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Evaluating the challenges of implementing social value in the procurement of construction works

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Abstract

Purpose – There is proliferation of regulatory frameworks and guidelines globally to implement social considerations in the procurement of construction projects. However, there are scanty empirical studies that have researched into the implementation of social consideration in the procurement of construction projects in Africa, particularly Ghana. Therefore, this study aims to examine the challenges that hinder the implementation of social value in the procurement of construction works in Ghana.

Design/methodology/approach – The study used an explanatory sequential mixed-methods design with an initial quantitative instrument phase, followed by a qualitative data collection phase. A critical comparative review of the related literature resulted in the identification of 29 challenges. A total of 100 questionnaire responses from professionals in the construction industry in Ghana based on the challenges on the implementation of social value were retrieved. The data obtained were coded with SPSS version 22, analysed descriptively (mean scores and standard deviation) and via inferential analysis (exploratory factor analysis). These data were then validated through semi-structured interviews with 10 professionals. The data obtained from the semi-structured validation interviews were analysed through the side-by-side comparison of the qualitative data with the quantitative data.

Findings – The results revealed that the critical challenges to the implementation of social value in the procurement of construction works can be clustered into three major components, i.e. weak processes and bureaucracy, the incongruence of social value with the traditional procurement process, and the misaligned social targets and erosion of public procurement principles. The interviewees agreed to and confirmed the criticality of these factors as challenges to the implementation of social value in the procurement of construction works.

Research limitations/implications – A substantial number of studies have identified numerous challenges to the implementation of social value. This study presents a major cluster of challenges to the implementation of social value. Social value through construction procurement is a strategic tool globally and Ghana can leverage on its multiplier effects for social development.

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Originality/value – The study extends the global discourse on social value in construction management literature by providing empirical evidence on the cluster of challenges that have the potential to hinder the implementation of social value in the procurement of construction works.

Keywords Social value, Construction, Works procurement, Challenges, Exploratory factor analysis

Paper type Research paper

1. Introduction

The use of public resources through the procurement of goods, works and services has been recognized as an important route for the implementation of secondary policies (Arrowsmith, 2010). According to Grandia and Meehan (2017), the public procurement process should be able to deliver value to citizens and communities to achieve public policy goals. McCrudden (2004) postulated that, over the years, public procurement has been used as a social policy instrument for industrial policy, combating unemployment, for the improvement in the conditions of employment, and supporting local industries. Recent studies indicated that there is a clarion call to introduce social objectives into the public procurement process and in the delivery of construction projects (Petersen and Kadefors, 2016).

The concept of social value (SV) continues to gain popularity globally. Research shows that there are policies, laws and regulations that have motivated the increasing global attention to SV. Daniel and Pasquire (2019) reiterated there are global laws and regulations that urge the built environment to create SV. The study of Loosemore *et al.* (2023) advanced global policy examples such as the Social Value (Public Service) Act 2012 of the UK, the Swedish Procurement Act (2007, p. 1091), the European Union Directives on Procurement, the Canadian Procurement Strategy for Aboriginal Business and the South African Preferential Procurement Regulation (2017) among others. The purpose of these legislative and policy measures is to encourage socially responsible public procurement by requiring those participating in public construction tenders to demonstrate their capacity to create SV in the communities in which they build. In the views of Reid and Loosemore (2017), SV includes offering employment and training opportunities in addition to business opportunities to communities where construction projects are undertaken. Largely, the focus of SV policies, laws and regulations is to enable governments to leverage on the untapped opportunities inherent in construction and infrastructure project procurement to tackle growing societal challenges (Loosemore *et al.*, 2020b).

The procurement of construction works is an important channel for launching targeted social policies in many jurisdictions globally. The purpose is to enhance the socio-economic status of individuals and communities where construction projects are undertaken. The untapped opportunities inherent in the procurement of construction projects have been recognized by the new ISO 22058 (2022) on construction procurement which outlined guidelines on SV. According to Loosemore *et al.* (2020b), the construction sector has been the focus of SV policies, laws and regulations due to the high economic multiplier potential to affect other sectors of an economy in a country.

Although there is increasing global legislations and guidelines for SV in the built environment, specifically in the procurement of construction works in other parts of the world, research into the challenges for implementing SV in the procurement of construction projects is scanty, specifically in the context of developing countries such as Ghana. Even though there have been previous studies on social policies in procurement in Ghana by Amoah and Shakantu (2017), their study concluded that the government of Ghana has not instituted any major policy shift in the procurement process, thereby limiting knowledge on the implementation of SV. In a study by Gidigah *et al.* (2021), SV in the public procurement

process for works in Ghana was defined; however, no attention was paid to the challenges hindering its implementation in the built environment. For example, in their conclusion, Gidigah *et al.* (2021) stated their study reviewed definitions in the body of literature and advanced an explanation for SV in the context of the construction industry. The authors further indicated that their study was a foundation for future SV studies in the public procurement process with a larger population. Furthermore, whereas there are other parallel studies (e.g. Adjarko *et al.*, 2014) on challenges to the incorporation of environmental sustainability generally into construction procurement at the district assembly level in Ghana, there has not been any empirical evidence on the challenges limiting the implementation of SV specifically at this level in Ghana.

The identification of the gaps in knowledge extends beyond Ghana to other parts of Africa. For instance, Akenroye (2013) found that there are few empirical studies on the use of social factors to promote social objectives in public procurement in Nigeria. Okeke and Nnaemeka-Okeke's (2021) study in the Nigerian construction industry focused on assessing social procurement practices and highlighted barriers to inculcating social procurement to attain social sustainability. Similar research in Nigeria revealed the inadequacy of social policy instruments for the procurement of construction works (Ogunsanya *et al.*, 2016). These studies did not consider challenges to integrating SV into the procurement of construction works.

Moreover, it is significant to note that, research into the challenges to SV has largely focused on Western countries such as the UK, Australia, Sweden and Canada among others (Murphy and Eadie, 2019; Troje and Andersson, 2021; Loosemore *et al.*, 2021). Given the growing global attention on SV, the extensive connectivity of the construction industry to various sectors of an economy and the inherent multiplier opportunities in the procurement of construction works, the lack of empirical study on the challenges limiting the implementation of SV in Ghana for the procurement of construction works presents a significant research gap. Consequently, the question this study seeks to address is, what are the challenges to the implementation of SV in the procurement of construction works? This study aimed at examining the challenges hindering the implementation of SV in the procurement of construction works.

The study is organized into five sections. Section 1 presents the introduction and background, while a literature review on the concept of SV and implementing challenges is provided in Section 2. In Section 3 of the study, the methodology adopted is discussed. Section 4 of the study presents and discusses the results, and Section 5 concludes the study.

2. Literature review

This section reviews the literature related to the theme under investigation as follows.

2.1 Social value (SV)

SV is a complex concept to define because of its subjective and intricate nature (Choi *et al.*, 2014). According to Wood and Leighton (2010) and Russel (2013), there are multiple perspectives on SV. Previous studies have demonstrated that the concept can be explained from multiple perspectives. For example, from the perspective of sustainability, Harlock (2014) explained SV as the additional environmental, social and economic benefits accruing to communities of operation which are above and beyond the delivery of primary services. In the context of corporate social responsibility, Cook and Monk (2012) described it as an additional benefit that a community derives from a procurement process over and above the direct purchasing of goods, services and outcomes, while Russel (2013) explained the concept as the benefits of certain activities performed by an organization considered

important to the organization's stakeholders. With regard to public funding, SV connotes the additional outcome of publicly funded investment or programmes towards local communities that vary from employing local suppliers, using the local workforce, and creating sustained opportunities for apprenticeship (Awuzie *et al.*, 2018). In the views of Temple *et al.* (2014), SV means identifying and making the most use of public and other spending to ensure that, people, their communities and society feel the maximum benefits of that investment.

Elaborating on the purpose of SV, Opoku and Guthrie (2018) indicated that creating SV should have the capacity to improve the lives of people in communities through the provision of career and skills development opportunities, in addition to positively contributing to the environment. Whatever the perspective of SV advanced by various authors, it can be said that SV seeks to demonstrate change(s) in the lives of an individual or groups of individuals by using tangible and intangible resources at the grassroots level by social actors to create social change within society (Jain *et al.*, 2020). SV was defined by Mont and Leire (2008) as the intentional use of the procurement process and government purchasing power to positively impact communities. These definitions indicate that SV is a multifaceted concept, and cement the claim by Awuzie *et al.* (2018) that SV continues to defy a universally acceptable definition. In this study, the definition of SV as proposed by Gidigah *et al.* (2021, p. 2259) is adopted. The concept of SV was defined by Gidigah *et al.* (2021) as:

> Those secondary benefits, financial and non-financial (employment, training and skills development, business setups, welfare enhancement, crime reduction, environmental protection, among others) that are obtained by individuals or communities as a result of the execution of construction contracts that are capable of enhancing well-being, social and human capital, that ultimately results in a positive social change to individuals and the wider community.

2.2 Challenges to implementing social value (SV)

Previous scholarly publications have espoused various challenges encountered when implementing SV. For example, Loosemore *et al.* (2023) demonstrated that implementing socially innovative policies such as SV in the construction industry has been challenging. For Watermeyer (2000), even when there are detailed implementation guidelines, integrating socio-economic objectives in public procurement is not an easy procedure. This section reviewed challenges that have been encountered in the implementation of SV policies in the corpus of literature.

2.2.1 High cost. Zuo *et al.* (2012) and Lindell (2020) have asserted that integrating SV leads to a high cost of projects. Murphy and Eadie (2019) established that SV requirements are difficult to implement with traditional procurement practices due to the financial cost it imposes. Eadie and Rafferty (2014) pointed out that, a contractor's objection to the implementation of SV is due to the additional cost it imposes. In the views of Loosemore *et al.* (2020b), contractors who have to meet SV requirements imposed in contracts see it as a significant cost and risk to the delivery of project deliverables. In addition, Troje (2020) stated that contractors require an assurance of additional incentives in financial terms before embarking on the implementation of SV. The study further opined that a major fear of cost on the part of contractors is the additional training required to be provided to new and existing employees due to SV requirements.

2.2.2 Weak processes and guidelines. Several studies have identified weak processes of evaluating SV in the tendering process and review of results after contract implementation as challenges to the implementation of SV (Barraket and Weissman, 2009; Harlock, 2014; Lindell, 2020). These studies concurred that SV requirements in the tendering process are

complex and cumbersome to evaluate and complied with. For Harlock (2014), SV is a difficult concept to asses and measure due to its subjectivity, compared to economic factors that are objective, stable, fixed and generally accepted. Erridge (2007) added, that evaluating compliance by contractors to SV requirements is difficult. Montalbán-Domingo *et al.* (2018) simply stated metrics for the assessment of social criteria in the procurement of construction works are insufficient. The study of Anxo *et al.* (2017) revealed that, guidelines for follow-up and the evaluation of executed projects using social criteria are rare, unspecified and non-existent in Sweden. Similarly, Lindell (2020) established that, practically, there is limited knowledge of guidelines for the implementation of social criteria. To Farag *et al.* (2016), the reason that can be assigned for the absence of guidelines for the evaluation and follow-up of social criteria in construction procurement is the notion that SV is a philanthropic activity performed by contractors, instead of a central objective required in the public procurement process.

2.2.3 Lack of support. Loosemore *et al.* (2020b) pointed out that the major challenge to the implementation of SV was a lack of support from the government. They also identified that the target group for SV policy are difficult to fit into the construction industry. For example, the authors stated that, where there is a requirement to provide for disabled people, this category of people cannot fit in because they are considered risks instead of assets due to the nature of construction works. Even in cases where they are employed, they can only be offered administrative roles, instead of actual construction work. The study of Okeke and Nnaemeka-Okeke (2021) in Nigeria further buttressed Loosemore *et al.*'s (2020b) argument that, there is a lack of government support for social criteria in the procurement process and that, there is the absence of necessary SV legislation as support structures.

2.2.4 Institutional issues. According to Loosemore *et al.* (2020a), there is a difference in the logic of private construction firms and public sector organizations, and misalignment in incentives leads to difficulty in collaboration for the implementation of SV practices. In addition, several studies have indicated that ingrained institutional norms and practices, in addition to supply chain relationships are hindrances to a successful implementation of SV in the construction industry (Murphy and Eadie, 2019; Troje and Andersson, 2021).

SV pushes the construction industry into a state of institutional instability by dismantling established norms, practices and supply chain relationships on three fronts. Firstly, SV concept challenges institutional logic focused on economic gains. Secondly, SV challenges existing inter-organizational relationships by introducing unfamiliar actors into the construction supply chain who do not have the needed experience and credulity. Thirdly, the required ethics and practices for the creation of SV reside outside the traditional knowledge, expertise and practical domain of the construction industry (Troje and Andersson, 2021).

2.2.5 Absence of validity, efficacy and lack of knowledge. Watermeyer (2000) questioned the efficacy and validity of public procurement as a tool for implementing social policy. El-Gayed (2013) raised concerns about the validity and effectiveness of socio-economic policies in public procurement and noted that they may have a detrimental impact on the main goal of public procurement. There is a lack of knowledge of the implementation of SV requirements (Zuo *et al.*, 2012; Lindell, 2020). Kamoche (1997) demonstrated that it is difficult to balance the competing goals of public administration with SV.

Adding to the arguments against socio-economic policies in public procurement, Watermeyer (2000) noted that there is a dearth of empirical research and data that sufficiently demonstrate the effectiveness of public procurement as a tool for social policy and that, most of the time, the deliverables in such policies are poorly defined, ambiguous and do not include measurable and quantifiable requirements. The authors emphasized that it is impossible to audit and confirm the efficacy of such procedures in public procurement. The

authors therefore advocated for the creation of a cost-effective procurement regime for the promotion and encouragement of socio-economic goals that can be quantified, defined, measured and audited within the framework of a competitive, equitable, fair and transparent procurement regime.

2.2.6 Legislative framework. According to Barrakett *et al.* (2016), legislation impedes the implementation of SV in the construction industry due to the bureaucratic and rigid nature of the procurement process. Erridge (2007) asserted that the attainment of socioeconomic goals in public procurement is constrained by the overemphasis on commercial goals and economic gains, to the detriment of social welfare and public value. Erridge (2007) further stated that the use of social objectives in public procurement carries with it the risk of violating regulatory goals and incurring significant financial penalties.

2.2.7 Other challenges. In addition, Watermeyer (2004) listed the occurrence of certain dangers when preferential procurement policies (SV) are put into practice or when public procurement is used as a tool of government policy. These risks include, among others: decrease in economy and efficiency in government procurement; disqualification of some eligible tenderers from the competition; less genuine competition in the public procurement process; the unjust and inequitable treatment of contractors; restriction of transparency and equity of the public procurement process; and deterioration of clarity and transparency in public procurement practices.

Table 1 presents a summary of the challenges of implementing SV identified from the comparative review of the related literature.

3. Methodology

To gain an in-depth understanding of the challenges hindering the implementation of SV in the procurement of construction projects, a mixed-methods design was adopted, specifically, explanatory sequential design. The explanatory sequential mixed design involves two phases, i.e. an initial quantitative instrument phase (Sections 3.1–3.2) followed by a qualitative data collection phase (Section 3.3) (Agyekum *et al.*, 2022; Creswell, 2012). This approach was adopted because after the comparative review of the related literature, sufficient information existed on the challenges that hinder the implementation of SV in the procurement of construction works. This made it easier for the researchers to focus the study on examining the views of the respondents on the literature which already exists via the quantitative phase, and then followed it up with their actual views concerning the subject under study via the qualitative phase. When a study seeks to explain its quantitative results in more detail through qualitative data gathered, the explanatory sequential mixed design is the most preferred (Agyekum *et al.*, 2022). The various stages of this design have been expounded in Subsections 3.1–3.3.

3.1 Questionnaire design and administration

The use of questionnaires has been described as an inexpensive channel to gather data from geographically dispersed respondents (Trochim and Donnelly, 2008; Holyk, 2008). A questionnaire was developed based on the review of the related literature. To enhance content validity and certify that instructions to participants were unambiguous, a two-step piloting approach was adopted. Firstly, the questionnaire was reviewed by two senior lecturers in the Procurement and Supply Chain Department of Ho Technical University. These senior lecturers had over 10 years of industry and academic experience and were deemed to have relevant knowledge of the phenomenon under study. The piloting was done to verify the suitability and appropriateness of questions for their intended purpose. The questionnaire was also piloted with eight professionals of diverse backgrounds (i.e. two

Table 1. Challenges of implementing SV

Group	ID	Challenge(s)	Reference(s)
1.		*High cost*	
	CH1	*Leads to high cost of projects*	Gounden (2000), Walker and Brammer (2012), Zuo *et al*. (2012), Eadie and Rafferty (2014), Lindell (2020), Loosemore *et al*. (2021), Troje (2020)
2.		*Weak processes and guidelines*	
	CH4	*Weak process of SV in the tendering process and review during post-contract award*	Erridge (2007), Barraket and Weissman (2009), Harlock (2014), Barrakett *et al.* (2016), Montalbán-Domingo *et al.* (2018), Raidén *et al*. (2019), Lindell (2020)
	CH5	*Lack of and limited guidelines for evaluation*	Burke and King (2015), Farag *et al*. (2016), Anxo *et al.* (2017), Lindell (2020)
	CH3	*Difficult to implement with traditional procurement processes and practices*	Murphy and Eadie (2019), Daniel and Pasquire (2019)
3.		*Lack of support*	
	CH8	*Lack of support from government and collaboration from other sectors*	Loosemore *et al.* (2020a), Loosemore *et al.* (2020b), Okeke and Nnaemeka-Okeke (2021)
	CH15	*Lack of commitment from the construction industry to improve the wider society where construction activities impact society*	Pasquire and Salvatierra-Garrido, 2011
4.		*Institutional issues*	
	CH7	*Differences in the logic between private and public organizations and misalignment of incentives*	Loosemore *et al.* (2020a)
	CH9	*Ingrained institutional norms, cultures, practices and supply chain relationships in the supply chain of construction industry*	Erridge (2007), Barraket and Weissman (2009), Barrakett *et al*. (2016), Loosemore *et al.* (2016), Loosemore *et al.* (2020a), Loosemore *et al*. (2020b), Murphy and Eadie (2019), Troje and Andersson (2020)
	CH12	*SV pushes the construction industry into a state of institutional instability*	Troje and Andersson (2020)
5.		*Absence of validity, efficacy and lack of knowledge*	
	CH2	*Lack of knowledge of SV*	Barraket and Weissman (2009), Walker and Brammer (2012), Zuo *et al*. (2012), Loosemore *et al.* (2016), Lindell (2020)
	CH17	*There is a lack of validity and effectiveness of socio-economic policies in public procurement*	Watermeyer (2000), El-Gayed (2013)
	CH19	*There is a lack of empirical data to demonstrate the effectiveness of public procurement as a vehicle for SV*	Watermeyer (2000)
	CH18	*The beneficial impact of SV policies is dubious and minimal*	Grounden *et al.* (2000)

(*continued*)

Table 1. Continued

Group	ID	Challenge(s)	Reference(s)
6.		*Legislative frameworks*	
	CH13	*Legislation, bureaucratic and rigid nature of the procurement process*	Barrakett *et al.* (2016), Loosemore *et al.* (2016)
	CH6	*Overemphasis on regulatory and commercial goals over socio-economic goals*	Erridge (2007)
7.		*Others*	
	CH10	*Low prominence in tendering criteria and fear of legal challenges*	Burke and King (2015)
	CH11	*Misalignment in the targets set for SV policies and the capacity of the construction industry to implement these targets*	Loosemore *et al*. (2021), Loosemore *et al*. (2023)
	CH14	*SV does not contribute to the attainment of project goals*	Kramer and Porter (2011)
	CH20	*Deliverables in SV are poorly defined, ambiguous and do not include measurable and quantifiable requirements*	Watermeyer (2000)
	CH16	*SV is not seen as central to the delivery of construction projects*	Farag *et al*. (2016)
	CH21	*It is difficult to balance the competing goals of public administration and SV*	Kamoche (1997)
	CH22	*The risk of violating regulatory goals and incurring significant financial penalties*	Erridge (2007)
	CH23	*SV leads to a decrease in economy and efficiency in government procurement*	Watermeyer (2004)
	CH24	*SV requirement results in the disqualification of some eligible tenderers from competition*	
	CH25	*It leads to less competition in the public procurement process*	
	CH26	*SV results in the unjust and inequitable treatment of contractors*	
	CH27	*SV restricts transparency and equity of the public procurement process*	
	CH28	*SV leads to the deterioration of clarity and transparency in public procurement practices*	
	CH29	*It is possible that the secondary or socio-economic goals sought after in the public procurement process could not be attained*	

Source: Authors' own work

procurement officers, two works engineers, two quantity surveyors and two planning officers) in the procurement of construction works process in the Metropolitan, Municipal and District Assemblies (MMDAs) in Ghana. The rationale was to sample the views of members of each category of respondents in the study to guarantee the validity and appropriateness of data. These categories of respondent are regularly engaged in the public procurement process and are deemed to possess relevant information on the phenomenon under investigation. The two-step approach provided important feedback to guarantee the capacity of the questionnaire to gather the requisite data required for the study.

Following the piloting of the questionnaire, it was finalized and administered to the sampled respondents. The questionnaire consisted of two parts. The first part sought some demographic information of the respondents. Among the demographic information gathered were the respondents' work experience in the various MMDAs, their highest level of education and their job positions. The second part of the questionnaire required the respondents to rank on a Likert scale of −2 to 2 (where −2 = strongly disagree, −1 = disagree, 0 = neither agree nor disagree, 1 = agree and 2 = strongly agree) their level of agreement with the factors that pose as challenges to the implementation of SV in the procurement of public works. The five-point Likert scale was used in this study because it can provide unambiguous results and has ease of interpretation.

Respondents for the study were recruited from MMDAs in Ghana. Gidigah *et al.* (2021) asserted that there are 216 MMDAs in Ghana, consisting of 6 metropolitan assemblies, 56 municipal assemblies and 154 district assemblies. With the aid of Yamane's (1967) formulae, 140 MMDAs were selected for the study. Since the researcher intended to gather data at the individual level to obtain the practical experiences of social actors in the procurement of construction works in Ghana, one respondent was purposively selected from each of the 140 MMDAs. Also known as the judgmental or selective sampling, the purposive sampling technique enables the researcher to intentionally select participants based on specific criteria or characteristics relevant to the research objective. Not every professional in the MMDAs qualified to partake in the survey because of the criteria set. The criteria enabled the researchers to contact those professionals who could competently respond to the questions. To qualify for inclusion in the study, the participant must meet the following criteria; the participant must have five or more years of experience in construction procurement with the aid of the Public Procurement Act, 2003 (Act 663) as amended; the participant must have procured construction works for the given number of years; and the participant either be a procurement officer, works engineer, quantity surveyor or planning officer. The basis for this criterion was to gather data from respondents who have experience in the procurement of construction projects in the public sector of Ghana using the Public Procurement Act, 2003 (Act 663), as amended.

Although 140 survey questionnaires were administered to the respondents, only 100 (71.43%) valid responses were used for analysis. A total of 33 of the returned questionnaires did not meet the set criteria, while 7 respondents failed to return their questionnaires, although regular follow-ups were made. Out of the 33 returned questionnaires that did not meet the set criteria, 15 had less than five years in their current positions, while 18 had not procured construction work in the past five years. It was unfortunate this happened as the instructions were clear right from the onset. Notwithstanding, a response rate of 71.43% was enough to enhance the generalizability of the findings among the MMDAs.

Out of the total number of respondents, 36% were procurement officers, 29% represented works engineers, 18% were made up of quantity surveyors and 17% were planning officers. In terms of working experience, the majority of respondents in the study had between 11 and 16 years of experience and worked in their positions as professionals in the procurement of

construction works at the district level of Ghana. In terms of education, most of the participants (53%) had master's degrees, followed by bachelor's degrees (26%) and Higher National Diploma (21%) in that order. Table 2 provides a summary of the background of respondents in this study. The background information gathered were essential to provide context to the perspectives of the respondents. It helped to add depth and credibility to the study's conclusion.

3.2 Analysis of quantitative data

The returned questionnaire was cleaned, coded and analysed with the aid of SPSS version 22. Data regarding the demographic characteristics of respondents were analysed by percentages while data on the challenges were analysed using mean scores standard deviations and exploratory factor analysis (EFA). The large number of challenges identified through the literature review required the use of EFA for analysis. The Cronbach's alpha test was conducted to check the data reliability and evaluate the internal consistency of the rating in the study. Norusis (2011) suggested that a Cronbach's alpha value above 0.70 is an indication of high reliability. The Cronbach's alpha coefficient calculated was 0.921, hence, the data was considered highly reliable.

Before subjecting the rated challenges to factor analysis, the appropriateness of data was evaluated with the Kaiser−Meyer−Olkin (KMO) and Bartlett's test of sphericity (Pallant, 2016). While Hair *et al.* (1995) as well as Tabachnick and Fidell (2001) indicated that KMO value of 0.5 is suitable for factor analysis, Hutcheson and Sofroniou (1999) suggested that values between 0.80 and 0.90 can be considered as great, and values exceeding 0.90 are superb. Hair *et al.* (1995), as well as Tabachnick and Fidell (2001), suggested that Bartlett's test of sphericity produces a chi-square output that must be significant ($p < 0.05$) to guarantee factor analysis. As indicated in Table 3, the KMO value of 0.768 and Bartlett's test

Table 2. Background of respondents for quantitative data

Main variable specific variable	Frequency	%
Work experience in MMDA		
5–10 years	28	28
11–16 years	43	43
17–22 years	15	15
22 years and above	14	14
Total	*100*	*100*
Highest education		
Master's degree	53	53
Bachelor's degree	26	26
Higher National Diploma	21	21
Others	–	–
Total	*100*	*100*
Job position		
Procurement officers (PO)	36	36
Works engineers (EG)	29	29
Quantity surveyors (QS)	18	18
Planning officers (PF)	17	17
Total	*100*	*100*

Source: Authors' own work

Table 3. KMO and Bartlett's test of challenges to the implementation of social value

Kaiser–Meyer–Olkin measure of sampling adequacy		0.768
Bartlett's test of sphericity	Approx. chi-square	2462.512
	df	406
	Sig.	0.000

Source: Authors' own work

of sphericity result of 2462.512 with an associated significance level of 0.000 suggested that the correlation matrix was not an identity matrix (Pallant, 2016). These results showed that the data was suitable for factor analysis to cluster challenges for integrating SV in the procurement of works.

3.3 Interview protocol, semi-structured interview and analysis

Results from the quantitative phase of the study informed the design of the interview protocol to gather qualitative data in the second phase of the study. This phase of the study was to gather qualitative data to provide further explanation for the results of the first phase. An interview protocol was prepared to capture the practical experiences of practitioners in the procurement of construction projects. These experiences captured through words provided interpretations and meanings that served as the basis for developing an in-depth understanding of quantitative results (Saunders *et al.*, 2018). Phase 2 of the study relied on semi-structured interviews to gather data from 10 participants. Trochim and Donnelly (2008) indicated that the use of semi-structured interviews enables a researcher to explore a topic more broadly. The interviews therefore permitted the researchers to explore more broadly the results of the first phase of the study.

Bryman and Bell (2015) recommended that the number of participants for the validation of the results of an investigation should not exceed 10. Consequently, 10 participants were purposively selected during the phase 2 of the study. These participants were made up of five participants who took part in the study, and five participants from the Public Procurement Authority who did not take part in the study. Silverman (2013) stated that feedback from participants who took part in the study has the potential to enhance internal validity while opinions of those who did not participate in the study support external validity. Table 4 presents the background of participants who were involved in the qualitative phase.

To enhance the credibility of the data, interview themes were prepared based on the study's first phase and sent to the participants about two weeks before the interview. This was to ensure adequate preparation of participants. This process provided an opportunity to gather data to accurately reflect the results of the first phase of the study (Christensen *et al.*, 2014). Also, low-inference descriptors were used in the study. That is the use of quotes in the presentation of results to reflect the thinking behind explanations provided by the participants. These processes promoted the validity and reliability of the qualitative data collected.

Interviews were conducted from March to August 2023 in the English language and lasted for 60 minutes. The consent of participants was sought to record the interviews. Interviewees were informed that they could opt out of the data gathering at any point in time during the interview. Interviews were recorded and transcribed. Qualitative data was analysed by content analysis and compared with the results of the first phase of the study to gain an in-depth understanding of the challenges hindering the implementation of SV in the procurement of construction works.

Table 4. Background of participants for interview

Portfolio	Code name	Organization	Hierarchy	Years of experience
Director (DT)	P1	Public procurement authority	Senior	33
Deputy Director 1(DeT1)	P2	Public procurement authority	Senior	15
Deputy Director 2(DeT2)	P3	Public procurement authority	Senior	20
Senior officer (SF)	P4	Public procurement authority	Middle	18
Junior officer (JF)	P5	Public procurement authority	Junior	13
Municipal Works Engineer (EG. 8)	P6	Municipal assembly	Senior	25
Procurement Officer (PO. 12)	P7	District assembly	Middle	10
Quantity Surveyor (QS. 5)	P8	Metropolitan assembly	Middle	8
Planning Officer (PF. 1)	P9	Municipal assembly	Middle	12
District Works Engineer (EG. 6)	P10	District assembly	Senior	9

Source: Authors' own work

4. Results

4.1 Identifying and ranking (based on their mean scores) the key challenges to the implementation of social value in the procurement of construction works

Table 5 presents the summary of the survey results. Respondents' views on the various challenges showed different mean scores across various challenges. The basis for ranking the challenges was the mean scores in descending order. In situations where two or more challenges had the same mean scores, the variable (challenge) with the lowest standard deviation was ranked higher. With the five-point Likert scale of −2 to 2 used in this study, the mean value was chosen as 0 which is the neutral point. A mean value close to −2 suggests a strong negative opinion, a mean value between 1 and −2 reflects general disagreement, a mean value close to 0 signifies neutral or balanced view, a mean value between 1 and 2 suggests agreement and a mean value close to 2 signals a strong disagreement.

From Table 5, respondents showed that the most critical challenge hindering the integration of SV into the procurement of construction works is the risk of violating regulatory frameworks and incurring significant penalties. This challenge was ranked highest with a mean score of 1.17 and a standard deviation of 0.667. Closely related to this challenge, respondents considered lack of support from governments and collaboration from other sectors as the second most critical challenge hampering the integration of SV into the procurement of construction works. This variable was ranked second with a mean score of 1.12 and a standard deviation of 1.066. It is significant to note that, in the view of respondents, the least challenge to integrating SV into the procurement of construction works is differences in the logic between private and public organizations and misalignment of SV incentives. This variable was ranked least, with a mean score of 0.38, with a standard deviation of 1.543. The rest of the results are shown in Table 5.

4.2 Exploratory factor analysis (EFA) of the challenges to implementing social value in the procurement of construction works

The study further used EFA to reveal the interrelationships of variables that have the potential to measure parts of the same phenomenon under investigation. The EFA results are shown in Table 6.

Table 5. Critical challenges to the implementation of social value

Variables	*N*	Mean	SD	Rank	Shapiro–Wilk statistic	*p*-value
The risk of violating regulatory frameworks and incurring significant financial penalties	100	1.17	0.667	1	0.795	0.000
Lack of support from the government and collaboration from other sectors	100	1.12	1.066	2	0.691	0.000
Lack of knowledge of SV	100	1.07	0.756	3	0.831	0.000
Legislation, bureaucratic and rigid nature of the procurement process	100	1.07	0.769	4	0.799	0.000
Lack of and limited guidelines for evaluating SV in tenders	100	1.07	0.987	5	0.752	0.000
Ingrained institutional norms, cultures, practices and supply chain relationships in the construction industry	100	1.02	1.005	6	0.791	0.000
This leads to the high cost of projects	100	1.00	0.752	7	0.821	0.000
It is not possible to audit and confirm the efficacy of SV procedures	100	0.97	0.771	8	0.802	0.000
Overemphasis on regulatory and commercial goals over socioeconomic goals	100	0.91	0.818	9	0.851	0.000
SV requirement results in the disqualification of some eligible tenderers from competition	100	0.88	0.769	10	0.827	0.000
SV is not seen as central to the delivery of construction projects	100	0.88	0.946	11	0.805	0.000
Difficult to implement with traditional procurement processes and practices	100	0.86	0.995	12	0.808	0.000
Lack of commitment from the construction industry to improve the wider society where construction activities impact society	100	0.83	0.975	13	0.862	0.000
It is possible that the secondary or socio-economic goals sought after in the public procurement process could not be attained	100	0.83	1.064	14	0.861	0.000
The beneficial impact of SV policies is dubious and minimal	100	0.82	0.783	15	0.844	0.000
SV restricts transparency and equity of the public procurement process	100	0.82	0.968	16	0.826	0.000
SV does not contribute to the attainment of project goals	100	0.81	0.982	17	0.868	0.000
SV leads to a decrease in economy and efficiency in government procurement	100	0.81	1.002	18	0.872	0.000
There is a lack of validity and effectiveness of socio-economic policies in public procurement	100	0.81	1.143	19	0.849	0.000

(*continued*)

Table 5. Continued

Variables	*N*	Mean	SD	Rank	Shapiro–Wilk statistic	*p*-value
It leads to less competition in the public procurement process	100	0.80	0.804	20	0.857	0.000
Weak process of SV in the tendering process and review during post-contract award	100	0.80	1.025	21	0.761	0.000
There is a lack of empirical data to demonstrate the effectiveness of public procurement as a vehicle for SV	100	0.80	1.082	22	0.765	0.000
SV pushes the construction industry into a state of institutional instability	100	0.79	0.868	23	0.804	0.000
Deliverables in SV are poorly defined, ambiguous and do not include measurable and quantifiable requirements	100	0.79	0.913	24	0.857	0.000
It is difficult to balance the competing goals of public administration and SV	100	0.78	1.060	25	0.793	0.000
SV results in the unjust and inequitable treatment of contractors	100	0.74	0.848	26	0.867	0.000
Misalignment in the targets set for SV policies and the capacity of the construction industry to implement these targets	100	0.69	0.961	27	0.868	0.000
SV leads to the deterioration of clarity and transparency in public procurement practices	100	0.67	0.995	28	0.882	0.000
Differences in the logic between private and public organizations and misalignment of incentives	100	0.38	1.543	29	0.791	0.000

Source: Authors' own work

Principal components analysis was used for the factor extraction, while the rotation method was Oblinim with Kaiser normalization. The eigenvalue was set at 1.0 and factor loading was 0.5. Costello and Osborne (2005) recommended a criterion for best-fitting factor analysis. They noted, that no factor loading should be less than 0.3; no factor should crisscross between the pattern and structure matrix; and no component should give a minimum of three factors. This criterion was therefore adopted in the current study. Initially, seven components were extracted as shown in Table 6. The total variance explained by each component is: Component 1 = 33.142%, Component 2 = 15.524%, Component 3 = 9.936%, Component 4 = 5.915%, Component 5 = 5.059%, Component 6 = 4.107% and Component 7 = 3.547%. However, by the application of the criterion advanced by Costello and Osborne (2005), four components (4–7) were eliminated. This is because Component 4 had only two factors; Component 5 had factor loadings less than 0.3; Component 6 had only one factor; while Component 7 had a minimum of three factors.

Based on the assessment of the latent correlations among variables under each component, the challenges were clustered as; *Component 1* – weak process and bureaucracy, *Component 2* – incongruence of SV with the traditional procurement process and C*omponent 3* – misaligned targets of SV and erosion of procurement principles.

5. Discussion

The discussion is based on the EFA results presented in Table 6. Results of the EFA showed that challenges to integrating SV into the procurement of construction works can be clustered into three major components, namely, "weak process and bureaucracy", "incongruence of SV with traditional procurement process" and "misaligned targets of SV and erosion of procurement principles". These components are discussed below.

5.1 Weak process and bureaucracy

This component had four challenges (weak process of SV in the tendering process and review during post-contract award; ingrained institutional norms, cultures, practices and supply chain relationships in the construction industry; legislation, bureaucratic and rigid nature of the procurement process; and SV leads to less competition in the public procurement process). The component represents 33.142% of the total variance explained by challenges to integrating SV into the procurement of construction works in Ghana. The public procurement process for infrastructure works is strictly governed by the Public Procurement Act, 2003 (Act 663) is amended. Procurement processes which flouted the procedures and processes of the Act are met with fines or imprisonment. However, the current Act does not support the implementation of SV, and this was corroborated by a respondent, who noted, *The Public Procurement Act, the manual and Regulation have not prescribed any process and procedure for the implementation of social issues in the public procurement process – (P1)*. Furthermore, due to decentralization policies and processes in Ghana, MMDAs are required to strictly adhere to the laid down bureaucratic processes in construction procurement, which hinders the implementation of SV. A respondent stated, *We practice a very bureaucratic process in our Assembly and social issues have no place in our process – (P8)*. This finding supports earlier studies (Harlock, 2014; Barrakett *et al.*, 2016; Lindell, 2020), which identified weak processes as a major barrier to integrating SV.

It was acknowledged that the public procurement process in Ghana is prescriptive. The Public Procurement Act outlines the processes and procedures to be implemented in the procurement of construction works. The absence of clear processes and procedures to integrate SV therefore hinders the effective implementation of SV and its attendant benefits.

Table 6. Challenges to the implementation of social value

Challenges of integrating SV into the procurement of construction works	Commonalities after extraction	Component of challenges in integrating SV 1	2	3	4	5	6	7
Weak process of SV in the tendering process and review during post-contract award	*0.677*	*0.720*						
Ingrained institutional norms, cultures, practices and supply chain relationships in the construction industry	*0.814*	*0.607*						
Legislation, bureaucratic and rigid nature of the procurement process	*0712*	*0.543*						
It leads to less competition in the public procurement process	*0706*	*0.727*						
Difficult to implement with traditional procurement processes and practices	*0.810*		*0.646*					
SV pushes the construction industry into a state of institutional instability	*0.872*		*0.803*					
SV is not seen as central to the delivery of construction projects	*0.852*		*0.883*					
Lack of empirical data to demonstrate the effectiveness of public procurement as a vehicle for SV	*0.905*		*0.806*					
It is difficult to balance the competing goals of public administration and SV	*0.847*		*0.852*					
SV requirement results in the disqualification of some eligible tenderers from competition	*0.775*		*0.581*					
SV restricts transparency and equity in the public procurement process	*0.834*		*0.803*					
Misalignment in the targets set for SV policies and the capacity of the construction industry to implement these targets	*0.788*			*0.735*				
SV does not contribute to the attainment of project goals	*0.787*			*0.787*				
There is a lack of validity and effectiveness of socio-economic policies in public procurement	*0.859*			*0.602*				
Deliverables in SV are poorly defined, ambiguous and do not include measurable and quantifiable requirements	*0.759*			*0.726*				
SV results in the unjust and inequitable treatment of contractors	*0.815*			*0.836*				
SV leads to the deterioration of clarity and transparency in public procurement practices	*0.698*			*0.586*				
		1	2	3	4	5	6	7
Eigenvalues		9.611	4.502	2.881	1.715	1.467	1.191	1.029
Variance explained		33.142	15.524	9.936	5.915	5.059	4.107	3.547

Notes: Extraction method: principal component analysis; Rotation method: Oblinim with Kaiser normalization; Keiser–Meyer–Olkin measure of sampling adequacy = 0.768; Bartlett's test of sphericity: chi-square = 2462.512 (df = 406), $p < 0.000$; Factor loadings less than 0.5 were suppressed
Source: Authors' own work

5.2 Incongruence of social value with the traditional procurement process

There were seven challenges under this component, namely;

- Difficult to implement SV with traditional procurement processes and practices.
- SV pushes the construction industry into a state of institutional instability.
- SV is not seen as central to the delivery of construction projects.
- Lack of empirical data to demonstrate the effectiveness of public procurement as a vehicle for SV.
- It is difficult to balance the competing goals of public administration and SV.
- SV requirement results in the disqualification of some eligible tenderers from competition.
- SV restricts transparency and equity of the public procurement process.

This component accounted for 15.524% of the variances in the challenges to implementing SV. The major objective in the procurement of public infrastructure is the delivery of physical economic and social projects for the benefit of society, without due regard to SV. Hence, SV is deemed to be inconsistent with traditional procurement practices, which have no established criteria in the Public Procurement Act for the assessment of social issues in the procurement of public infrastructure. A respondent observed, *We cannot evaluate the requirement of social issues, compared to others such as financial, past performance and other qualification criteria stated in the tender document – (P7).* Another respondent pointed out, *Our major goal in constructing projects is to satisfy our communities by providing physical projects. We don't pay much attention to social issues – (P9).*

This finding supports the study of Murphy and Eadie (2019), who noted the difficulty in implementing SV with traditional procurement practices in Northern Ireland. The finding also buttresses the view that there are weak processes to evaluate SV in tendering (Barraket and Weissman, 2009; Harlock, 2014; Lindell, 2020).

These opinions indicated that there is a dichotomy between SV objectives and what traditional procurement seeks to attain. From the opinions of interviewees, it appears while SV intends to attain the social objectives of improving the lives of individuals and community members, construction procurement is focused on providing physical edifices to communities without due regard to social issues.

5.3 Misaligned targets of social value and erosion of procurement principles

This component produced six challenges, which represent 9.936% of the variance of challenges. These challenges are:

(1) Misalignment in the targets set for SV policies and the capacity of the construction industry to implement these targets.

(2) SV does not contribute to the attainment of project goals.

(3) There is a lack of validity and effectiveness of socio-economic policies in public procurement.

(4) Deliverables in SV are poorly defined, ambiguous and do not include measurable and quantifiable requirements.

(5) SV results in the unjust and inequitable treatment of contractors.

(6) SV leads to the deterioration of clarity and transparency in public procurement practices.

Major principles that guide the procurement of infrastructure in the public sector is the attainment of value for money, fairness and transparency in the process. The Public Procurement Act has established clear rules on value for money, fairness and transparency, which MMDAs are obliged to strictly adhere to. Ignorance or disobedience of such rules amounts to discrimination in the public procurement process, which attracts sanctions. To avoid sanctions, public sector institutions strictly adhere to regulative frameworks in the procurement of construction projects. This position was corroborated by a respondent, who stated:

> Our target in construction procurement is to obtain value for money for our Assembly and to conduct procurement in a fair, transparent and non-discriminatory manner. When we use social criteria to target people, we will be discriminating against others and that is a breach of the provision of the Act (P10).

This finding is consistent with the study of Loosemore *et al.* (2021), who found there is a misalignment between the targets set for SV policies and the capacity of the construction industry to deliver such targets. Furthermore, another respondent noted that:

> The procurement process is supposed to be conducted in a transparent, fair and non-discriminatory manner. Where social criteria used for specific groups in society are stated in the Tender document, that will be unfairness and discrimination to society. That will not ensure value for money – (P6).

This finding aligns with Watermeyer (2004), who cautioned that, when preferential policies such as SV are used in the public procurement process, it restricts transparency and equity of the public procurement process, deteriorates clarity and transparency, in addition to decreased economy and efficiency in government procurement. Studies have also indicated that public procurement is anchored on critical principles such as value for money, fairness, transparency, non-discrimination and transparency among others. The opinions of interviewees revealed that the targets of SV are not aligned with traditional procurement practices.

It is evident from the opinions of participants that, there are differences in the targets set for SV and traditional procurement. Opinions of interviewees further demonstrated that implementation of SV has the potential to hinder the attainment of globally accepted public procurement principles such as fairness, transparency and non-discrimination, among others.

6. Conclusion

This study examined the challenges that impede the implementation of SV in the procurement of construction works to leverage government spending on infrastructure to handle increasing societal challenges. By leveraging construction projects for local development and socioeconomic regeneration, construction cost can be seen as an important vehicle for social change, economic development and poverty reduction. The study therefore has implications for public procurement administration and practice. This study provides a basis for the government to formulate policies and expedite efforts towards the necessary policy and regulatory changes in the procurement of construction works in Ghana to leverage infrastructure procurement for the advancement of communities where construction works are undertaken. Also, the study ascertained the clusters of specific challenges that have the potential to hinder the attempt to introduce innovative policies, such as SV into the procurement of construction works in Ghana. The study therefore provides the necessary guide for the government to initiate the necessary actions, policies and practices to counteract these challenges for the benefit of individuals and society where construction

projects are undertaken. The procurement of construction works has an economic multiplier effect and linkages to other sectors of the economy with the potential to engender social and economic transformation. The government and the public procurement authority in Ghana should therefore begin to adopt the appropriate policy measures to overcome the challenges that could serve as barriers to the implementation of SV in the procurement system. However, a major limitation connected with the study is the reliance on implementers of the Public Procurement Act (procurement officers, works engineers, quantity surveyors and planning officers) for data on the phenomenon under investigation. Future studies could expand the scope to obtain the opinions of legislators of Acts of Parliament.

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