to enhance their performance in Tanzanian building projects. The process involved two distinct methodological steps. The first step was data collection using in-depth interviews conducted using an open-ended survey structured interview approach with purposive sampling techniques used to select interviewees. The second step was data analysis for the collected data, which was done by employing content analysis, which per Creswell (2009), refers to classifying and coding data, identifying key categorical issues and determining their frequency and utilising a narrative approach to scrutinise how stories were expressed, offering quotes to summarise the essence of the narratives.

Population and Sample Size

The study population comprised supervisors, including project managers, project quantity surveyors, project foremen, project architects, project site engineers and project site artisans overseeing building projects in Tanzania's major cities, representing diverse zones. Selected cities, including Dar es Salaam, Dodoma, Mwanza, Arusha and Mbeya, covered both small and large projects. Collins, Parrish and Gibson (2017) state that a small construction project typically has a lower budget, shorter duration and less complex design than a large construction project. However, they are combined in this study because the implementation of these types of construction projects faces similar challenges in achieving workmanship and productivity.

The sample size of 10 supervisors was determined through purposive selection based on their expertise in factors influencing artisans' performance. Patton's (2002) guideline for qualitative research deemed this sample size appropriate, as

the suggested saturation threshold is between five and 50 interviews, emphasising data quality over quantity. The selected supervisors were evenly distributed equally among cities to obtain rich insights despite the study's resource and time limitations; this approach was also used by Evarist, Luvara and Chileshe (2022) and ensured a comprehensive understanding of the subject.

Criteria for the Selection of Interviewees

Interviewees were purposely selected to obtain valid information because not all supervisors are familiar with influencing factors for artisans' performance in most developing countries like Tanzania. Therefore, interviewees were selected and divided into two groups based on the position they held in project supervision groups. The first group consisted of project managers, project quantity surveyors, project foremen, project architects and project site engineers, all of whom are required to possess a minimum education level of a diploma. The second group comprised project site artisans, who were required to have an education level of NVA 3 (Certificate of Competence Level 3). Another criterion for selection was a working experience of more than five years for artisans and more than one year for the other professionals. This experience should be in the supervision of building construction projects, as the researcher aimed to gather detailed information on both external and internal factors influencing artisans' performance in building construction projects. Each interview lasted between 30 min and 60 min (with consent).

Data Analysis

Content analysis was conducted as part of the qualitative methods due to its systematic flexibility and capacity to reduce data (Flick, 2014). As this study aims to investigate and gather more information about the reasons for disregarding both external and internal factors influencing the performance of artisans in building projects, collective information from supervisors was collected based on the various types of construction projects they supervised, both small and large. This information could generally be analysed using the utilised approach. Moreover, challenges related to workforce performance, both for small and large-size construction projects in achieving workmanship and expected productivity per day, are the same in most cases. Therefore, the researcher formulated different themes based on the findings concerning each supervisor to create the meaning related to the overall research question. The researcher decided which themes and concepts to code during the content analysis process. After coding, the analysis proceeded using specific words or content frequency. Interview quotes from individuals were also provided.

Profile of Interviewees: Individual Characteristics

The respondents' positions held for supervision, level of education and years of experience for the interview survey are shown in Table 1. As shown in the table, the majority of interviewees (8 respondents: 80%) fell within the six years to 10 years and more than 10 years categories, whereas the remaining interviewees (2 respondents: 20%) were in the one year to five years category and none of the interviewees had

less than one year of experience. Moreover, all 10 interviewees were male and had different project positions. Male dominance is due to the nature of the construction industry, which is known to involve more males than females.

Table 1. Profile of interviewees

No.	Interviewee	City	Gender	Position in the Project	Education Level	Years of Experience
1	A	Mbeya	Male	Site manager	Bachelor of Science	1 year to 5 years
2	B	Mbeya	Male	General foreman	Diploma	Over 10 years
3	C	Dodoma	Male	Site artisan	NVA 3	Over 10 years
4	D	Dodoma	Male	Site engineer	Bachelor of Science	1 year to 5 years
5	E	Mwanza	Male	General foreman	Diploma	Over 10 years
6	F	Mwanza	Male	Site architect	Bachelor of Science	6 years to 10 years
7	G	Arusha	Male	Site manager	Master of Science	Over 10 years
8	H	Arusha	Male	Site engineer	Master of Science	Over 10 years
9	I	Dar es Salaam	Male	Site manager	Bachelor of Science	Over 10 years
10	J	Dar es Salaam	Male	General foreman	Diploma	Over 10 years

FINDINGS

Table 2 presents a summary of the reasons the interviewees perceived for the external and internal factors influencing artisan performance in terms of workmanship and productivity within the Tanzanian building construction projects.

Table 3 presents a summary of the solutions suggested by the interviewees for the practical application of external and internal factors to influence artisans' performance in terms of workmanship and productivity within the Tanzanian building construction projects.

Table 2. Attributing causes for disregarding influencing factors for artisans' performance

Attributing Causes	Interviewee										Freq.	%
	A	B	C	D	E	F	G	H	I	J		
External Factors												
Causes of disregarding motivation factors for workmanship and productivity												
1. Disregarding the value of artisans for their works		✓					✓		✓		3	30
2. The expectation of profit through work performed by artisans					✓						1	10
3. Employers' offers of work at low prices at the tendering stage	✓		✓	✓		✓		✓			5	50
4. Getting work through a bribery environment from employers										✓	1	10
5. Weak awareness of artisans for their rights	✓										1	10
6. Believing motivation is covered by the rate offered to artisans							✓				1	10
7. Weak consideration of bonus clauses during tendering				✓							1	10
8. Several taxes available for construction activities										✓	1	10

(Continued on next page)

Table 2. Continued

Attributing Causes	Interviewee										Freq.	%	
	A	B	C	D	E	F	G	H	I	J			
Causes of disregarding formal and informal training factors for workmanship and productivity													
1. Demands of completed works than the process by clients		✓										1	10
2. Little knowledge that clients have of the construction process					✓							1	10
3. Correction of non-workmanship during the fishing process	✓					✓		✓	✓	✓		5	50
4. Monitoring artisans during the construction process			✓	✓			✓					3	30
Internal Factors													
Causes of disregarding qualification factors for workmanship and productivity													
1. Construction activities' achievement depends on working experience	✓		✓		✓	✓		✓		✓		6	60
2. Little knowledge of construction techniques and the process by clients		✓										1	10
3. Non-government control for artisans during selection and recruitment										✓		1	10

(Continued on next page)

Table 2. Continued

Attributing Causes	Interviewee										Freq.	%
	A	B	C	D	E	F	G	H	I	J		
4. Artisans with certificates do not prefer working under supervisors							✓				1	10
5. The availability of supervisors who monitor and control the artisans									✓		1	10

Table 3. Suggested solutions for the practical application of influencing factors for artisans' performance

Suggested Solution	Interviewee										Freq.	%
	A	B	C	D	E	F	G	H	I	J		
External Factors												
Motivational factors												
1. Formulation of the artisans' association, which will regulate and monitor the activities of artisans within the construction industry	✓	✓				✓	✓	✓			5	50
2. More enforcement of construction law demands employers to provide requirements for artisans' well-being during the construction process			✓	✓	✓					✓	4	40

(Continued on next page)

Table 3. Continued

Suggested Solution	Interviewee										Freq.	%	
	A	B	C	D	E	F	G	H	I	J			
3. The payment agreement methods for artisans should be per activity based on the unit of measurement, not per day, to avoid less payment or more payment compared to work done										✓		1	10
Formal and informal training factors													
1. Enforcement of the law demanding each client engaging in construction use well-trained artisans and avoid informal construction processes without supervision	✓	✓	✓	✓	✓	✓	✓	✓			✓	9	90
2. Enforcement of legal demands before awarding the building permit, the client should submit the breakdown of construction activities and required artisans for future awareness										✓		1	10
Internal Factors													
Qualification factors													
1. Enforcement of the law demands that artisans executing the works have certificates for each specialisation construction activity		✓		✓			✓				✓	4	40

(Continued on next page)

Table 3. *Continued*

Suggested Solution	Interviewee										Freq.	%
	A	B	C	D	E	F	G	H	I	J		
2. Formulation of a standard contract form for artisans to evaluate previous works before awarding the new construction works to be used both for government and private projects			✓								1	10
3. Enforcement of the law demanding each artisan to participate in an apprenticeship programme and be registered before engaging in construction activities	✓				✓	✓		✓	✓		5	50

DISCUSSION

External Factors

Causes of disregarding motivational factors for workmanship and productivity

The 10 interviewees highlighted eight factors that contribute to disregarding motivational factors and their impact on artisans' performance in terms of workmanship and productivity during the construction process, as indicated in Table 2. The reason for awarding projects at a low cost at tendering stages by employers makes supervisors hesitant to adopt supervisory motivation techniques towards artisans for their performance due to fear of incurring losses against the offered price. That reason has the most responses (F = 5 counts), indicating its significance in the non-adoption of motivation factors as a means of influencing the performance of artisans. This finding is comparable with Jesumoroti and Draai's (2021) study, which argues that a lack of supervisory motivational techniques negatively impacts workers' output.

In addition to awarding projects, bribery issues during the tendering process cause supervisors to compensate for the impact through works performed by artisans. The study by Kusumarukmi and Adi (2019) highlights corruption issues in construction bidding involving payments for profit or loss avoidance and providing commissions to win tenders, which compromise aspects of workmanship and project completion time during supervision. A general foreman in Dar es Salaam stated that:

Supervisors sometimes obtain work through a bribery environment from employers, which is likely to cause them to compensate their losses through work done by artisans; in such a scenario, the supervisors cannot offer motivation to artisans to influence performance during the construction process for workmanship and productivity.

Furthermore, the practice of offering unfair wages to artisans, as noted by the general foreman from Mwanza and supported by Fagbenle (2011), Zannah et al. (2017) and Tam, Huong and Ngoc (2018), is one of the constraining factors for skilled labour performance. The motivation behind this practice is to maximise profit margins, as emphasised by a general foreman from Mwanza:

Supervisors in construction projects believe that offering low prices to artisans can increase their profits; therefore, they bid at a low price during tendering, intending to compensate it with labour costs during the construction process. Such thoughts waive consideration of motivational factors to influence artisans' performance.

However, the site manager from Mbeya emphasises the issues of awareness of artisans on their rights during construction, supported by Fagbenle 2011 as due to a lack of training affects artisans to demand their rights compared to other professionals. The site manager from Mbeya explained that:

Most artisans are unaware of their rights and do not recognise their value during construction; hence, they always accept any offered work. In such a situation, the supervisors consider them as weak professionals with no value during construction compared to other professionals.

Another reason for the motivational factors for artisans' performance is the issue of laws regarding tendering processes and procedures under PPRA. Per the Public Procurement Acts 2013 ([Amendments] 2016), in the section on qualification information, the waiver of consideration for artisans affects the importance of artisans. Also, a general foreman from Mwanza urged that:

The clause for the bonus in special conditions of the contract under the PPRA form of contract, mostly for government projects, is not applicable; therefore, supervisors failed to pay motivation for artisans. They emphasise that the clause should be applied during the tendering process. Also, they explained that the clause consigning motivation for artisans should be introduced as one of the

contract conditions, as it emphasises the reorganisation of artisans' work during the construction process.

Finally, when comparing the employers' awareness of the issues of materials for works and requirements for artisans, three of the interviewees (Interviewees B, G and I) explained that:

The value of artisans is not considered compared to the necessity of materials for construction by the client. The client is ready to offer any required materials with its cost for construction, not the cost for artisans, with such a scenario waiving the necessity of artisans from the procurement stages of the construction process.

The 10 interviewees suggested three solutions to influence the application of motivational factors to impact the performance of artisans: (1) the formulation of an artisans' association, (2) the enforcement of law demand motivation to artisans and (3) the adoption of payment methods to artisans through a unit of measurements as described in Table 3.

Causes of disregarding formal and informal training factors for workmanship and productivity

Concerning the issues of achievement of productivity during the construction process, five of the Interviewees, as indicated in Table 2, point out the reasons for the failure to consider artisans' training sources stems from the belief that errors in workmanship, especially in blockwork and concreting, can be corrected later. They explained that in such activities, their focus is on what should be produced daily. This finding is supported by Kikwasi (2011), who claimed that 60% of employers neither enquire about the training background nor test the competence of skilled workers before engaging them in construction activities.

Another reason was the behaviour of most employers, who demand work completion without considering the construction process. This aligns with El-Gohary and Aziz's (2013) study, which emphasised that poor competence in construction management affects skilled labour performance. Such behaviour causes issues arising from neglecting artisans' training methods for skill acquisition. The client wants output per day, but the work is not accurate. A general foreman from Dar es Salaam highlighted that:

Most employers prefer the speed of work achieved by artisans based on working experience rather than the training source. With such demand, supervisors fail to concentrate on the accuracy of artisans in performing the construction activities normally anticipated based on artisans' source of training while acquiring vocational skills.

Furthermore, the general foreman from Mwanza explains the issues of knowledge of the construction process to employers as one of the causes of non-consideration of formal and informal training factors for productivity, which is in line with the study by Jarkas and Bitar (2012), highlighting the lack of communication between site management and the labour force as one of the factors affecting the performance of skilled labour.

Furthermore, the general foreman from Mwanza explains that employers' lack of knowledge about the construction process is a cause of non-consideration of formal and informal training factors for productivity. This observation aligns with Jarkas and Bitar's (2012) study, which highlights the lack of communication between site management and the labour force as one of the factors affecting skilled performance. The general foreman from Mwanza said that:

Most employers have little knowledge of the construction process, which leads them to demand only work speed. He emphasises that employers need to see the building as quickly as possible without considering processes and procedures to carry out construction projects.

Table 3 shows the 10 Interviewees' indicated solutions to influence employers to offer work for well-trained artisans. They suggested the implementation of a law requiring employers to employ well-trained artisans and the submission of a breakdown of construction activities and the types of artisans needed before being awarded a building permit to indicate their awareness of the construction process.

Internal Factors

Causes of disregarding qualification factors for workmanship and productivity

The process of interpreting construction drawings to meet the physical requirements of the project during the execution of construction activities by artisans depends on their work experience rather than any certificates owned by artisans. This reason has the most responses among the 10 interviewees ($F = 6$ counts) per Table 2, showing that it is one of the causes of the non-adoption of qualification factors as a means of influencing the performance of artisans. Kikwasi (2011) also suggested that this is a major challenge among artisans that affects their performance. The respondents, consisting of six interviewees, agreed that:

The construction activities do not depend on certificates; therefore, when selecting the artisans, most supervisors prefer working experience on previous works performed and what artisans deliver at the site based on the specifications.

A general foreman from Dar es Salaam explained the issues of non-government control for the selection and recruitment of artisans by employers both at the pre-contract and post-contract stages in the construction process as highlighted in the Contractors Registration (Amendment) Act 2008 and the Public Procurement Acts 2013 ([Amendments] 2016) for contractors' registration and public procurement documents, respectively, as one of the causes of non-consideration of qualification factors for influencing the artisans' performance for building construction projects.

During the implementation of a building construction project, the government does not intervene by law to control and regulate the artisans for its selection and recruitment to execute construction activities compared to other professionals involved. This lack of government intervention has led most supervisors and clients to neglect the qualification of artisans for their performance.

Furthermore, a site manager from Dar es Salaam described the nature of artisans working under supervisors during the construction process as one of the causes of the non-consideration of qualification factors that influence artisans' performance in terms of workmanship and productivity. He described that:

The supervisors monitor and control the artisans' performance during construction activities. Suppose the artisans have non-performance from the small sample of tested activities. In that case, such artisans will be removed from the site or corrected based on the specifications provided when there is poor performance. Therefore, there is no need to invest in the qualification owned by artisans.

In addition, most employers investing in real estate have little knowledge of construction techniques and processes. Challenges suggested by El-Gohary and Aziz (2013), Gundechea (2012) and Tam, Huong and Ngoc (2018) emphasise poor competence in construction management and a lack of proper construction from supervisors. This scenario leads supervisors to depend on artisans' advice, which reflects a failure to evaluate their qualifications. As a general foreman from Mbeya explained:

Due to the poor knowledge of most employers concerning construction techniques and processes, their advice and strategies come from artisans. This scenario causes a non-consideration of qualification factors to evaluate artisans' capacity to achieve workmanship and productivity during construction.

The 10 interviewees were asked to propose solutions for encouraging supervisors and employers to consider qualification factors when engaging artisans in construction projects to minimise the non-achievement of workmanship and improve productivity during the construction process. The interviewees suggested three solutions. The first is enforcing laws that require employers to employ artisans who own certificates. The second is the formulation of standard contract forms for evaluating artisans before they are engaged in work. The third is enforcing laws requiring formally trained artisans to attend internships before being employed. These suggestions are detailed in Table 3.

CONCLUSIONS

This article has presented the findings from an interview survey conducted in major cities (Dar es Salaam, Dodoma, Mwanza, Arusha and Mbeya) representing several zones of Tanzania across the entire spectrum of building construction, encompassing both small and large-scale projects to assess the reasons behind the disregard of influencing factors for artisans' performance in Tanzanian building construction projects.

Based on the interviews conducted on motivation factors, the causes leading to frequent disregard, as mentioned by interviewees, were: (1) employers offering work at low prices, causing supervisors to fail to adopt supervisory motivation techniques as a means to influence artisans' performance and (2) the fact that the value of artisans is not considered as strongly as the requirement of materials for construction by employers.

Also, concerning formal and informal training factors, the causes contributing to the disregard when engaging artisans for achieving workmanship and productivity, with high responses by interviewees, were: (1) supervisors' belief in correcting non-workmanship during the finishing process and (2) supervisors monitoring artisans and making corrections wherever mistakes occur during the construction process.

In terms of qualification factors, the reason for the widespread agreement among respondents was that construction activities prioritise practical skills over formal certificates. Supervisors value work experience and the ability of artisans to deliver based on project specifications.

Recommendations

The findings of this study suggest that the qualifications and availability of artisans should be monitored through the establishment of an artisan association, as outlined in Figure 1. This association should work in collaboration with other agencies and regulatory boards in the construction industry. The government should also play a more active role in overseeing building construction projects, particularly in the informal sector, where artisans are the main actors. This would ensure that the entire process is carefully monitored to provide local residents with adequate housing in their respective neighbourhoods.

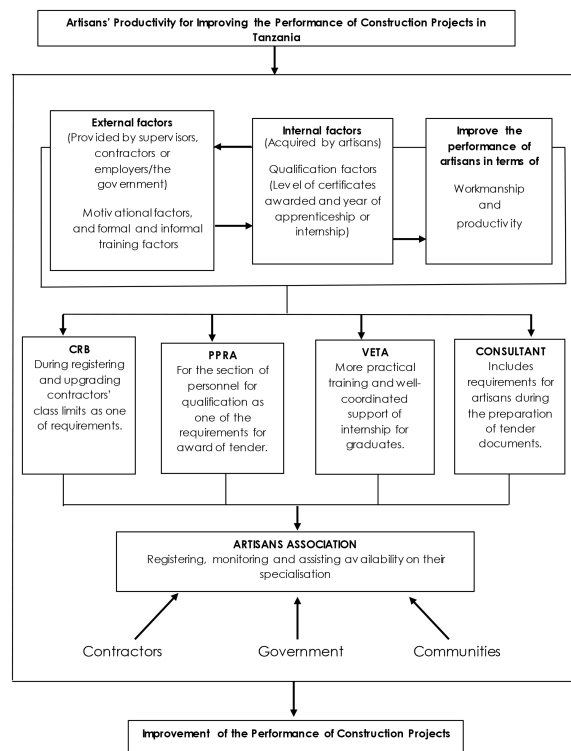


Figure 1. A guiding framework for improving the performance of artisans

Future Research Directions

Despite the noted contributions of the present study, it has limitations that need to be acknowledged. This study employed a qualitative data analysis approach – specifically, content and narrative analysis. However, due to the small sample size required for qualitative techniques, this method may not comprehensively capture the attributing causes of disregarding influencing factors for artisans' performance. Future studies should employ multivariate analysis methods, such as factor analysis and structural equation modelling and use a larger sample size and more variables to explore the causes of disregarding influencing factors and the practical use of influencing factors for artisans' performance.

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