
Construction Project Budget Overruns: Attributes of Stakeholders to Scope Changes in South Africa

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Abstract: Joint project interdependency complexities between diverse project stakeholders in the project life cycle are implicated as a major cause of budget overruns. In particular, the literature reveals that scope changes emanating from various stakeholders' interests or attributes are a key contributing factor to budget overruns. However, there is limited research and a lack of available literature on various stakeholders' contributions to scope changes. Therefore, this study sought to establish various stakeholders' contribution to scope changes. A qualitative research design was adopted, utilising semi-structured interviews to collect data from thirteen construction project managers. NVivo was used to analyse transcribed responses. It emerged that clients, architects, quantity surveyors, end-users, consultants, contractors, government, political office bearers and community were the most prominent construction project stakeholders contributing to scope change-related cost overruns. Misinterpretation of the client's needs, incompetence of construction practitioners, political influence and construction mafia interference were found to be major causes of scope change-related cost overruns. It is recommended that experienced construction practitioners are selected for project scoping. Furthermore, construction project practitioners involved in decision-making should accurately understand diverse stakeholders' interests and work cooperatively with them in resolving scope change-related cost overruns. Government intervention is required to resolve construction mafia interference at construction sites.

Keywords: construction stakeholders; scope changes; budget overruns; stakeholder theory; South Africa

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Introduction

This research explores construction budget overruns resulting from scope changes that can be attributed to varied stakeholder interests. Current literature reveals that scope changes are one of the major causes of construction budget overruns. Bin Seddeeq et al. (2019) and Umuhoza et al. (2023) claim that a combination of design changes, poor planning, inadequate scope detail and underestimation of the project expenses are the main causes of cost overruns. In particular, increased client involvement in changing the project scope is identified as a factor contributing to most construction projects' budget overruns (Bin Seddeeq et al. 2019; Nuako et al., 2024).

Ramabodu and Verster (2013) noted incomplete design at the tender stage and onsite work scope changes as the causes of construction project budget overruns. Similarly, Morena and Amoah (2021) highlighted scope of work changes as the reason for budget overruns. Specifically, poor planning, inadequate experience, late provision of design information, lack of coordination and poor decision-making were linked to scope changes and ultimately budget overruns. Evidence presented by Gaetsewe et al. (2015) attributed scope changes to poor design planning, resulting in an ambiguous scope of work. Further to that, according to Gaetsewe et al. (2015), poor design planning results in poor construction planning and coordination, inevitably leading to scope changes and cost overruns. The foregoing discussion undeniably reveals that scope changes contribute significantly to construction budget overruns.

Considering the abovementioned causes of scope-related cost overruns in the construction industry, some scholars have recommended several strategies to alleviate cost overruns. Ramabodu and Verster (2013) advised that factors that influence construction cost should be identified at the beginning of the project to decrease cost overruns, while Gaetsewe et al. (2015) propounded the proper financial allocation of finances and improvement of the client's internal processes to prevent overspending. Eskerod and Huemann (2013) recommended a management-for-stakeholders approach that encourages stakeholder involvement. Proposing a similar notion, Al-Agele and Ali (2017) emphasise the importance of communication between executants and designers to prevent scope changes during the construction-execution phase to minimise related cost implications. Recently Dlamini and Cumberlege (2021) offered the solution of equipping construction project managers and the relevant stakeholders with financial planning, budgeting and cash flow skillsets to alleviate project overspending. Bin Seddeeq et al. (2019) and Umhuza et al. (2023) recommend close cost monitoring, and proper integration and coordination of different stakeholders to ensure that there are no deviations of actual costs from planned costs and scope. Despite the identified causes and suggested recommendations to reduce costs, scope change-related project cost overruns remain a challenge in the South African construction industry. Furthermore, it is observable from the above discussion that the causes of scope change-related project cost overruns and the ensuing recommendations relate to varied stakeholders and their particular interests in a project.

Doloi et al. (2012) found that scheduling and planning deficiencies of clients', consultants' and contractors' performance contribute heavily to scope changes and ultimately to project budget overruns. In another study, Buys and Le Roux (2013) indicated that stakeholder-cost-overflow-related is due to stakeholders' design deficiencies, resulting in building defects that inevitably would require reworks at extra costs. Similarly, Bin Seddeeq et al. (2019) found that inadequate scoping and stakeholder misunderstanding resulted in project scope creep and cost overruns. Therefore, clients, consultants and contractors should invest adequate time in the projects to avoid design errors and minimise scheduling and planning deficiencies which result in scope creep and cost overruns (Bin Seddeeq et al. 2019; Doloi et al., 2012). Eskerod and Huemann (2013) and Demirkesen and Reinhardt (2021) state that project stakeholders must comply with the project needs and work as a team to avoid project mutual interest deficiency. Based on the infrastructure projects undertaken in the Dutch regions, Leereveld (2021) upholds that appropriate and increased stakeholder collaboration and problem-solving are valuable aspects to be considered in order to complete construction projects within the budget. Undeniably, stakeholders are central to budget overrun causes originating from scope changes. However, previous studies identified scope-related cost overruns and provided generic recommendations from a broader stakeholder perspective. This study, on the other hand, aimed to establish specific individual stakeholders' contributions to scope change-related project cost overruns from a wide pool of construction stakeholders and to provide individual stakeholder-tailored recommendations.

Literature review

This research is underpinned by stakeholder theory which attempts to provide an understanding of the influence of stakeholders on business operations. Wagner Mainardes et al. (2011) and Freeman et al. (2020) point out that stakeholder theory emanates from the 'stakeholder' conceptualisation. Frederick et al. (1992) define the concept of a stakeholder as any individual, group or entity that impacts an organisation's activities or is impacted by the organisation's activities. Similarly, Fontaine et al. (2006) define a stakeholder as a person, group or entity that is affected by or can affect business operations. Bhasin (2020), on the other hand, defines stakeholders as all those who have a stake in the business operation. The organisation, other organisation's actors, and the nature of the organisation-actor relationships who have a stake or interest in the organisation are the fundamental factors that define a stakeholder in relation to stakeholder theory (Bhasin 2020; Clarkson, 1995; Freeman et al., 2020; Wagner Mainardes et al., 2011). Relatedly, construction project stakeholders are all those who are interested in

the project and are capable of influencing scope changes. Simushi and Wium (2020) state that scope changes are influenced by stakeholders invested in the construction project. Scholars such as Abdullah (2006), Oyeyipo et al. (2016) and van den Hurk and Siemiatycki (2018) identified the following stakeholders as the most influential in terms of scope changes: the client, project managers, architects and quantity surveyors. Therefore, the foregoing stakeholders have a bearing in causing or preventing scope change-related cost overruns.

From the stakeholder theory perspective, the business stakeholders are categorised into internal stakeholders and external stakeholders (Barney & Harrison, 2020; Bhasin 2020; Fiandrino & Tonelli, 2021; Key 1999; Murphy & Wilson, 2022; Sebora & Theerapatvong, 2010). Internal business stakeholders comprise employees, managers and owners, while external business stakeholders comprise suppliers, society/community, government bodies, creditors, debtors, trade unions, shareholders/financiers, political groups and customers (Bhasin, 2020; Freeman, 2015; Key, 1999; Murphy & Wilson, 2022). Stakeholders are dually creators and recipients of value in the business value creation process (Fiandrino & Tonelli, 2021; Freudenreich et al., 2020). Therefore, central to both internal and external stakeholders is the business or company, which is responsible for stakeholders being involved in creating value or receiving value in the business value creation process (Bhasin 2020). Managers are typically the locus of business control and governance (Donaldson & Preston, 1995; Fiandrino & Tonelli, 2021; Key, 1999). Corresponding to business stakeholders, the construction project stakeholders are categorised into internal and external stakeholders (Leung & Olomolaiye, 2009; Mashwama et al., 2018; Osunsanmi et al., 2020). Similar to the aforementioned business stakeholders, internal construction project stakeholders comprise the employees/project team, construction project manager/s and clients/owners, while construction project external stakeholders comprise suppliers, society/community, contractors, government bodies, trade unions, professional bodies, customer/end-user and political groups (Alinezhad et al., 2020; Takim, 2009). Central to internal and external stakeholders, the construction project is guided by the construction project manager, who is responsible for the project and inevitably responsible for diverse stakeholders' interests, needs, influences and expectations related to the scope, to achieve project budgetary objectives.

Lange and Bundy (2018) and Freeman et al. (2020) posit that stakeholder theory was developed with the aim of organising information for effective strategic planning concerning matters associated with strategy, ethics, interests and morals among stakeholders in business management. Donaldson and Preston (1995) and Freeman (2016) affirm that stakeholder theory has mainly been adopted in the management of businesses. The application of stakeholder theory helps management to deal with business operational complexities (Freeman, 2016; Key, 1999; Valentinov et al., 2019; Wagner Mainardes et al., 2011). Informed by the works of, but not limited to, Atkin and Skitmore (2008), Littau et al. (2010), Eskerod et al. (2015), Uribe et al. (2018), Bahadorestani et al. (2020) and Khan et al. (2021), this research applies stakeholder theory in understanding the management of projects with a particular focus on construction project scope changes that can be attributed to stakeholders. This study employs stakeholder theory with the aim of alleviating scope change-related cost overruns. Application of stakeholder theory may increase the chances of successfully completing construction projects within the budget by understanding unique individual stakeholders' scope change attributes. Bhasin (2020) points out that stakeholder theory focuses on the interconnections between the business and stakeholders, with the business having a greater responsibility towards stakeholders, to maximise value creation towards accomplishing business objectives. Similarly, construction projects and stakeholders are interconnected, with the construction project managers having a greater responsibility to meet project budgetary objectives. Therefore, it is essential for construction project managers to understand each stakeholder's influence on the scope changes that may negatively impact the budget.

Methodology

The qualitative approach which is underpinned by an interpretive paradigm was employed for this study. According to Merriam and Grenier (2019), the qualitative approach focuses on interpreting the participants' understanding of the studied phenomenon based on their experiences. Here, this study focused on understanding stakeholders' influence on scope changes depending on their specific interests, and the contribution thereof to construction budget overruns, based on project managers' experiences. To achieve the study objective, the purposive sampling technique was applied. The purposive sampling method is applied in special circumstances with a specific purpose in mind whereby the researcher deliberately selects participants based on their particular qualities (Etikan et al. 2016; Maree, 2016; Teddlie & Yu, 2007; Thomas, 2022). The specific underlying qualities of the participants would have to be verified by prior data collection (Etikan et al. 2016; Maree, 2016). Furthermore, purposive sampling enables the researcher to effectively narrow down the pool of potential

participants (Thomas, 2022). For the purpose of this study, senior construction project managers registered with one of the South African construction project management professional boards were the target population. A list of the most senior construction project managers extracted from the professional board database was provided to the researcher by the gatekeeper. Thereafter, the researcher purposively selected a sample of twenty potential interviewees from four South African provinces where construction projects tend to be concentrated, which are Gauteng, KwaZulu-Natal, Western Cape and Eastern Cape (Mahlanga, 2018). Therefore, participants' experience played a major role in the selection criteria in each province.

Prior to data collection, ethical requirements were adhered to and all necessary permissions sought. In addition to the umbrella permission from the construction project management professional boards, an email containing both the consent letter and the interview questions was sent to each potential interviewee. Of the fifteen interviewees who consented to participate in the study, comprising four from Gauteng, four from KwaZulu-Natal, three from Western Cape, and two from Eastern Cape, data saturation was reached at thirteen interviewees. Semi-structured interviews consisting of open-ended questions were used to collect qualitative data. This method was chosen so that construction project managers could provide responses based on their own experiences, and articulate ideas that were not initially anticipated at the beginning of the study. Furthermore, semi-structured interviews allowed the participants to provide detailed information and insights. Geer (1988) and Popping (2015) affirm that open-ended questions allow for detailed information to be collected which accurately measures the salient concerns of the participants. Moreover, probing questions in semi-structured interviews allow for participants under investigation to understand key terms and provide comprehensive answers on the subject matter (Neuert et al., 2021; Singer & Couper, 2017). Whyte's Directiveness Scale (Whyte, 1982) was used which encouraged appropriate voice tone, reflections on the participants' responses, and posing probing questions. Probing questions which prompt further explanation, clarification or justification (Sahin & Kulm, 2008) were put to participants to ensure that they provided adequate responses in terms of the scope change phenomenon information that was required to address the aim of the study.

Data analysis encompasses the process of transcribing, coding, organising and breaking down of the research data into manageable units to make sense of it, therefore identifying data patterns and making research decisions based on these patterns (Creswell & Creswell 2017; Maree, 2016; Sekaran & Bougie, 2016; Tomaselli, 2018). In this study, qualitative data were transcribed and captured in NVivo 12 software and then analysed through thematic and content analysis by focusing on transforming repeated words, trends and patterns of words, relationships, ideas or phrases emanating from the respondents' text responses into meaningful themes. The process of coding, assessing meaning and providing a description of the social reality through the development of themes are all components of content and thematic analysis (Braun & Clarke, 2022; Vaismoradi et al., 2016). Content and thematic analysis are similar in nature in the sense that "both involve codes and coding" (Neuendorf, 2018: 211). Both methods integrate manifest analysis, thus interpreting variables that are directly observable, as well as latent analysis, thus interpreting variables that are unobservable constructs in deducing meaning (Neuendorf, 2018). During analysis of the data, the researcher focused on both manifest and latent information relevant to the research objectives and permitted logical argument through textual meaning.

To ascertain the trustworthiness of the research findings, five strategies of Lincoln and Guba's (1985) framework, namely credibility, transferability, dependability, confirmability and authenticity, were adopted. Credibility measures the value of qualitative research truthfulness based on confidence in the truth of the data and interpretations (Bafandeh Zende et al., 2022; Lemon & Hayes, 2020). To allow raw data to be scrutinised and promote credibility, Gray (2018) encourages the use of audio recording devices, rather than the researcher's notes. In this study, audio recordings were utilised to allow for the scrutinisation and interpretation of the raw data. Transferability pertains to the extent to which qualitative research findings can be transferred or generalised to other settings or groups (Nowell et al., 2017). Tobin and Begley (2004) argue that transferability is applicable to the case-to-case transfer. Aligned with Tobin and Begley's (2004) ideas, the findings of this study can be understood to be transferable based on case-to-case transfer depending on the relevant stakeholders contributing to scope changes from project to project. Records including raw audio data and transcripts that help researchers to relate, systemise and cross-reference qualitative data were kept in order to ascertain the study's dependability (Bafandeh Zende et al., 2022; Nowell et al., 2017). Confirmability was achieved in this research by the researcher repeatedly listening to the interview recordings and reading the transcripts to derive the findings and interpretations from the data and ultimately reach research inferences (Lemon & Hayes, 2020; Nowell et al., 2017). In this study authenticity, which focuses on the extent to which the researcher fairly and faithfully shows

a range of different realities and conveys the experiences of participants' lives as they are lived (Whitaker & Atkinson, 2019), was achieved by providing direct quotations from the interviews.

Findings and discussion

The objective of this study was to explore construction stakeholders' contribution to budget overruns, with the view to clarifying each stakeholder's contribution to scope changes. Thirteen construction project managers participated in this study, and coded pseudonyms *Inter 1 to Inter 13* were allocated to each, comprising eleven males and two females. Regardless of the South African government's efforts to increase female inclusion in formal economic activities, the low representation of females is a common gender bias in the construction industry (Gebre, 2021; Norberg & Johansson, 2021). Therefore, the inferences of this study mainly reflect the views of males, notwithstanding the researcher's attempt to ensure an equitable representation of both sexes. These findings imply that the construction industry in South Africa is a male-dominated sector. This can be regarded as a true reflection of the population composition of gender in the construction industry because these findings align with numerous studies (Gebre, 2021; Norberg & Johansson, 2021) that show that the construction industry is a male-dominated sector in South Africa as well as globally.

During the interviews, participants were required to identify construction stakeholders who contribute to scope changes that significantly increase project budget overruns. It was established that the following construction stakeholders contribute to project scope changes in various ways, which ultimately inflates project cost overruns: client, architect, end-users, quantity surveyors, consultants comprising diverse engineering professional fields (e.g. geotechnical engineers, mechanical engineers, structural engineers), contractors, health and safety practitioners, government as a client, political office bearers, and the community. As depicted in Figure 1 below, the participants' views on scope change-related cost overruns were manifested in ten themes that emerged in the interviews with the identified stakeholders.

Client project alterations

Participants were of the view that the client significantly impacts the scope of a project in numerous ways, resulting in scope changes and contributing to project cost overruns. The client, as the construction project owner, may change their mind with regard to the project specifications: Inter 1 noted: "...the project starts taking another direction because you find out that the client has a change of view". Similarly, Inter 2 reinforced Inter 1's claim, stating: "... let's start with the project client, he is actually the primary project driver, the first thing is that he has a brief that brief drives the budget. ... if the client gives you a brief and then later on changes his mind, that causes a lot of problems". Participants elaborated that in some circumstances, the complexity in relation to the design and scope arises because the client may not know exactly what they want and/or they fail to interpret their project needs. In this regard, Inter 6 stated: "...it only means that at that inception stage, you as an employer you have not clearly defined and made sure that the scope is interpreted correctly". Also, participants claimed that the client's demands may only arise during execution; thus, what was initially agreed upon and what the client will be interested in during the implementation phase may differ. Inter 4 added: "...the client says, this is the scope of work but thus not really what I want, then they want something else on site, but it's not within the budget". This was supported by Inter 7 who provided an example: "...so, the key here is to manage the changes and a lot of projects fail because the client said he wanted an apple now he wants a bigger apple or an orange".

The above findings suggest that prior to the approval of the design and scope, the project manager and architect should ensure that the client's needs are accurately interpreted and integrated into the design. This extends to indicating to the client that any changes to the scope have financial implications, particularly during project execution, where contractors are likely to take advantage of the variation costs to increase their profits at the expense of the client. Evidence from the existing literature confirms that variation orders are one of the major contributors to construction budget overruns (Nketekete, Emuze & Smallwood, 2014; 2016; Tshidavhu & Khatleli, 2020). Therefore, based on these study findings, potential scope changes on the part of the actual client, such as 'change of mind', and the client's ability to interpret project requirements should be considered and integrated into the budget as a contingency cost. Furthermore, additional time could be allocated on a case-to-case basis where there are improbabilities in interpreting the project requirements.

Core themes			
⊕ Name	↔ Files	References	
○ Project scope change variables	11	41	
○ Client project alterations	6	10	
○ Architect and engineers project alterations	5	8	
○ Contractors project alterations	2	4	
○ End-user project alterations	3	4	
○ Community project alterations	2	3	
○ Consultants project alterations	3	3	
○ Government as a client project alterations	2	3	
○ Political office bearers project alterations	2	3	
○ Quantity surveyors project alterations	2	2	
○ Health and safety practitioners' obligations to the project	1	1	

Figure 1: Construction stakeholders' attributes to scope alterations.

Architect and engineer project alterations

Tongo et al. (2020) identified the inexperience of architects as the main factor resulting in underdefined scope, ultimately contributing to scope changes. Inter 11 enlightened that adopting historical designs without contextualising the design to the current project location and taking into consideration environmental factors may result in changes when the project reaches the execution stage, ultimately leading to additional costs. Inter 11 stated: "...it is the design factor. The guys who design do not actually rely on facts of historical, typical infrastructure. A lot of guys who design nowadays, they copy identical infrastructure into their design without actually knowing the background of that particular infrastructure they copied... the building might not fit the terrain when the infrastructure is being developed". This finding suggests that each project's background and uniqueness is important in detailing the design. Therefore, when the design team utilises historic data to inform their designs, the environmental factors of the construction project related to the site at hand should not be overlooked. Services of geotechnical engineers should be utilised to understand the design fit of the project to the location, and to prevent scope changes during the execution phase.

The following statement in relation to design change-related cost overruns was mentioned by Inter 12: "...but when you do implementation, you realise soon, that here, this person did not do a proper design through research ... You need to have a geotechnical because of all the sub-bases. If you don't actually do it, it becomes a problem". Correspondingly, Gaetsewe et al. (2015) revealed that poor design planning results in an ambiguous scope of work, and they also found that scope changes significantly contributed to construction overruns. In essence, adequate feasibility studies with respect to the design development are recommended to alleviate scope changes associated with architectural construction drawings. Furthermore, participants were of the view that scope changes arise because the architect's designs are incomplete when the construction project tenders are awarded. Inter 3 stated: "...mostly, when you take the project for tender, the drawings are not yet 100% complete. So, as you continue construction, the drawings change and the client increases their wish list and all that causing the budget to change or to go up". These findings are aligned with Buerthey's et al. (2012) recommendation that cost contingencies for incomplete scope and specification changes of construction projects in Ghana should be allocated. Similarly, the importance of allocating adequate scope change cost contingencies is reflected in the findings of the current research study.

End-user project alterations

Inter 5 revealed that in cases where the end-user is not involved at the beginning of the project, scope changes may arise during construction informed by the end-user preferences, which will alter the scope of the project, ultimately affecting the budget. Inter 5 stated: "...so, I do a lot of low-cost housing, and one of the problems we have on the low-cost housing is that we never know who the end user is going to be for the low-cost house. And you have different religious beliefs, some of them do not like the toilet inside the house, they want the toilet on the outside of the house, so you end up by building these houses, then you've got to change them so that the toilet is on the outside not on the inside and some of them do not like trees on the property because they believe in superstition". Although the above evidence reflects inadequate end-user consultation in the public sector construction projects, findings by Bui et al. (2021) affirm the importance of prioritising the end-user during the early stages of the construction project life cycle. Similarly, Inter 10 revealed that some scope changes arise between the end-user and the client due to the difference of interests, specifically concerning the type of materials used in a project. Changes in the design and type of materials informed by the end-user affect the project budget because of price differences. In this regard Inter 10 stated: "...I will give an example, somebody will say No I just want a simple ceramic tile, and somebody else say no put a porcelain tile, that already difference in preference informs your budget, so for me, I think the issues of contention is number one on your scope...". These findings suggest that any change associated with the design and project materials used alters the project budget. Grounded on stakeholder theory, it can be inferred from the preceding findings that end-user consultation is of paramount importance in order to understand project specifics and budget boundaries.

Quantity surveyor project alterations

The quantity surveyors are responsible for costing the project, and thus for developing the bill of quantities informed by the scope of a project (Chandramohan et al. 2022). All the elements of the scope correlate to the budget. Ramabodu (2014) findings revealed a misalignment and cost inaccuracies between the scope and the budget of a project as a result of inexperienced quantity surveyors. In this regard, it emerged during the interviews in this study that inadequate experience may result in quantity surveyors overlooking or omitting scope items when costing or developing the project budget. In particular, Inter 3 stated that: "...lack of competence from the quantity surveyor or the one who drafts the budget. They might have missed things or overlooked things". Similarly, Inter 5 indicated that: "...one of the reasons for the delays is because they employ in-house professionals, quantity surveyors, engineers and architects but they lack experience and the scoping is wrong, so the initial project is wrong. That's the problem". Considering the previous discourse on architects' and engineers' project alterations and the correlation between scope and budget, these findings suggest that architects and quantity surveyors should work cooperatively at all times in developing the scope and budgeting, respectively. Moreover, quantity surveyors' experience is essential in ensuring budget accuracy, and involvement in this process would ultimately alleviate budget overruns.

Consultant project alterations

Consultants play different roles in developing the design and scope of a project, depending on their profession and the project requirements. Their contribution to the scope is remunerated based on the tasks executed and/or value of the project. Some consultants may expand the scope of work to increase their consultation fees. However, it is impossible to develop the design and scope without consultants' services as this poses a risk of variations at a later stage of the project. In light of the aforementioned, Inter 11 expressed the following in relation to the expansion of the design by consultants which contributes to project cost overruns: "...I have a budget of 10 million I want to do this, maybe from a client's point of view, but the moment you appoint a consultant they would probably start telling you, for you to do this maybe you also need to do 1, 2, 3 it will make life simpler, so you find costs may start ballooning even at that planning phase when you're involving different stakeholders". As a result, a conflict of interest arises in a situation where consultants act as both designers and contractors, ultimately contributing to poor scoping and poor designs. This view was echoed by Inter 6 who said: "...what's happening nowadays is that you are getting the scope, poorly constructed bill of quantities, poor designs because the professional teams are having to tender the work as well, so they are cutting corners so that they come within their budget". To promote budgetary credibility and eliminate conflict of interest, the findings imply that consultants with interests other than technical input into the construction project should be disqualified.

Contractors' project alterations

Participants argued that contractors' survival is dependent on winning tenders, and as a result contractors may misrepresent costing information by under-pricing their bid offers in order to be the cheapest and win the tender. The following responses regarding contractor's motivations towards tender cost misrepresentations were captured:

...contractors become the most affordable to win the tender. However, there will be hidden costs or where a client delays paying, they are quick to submit an interest related payment or stop work and proceed until the payments have been done or from the design team so they are trying to look for loopholes just to get money.... you find out that at the end of the day the tendering for example R2.5million. However, when the job is complete, it is now R6million. It's deliberate, the contractor would have done that knowing that there are these some loopholes. (Inter 1)

...sometimes you find that when it comes to tenders, right now the economy is very bad so everyone wants a job so people tend to cut on the profit a lot so that we get the tender and we keep on going, we don't go bankrupt so you will find that we try to compromise when it comes to pricing.... we later revisit the whole BOQ and reprice it correctly. (Inter 4)

The above finding reveals the disadvantage of the low-value tender system in South Africa which prioritises awarding of tenders based on the cheapest pricing. Similarly, the lowest tender bid acceptance was identified by Gaetsewe et al. (2015) as a flawed system. Existing literature and current study findings suggest that the South African lowest tender bid system should be reviewed (Oz 2024; Tembo et al., 2023). Realistic pricing considering underlying project contingencies and contractors' experience should be prioritised in the tender bidding system (Govender et al. 2025; Oz 2024; Tembo et al., 2023).

Health and safety practitioners' obligations to the project

The crucial role of health and safety in the construction industry was emphasised by participants, and the financial implications thereof, implying that aspects concerning health and safety should be integrated in the project scope and budget. Inter 8 narrated that: "...most of the contractors in the Eastern Cape province are not competent, they are cutting corners, they are not doing work as per the regulation, I mean construction industry is heavily regulated especially when you talk of an example is a health and safety, there are strict requirements on health and safety, employees must go for medical checks before they start work, employees must have protective clothing, there must be a site office with certain items in the office, contractors must appoint competent people to manage their projects, like the foremen, the site inspector, all those people and contractors are just taking short-cuts which is a huge challenge". Considering the above narrative, failure to integrate health and safety obligations may impact the scope of a project and result in additional funds, necessitating corrective action.

Government as a client: Project alterations

Participants argued that when the government is the client, the construction project managers are excluded from scoping and are handed over a scope that is already developed without the involvement of the project manager. Also, the project budget contingencies are undisclosed to the project manager. As a result, the scope may be incorrect, translating to an incorrect project budget. In this regard, Inter 5 explained that: "...the government does not involve us in the first stage of project that is the pre-feasibility stage and we don't know the contingency. The government does the pre-feasibility stage; the problem is that their scope is always wrong so the budget will be wrong. Then they start pooling consultant's general from the feasibility stage onwards, when you finish your feasibility you generally find that the scope is double what they initiated in pre-feasibility. So, what then happens is that the project is delayed by a year or 2 years because it takes that long for them to go back that is the approval process, because they will need to get additional money for the project". Indeed, Mazibuko Chalwa et al. (2025) affirm that excessive imposition of government control and regulation on construction projects hinders efficiency. In the same notion, Inter 6 affirmed that the scope in the public sector is commonly flawed, captured in the following excerpt: "...the scope that is poorly identified at the beginning and if thus not very clear, everything else flows after that is not 100% correct, the scope is the biggest problem". Eja and Ramegowda (2020), in their review of government projects in Nigeria, cited the prevalence of scope changes emanating from design flaws and delays in the public sector construction projects. Potentially, the inclusion of

construction project managers' involvement is encouraged during the early stages prior to the execution of public construction. This will help with the identification and rectification of design flaws, ultimately lessening scope change-related cost overruns.

Political office bearers' project alterations

Participants revealed that stakeholders from the political sphere, such as councillors, influence construction scope changes which negatively impacts the project budget. In pursuit of political party support from the communities, political office bearers may interfere in construction projects by requesting more workers to form part of the project team, over and above the budgeted workforce. In particular, Inter 10 noted that in Gauteng: "...there are these factions in communities that we work in thus a problem especially in our societies where we have multi-parties, ..., all these guys are in their corners, and they have different interest in the project and that needs to be managed". Taking a similar view, Inter 11 affirmed that: "...Councillors, they try to use the political muscle requesting certain items and even trying to force people to be employed more than the resources needed on site...you find a new councillor will come and say, is it not possible we have this or stuff like that. Those are the kind of change usually we will be looking at". Political influence on certain construction projects, particularly in the public sector, may result in scope changes with cost implications (Eja & Ramegowda, 2020; Mazibuko Chalwa et al., 2025). This suggests that political interference imposed by political office bearers should be considered proactively and must be planned for when budgeting.

Community project alterations

Lastly, participants were of the view that the community influences the scope and budget in public construction projects in trying to promote their needs. Inter 1 indicated that: "...the users are very crucial, for example, the community, the education department in the example of a school. The community can also stop or affect the project if they are not consulted or participate in the project to move on and other specialists depending on the nature of the project". The majority of the participants omitted the community as the driver of scope change. This implies that the community has minimal influence on scope changes, particularly in the private sector. Unique to South Africa, community members who form part of the construction industry mafia may influence the project scope during the execution resulting in scope changes and significant project delays embedded with cost implications (Cokayne, 2018; Oshungade & Kruger, 2017; Siteto et al., 2024; Vahed, 2022). In particular, Inter 5 stated that in KwaZulu-Natal: "...they come to the site with weapons and force us to employ their people or contractors. If we refuse, they make sure the project does not proceed, and if we employ their people, they expect payment without doing the work". Based on the location of the project, these sentiments suggest that project managers and practitioners involved in scoping and budgeting should integrate feasibility studies on construction mafia interference and the risk this may pose to adhering to the proposed budget.

Conclusion and recommendations

This study explored construction budget overruns resulting from scope changes that may be attributed to varied stakeholders. It emerged that clients, architects, quantity surveyors, end-users, consultants, contractors, government, political office bearers and community were the most prominent construction project stakeholders contributing to scope change-related cost overruns. Clients may be unsure of what they want at the inception of the project, or they may change their minds during the project life cycle. Architects are either inexperienced, or may omit scope items that later are detrimental to the budget when these items need to be included. Similarly, quantity surveyors may be inexperienced in costing the scope of a project, resulting in underbudgeting. Correspondingly, contractors' misrepresentation of information, inexperience and taking advantage of the tendering system loopholes were identified by participants as prevalent reasons that may affect scope cost changes resulting in budget overruns. On the other hand, scope change-related cost overruns were also believed to be a result of a conflict of interest for consultants interested in both providing technical assistance and bidding for the project as a contractor. The lack of construction project managers' involvement was identified as the major cause of scope change-related cost overruns for government-client stakeholders while political office bearers were thought to contribute to scope change-related cost overruns of construction projects in the public sector. Lastly, community members who form part of the construction industry mafia illegally enforce the recruitment of unqualified personnel, ultimately resulting in inefficiencies and expansion of the project scope.

Drawing from the above discussion, the findings of the study confirm stakeholder theory's propositions regarding the interconnections between the construction project and stakeholders. Diverse construction project stakeholders

influence the scope of the project varyingly depending on their particular interests. Therefore, it is essential for construction project managers and practitioners involved in decision-making to understand the different interests of diverse stakeholders and to work cooperatively with them in resolving scope change-related cost overruns. It is recommended that construction project managers and practitioners adequately understand the client's needs to accurately interpret and integrate these needs into the scope design. Furthermore, there should be clarity and mutual understanding between construction project managers and the client regarding scope change and the financial implications emanating from the client's change of mind. Selecting experienced architects, contractors and quantity surveyors is of paramount importance in lessening scope change-related cost overruns. Potentially, construction project managers and the practitioners awarded the tender should be included to ensure the finalisation and accuracy of the scope statement prior to the execution of public construction projects. This will help with the identification and rectification of design flaws, ultimately lessening scope change-related cost overruns. Political interference in construction projects differs from place to place; therefore, construction project managers and practitioners should conduct area-based feasibility studies to determine potential scope change-related cost overruns that may arise from political office bearers. Lastly, government intervention is required to resolve the issue of construction mafia interference through the provision of security at construction sites in affected areas.

Declarations

Interdisciplinary Scope: This article's interdisciplinary scope is based on the attributes of diverse stakeholders from diverse disciplines contributing to scope change-related cost overruns in construction projects. Through the analysis of the findings, this study recommends that construction project practitioners involved in decision-making should accurately understand diverse stakeholders' interests and work cooperatively with them in resolving scope change-related cost overruns.

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