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Social sustainability performance: Developing and validating measures in the context of emerging African economies

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ABSTRACT

Social sustainability has attracted growing research interest. However, studies on social sustainability in emerging African economies are still in their early stages. This study found that companies in these countries are keen to improve their social sustainability, but they often lack an adequate understanding of measuring their company's social sustainability performance (SSP). This study addresses this knowledge gap by identifying the SSP measures relevant to emerging African economies. The study adopts a mixed research method involving several stages. First, fifty initial SSP evaluation measures across eight dimensions were identified based on an extensive literature review and interviews. Second, these measures were examined in a pilot survey followed by a formal survey with senior managers and business owners of 110 companies in Ghana's manufacturing and service industries. A total of 369 valid responses were received. Based on the statistical analysis of exploratory and confirmatory factor analysis, 26 specific measures of SSP were established. These measures cover seven broad dimensions: community, equity, poverty alleviation, human rights, ethics, regulatory enforcement, and employees. The validated multidimensional measures provide valuable guidance to managers on evaluating and improving their organisation's social sustainability performance.

1. Introduction

Social sustainability is concerned with the human dimension of sustainability, including people's skills and social values (Sarkis et al., 2010; Valiance et al., 2011), which addresses quality of life concerns. These concerns require decision-makers to examine the social implications of their actions (Hussain et al., 2018; Orji et al., 2019). According to Langhelle (1999), social sustainability is an ethical rule of conduct for human survival and expansion that must be achieved in a mutually inclusive and sensible manner. Among the three pillars of sustainability, social sustainability appears to have received less attention from scholars than environmental and economic sustainability (Huq et al., 2016). Several studies have considered social sustainability as the ethical code of conduct necessary for human existence and development, which must be jointly inclusive and thoughtful (Jajja et al., 2020; Mathiyazhagan et al., 2021; Huq et al., 2020). Measuring social sustainability performance (SSP) is, however, quite challenging. For example, Bubicz et al. (2019) and Sodhi and Tang (2018) are among several studies that have recognised the shortcomings of many organisations in their attempts to incorporate and measure social sustainability within their firms. Likewise, social sustainability indicators employed to measure performance can be problematic and even contentious because, from a constructivist point of view, they often do not consider many of the different truths and the rich and context-dependent nature of social life (Hale et al., 2019). Apart from conceptual differences, there is also the practical challenge of whether end-users will accept and engage with selected indicators (Turnhout, 2009), mainly based on the context in which they are applied.

Despite Bubicz, Barbosa-Póvoa, and Carvalho (2019) and Sodhi and Tang (2018) arguing the difficulty of implementing and measuring firms' social sustainability performance, the phenomenon has gained much attention in recent years, particularly in Asian emerging economies (Mathiyazhagan et al., 2021; Nath and Agrawal, 2020; Bai et al., 2019). However, there are still limited studies on firms' measurement of SSP, especially in emerging African economies (Mani et al., 2020; Bubicz et al., 2019). For example, due to a lack of literature, the implementation and measurement of SSP in Ghana face challenges, mainly due to the unavailability of relevant tools for firms to understand and measure their social sustainability performance. Social issues are mostly contextual and time-dependent (Gugler and Shi Jacylyn, 2009;

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Macchion et al., 2018). Although several studies on social sustainability in developed and emerging Asian economies are reported in the literature (Bubicz et al., 2019; Huq et al., 2014), there is still a lack of research on social sustainability performance in the context of the African economies. Firms need to understand the social sustainability performance issues in African countries because previous findings and implications gained from the studies in emerging Asian economies may not be directly applied to the context of emerging African economies. Significant differences between the two continents might exist, especially regarding cultural, social, environmental, and political aspects.

It would be ill-advised to generalise social issues between the Asian and African regions, as the cultural, environmental, social, economic, and political developments vary considerably. Studies have recognised that social sustainability reporting is far advanced in Asia and other industrialised nations (Baughn et al., 2007; Welford, 2005). On the contrary, social activities and reporting were relatively low in Africa, except in South Africa (Dawkins and Ngunjiri, 2008). The reason is primarily due to the lack of social infrastructure. Quao and Hope (2019) believed that most Asian nations, such as Bangladesh, India, and the Philippines, are well-advanced in enacting and enforcement of regulations of social sustainability practices. Enforcement of laws in Africa is problematic due to corruption and weak institutions. Luxmore et al. (2018) believed that due to weak institutions and the lack of regulatory enforcement in Africa, firms exploit such vulnerability for economic gains to the detriment of society. Long-term, weak regulatory enforcement hurts businesses.

Moreover, with most African nations having at least 10 to 15 different languages and ethnic tribes, Yoichi (2022) viewed Africa as the continent with the greatest linguistic and cultural diversity globally. Africa's cultural diversity necessitates a distinct method for evaluating businesses' social sustainability performance compared to other regions. Political instability is prevalent due to ethnic and tribal tensions, poverty, unemployment, election results, and the longevity of some heads of state in power (Kamga et al., 2022). Africa has had three successful coups in the past year (Munshi, 2021). Political instability gives rise to social challenges that may be distinct from those affecting emerging Asian economies.

This study is motivated by the need for context-specific indicators (Macchion et al., 2018) for measuring a firm's SSP. It aims to identify social indicators relevant to measuring a firm's SSP in the context of emerging African economies, with a specific focus on Ghana, and to develop and validate a set of indicators that can help both firms and researchers to understand and measure the level of a firm's SSP. Thus, this study adds to knowledge and advances research in the following ways: First, it enriches the current literature on social sustainability performance management by providing a set of multidimensional criteria for measuring a firm's social sustainability performance. Second, this study adds two new indicators to the sustainability performance measures specifically relevant to the context of emerging economies: poverty alleviation and regulatory enforcement measures. Finally, the findings of this study contribute to the generalizability of social sustainability performance by validating the measures using data from various industries in Ghana.

This study collects empirical evidence from Ghana, a model emerging African nation. Ghana joined the UN in 1957 and has accepted nearly all its human rights and social justice agreements and treaties (Sossou and Yogtiba, 2016). The country has an active civil society, respects the rule of law, and has a growing middle class. Ghana is one of Africa's most culturally diverse countries, with several ethnic and racial groups. Most of the population lives in poverty due to urbanisation and changes in traditional social support structures (Samuel et al., 2013). About half the population lacks potable water. Most people rely on less hygienic drinking water sources, making consumers more susceptible to sickness, and 60% lack medical treatment (Samuel et al., 2013). Inadequate electricity supply in Ghana's major cities and towns is a critical societal issue. Rural communities are suffering from poverty due to low productivity and weak markets. The lack of essential social services in Ghana's rural communities is the leading cause of the ongoing poverty problems. As in other emerging African nations, weak government policies and corruption limit social progress. These challenges are prevalent in emerging African countries, which differ in different continental contexts.

To achieve the research aims, this study adopts a mixed-method approach involving a comprehensive review of relevant literature, in-depth interviews, and a questionnaire survey of selected firms in Ghana. Following this introduction, the remaining parts of the paper include: A literature review on social sustainability in Section 2; Research methodology in Section 3; Data analysis and research findings in Section 4; Discussion of the results in Section 5; and Conclusions in Section 6.

2. Literature review

2.1. Social sustainability practices and performance

Social sustainability ensures human rights compliance, equity, and ethics across firms (Khan et al., 2021; Huq et al., 2016). The issue of social sustainability has garnered considerable attention in recent years in both emerging Asian countries and developed nations (Bubicz et al., 2021; Bubicz et al., 2019). Some of the notable social sustainability practices include workers' rights to equal treatment (Awaysheh and Klassen, 2010; Martin-Ortega et al., 2015; Popovic et al., 2018), avoidance of discrimination against the minority (Popovic et al., 2018; Yadlapalli et al., 2019; Loosemore et al., 2020), and equal training or educational opportunities (Loosemore, 2016; D'Eusanio et al., 2018; Loosemore et al., 2020). From a supply chain perspective, social sustainability is the product and process aspect that impacts people's safety and well-being (Wood, 1991).

Social sustainability has attracted the interest of operations and social management researchers. For instance, Mani and Gunasekaran (2018) examine how customer pressures, sustainability culture, government, and external stakeholders are the main constituents determining a firm's social sustainability adoption in emerging nations. Likewise, Alghababsheh and Gallear (2020) investigate the impact of assessment and collaborative procedures on suppliers' social performance and whether and how social capital in the buyer-supplier relationship might amplify these impacts. Other researchers have investigated the use of social standards such as ISO 26000, SA 8000, and ethical trading initiatives to provide guidelines for the social responsibility of firms (Agyemang et al., 2022; Huq et al., 2020; Jajja et al., 2020)

Stakeholder pressure is primarily responsible for driving firms' social sustainability practices (Gouda and Haritha, 2020). Their approval legitimises businesses' activities and operations (Huq et al., 2016; Hussain et al., 2018; Shafiq et al., 2014) since they are a necessary component of a firm. Various stakeholder groups of firms, including the community and employees, have been identified through studies (Shafiq et al., 2014; Golicic et al., 2019). Stakeholder pressure is a significant motivator for corporations to embrace sustainability measures and practices, particularly social sustainability. Some drivers that necessitate pressure from stakeholders include but are not limited to employee agitations, for example, strike actions (Badri Ahmadi, Kusi-Sarpong, and Rezaei 2017; Bai et al., 2019), government legislation (Subramaniam et al., 2019; Marshall et al., 2019) and community agitations (Shafiq et al., 2014). Rana Plaza's collapse in April 2013 (Huq et al., 2016) made stakeholders compel multinational companies to be more socially responsible.

Large corporations, such as Apple, have come under pressure from stakeholders. Huq et al. (2016) and Klassen and Vereecke (2012) believe that large firms now address social issues in their supply chains. Most suppliers they work with are from emerging economies with cheap labour and abundant natural resources but lack adequate social performance measures (Ehrgott et al., 2011; Huq et al., 2014). The

development and increase in social sustainability studies in the firms have mainly been in the Asian developing economies (Mathiyazhagan et al., 2021; Huq et al., 2020; Bai et al., 2019; Yawar et al., 2018). Unfortunately, social sustainability studies in the emerging African economy are still scant (Mani et al., 2020). The lack of studies is problematic because social factors are mostly contextual and time-bound (Gugler and Shi Jacylyn, 2009; Macchion et al., 2018).

Researchers have created measures for social sustainability to assess a firm's long-term performance (Awaysheh and Klassen, 2010; Marshall et al., 2015; Zhu et al., 2008). Similarly, other researchers have created measures focusing on the social aspect of sustainability. Mani et al. (2016) dealt with supply chain social sustainability, which refers to addressing social issues in developing economies, focusing on the developing Asian economy, specifically India. This study collects samples from an emerging African economy, Ghana, to fill the gap in the literature.

2.2. Social sustainability measures

The literature review reveals a lack of research on the validated social sustainability performance measures in the emerging African economy. The lack of a validated construct in the study's geographical context in the extant literature is not surprising, given that research on social sustainability is generally lacking in emerging African economies. The measures of social sustainability practices are highly contextual and time-bound (Gugler and Shi Jacylyn, 2009; Macchion et al., 2018). In that sense, Awaysheh and Klassen (2010) created a new set of scales to assess suppliers' use of socially responsible practices. Their research gathered data from industries in Canada, a North American economy. Shafiq et al. (2014) developed scales that capture multiple dimensions of socially responsible practices. Their study also gathered information from industries in Canada.

Similarly, Marshall et al. (2015) generated a multidimensional measure of the supply chain's social and environmental sustainability practices. Their research collected survey data from industries in Ireland, a European economy. Lu et al. (2012) developed a set of socially responsible supplier development measures for Chinese manufacturing firms in an emerging Asian economy. Mani et al. (2016) designed and empirically validated scales for measuring the social sustainability of supply chains in the Indian manufacturing sector, an emerging Asian economy.

Table 1 summarises previously developed measures in the extant literature. It is noted that poverty alleviation, a vital factor in the emerging African context, is not included in the literature. Likewise, literature on social performance seems to have avoided using poverty alleviation as a quantitative measure (Lu et al., 2012; Mani et al., 2016). However, many firms, particularly in emerging African economies, strive to increase human well-being or eliminate poverty as a primary or secondary goal.

Studies show that some firms want to prioritise safeguarding or improving rural livelihoods (Hajjar et al., 2021; Kang et al., 2019). Bush (2010) believes that poverty is one of the world's most significant challenges to achieving the sustainable development agenda (SDA), even though it is a pressing issue in the SDA (Silvestre and Tirca, 2019). Poverty has led to social exclusion and inequality (Hall et al., 2012).

Table 1
Previously validated social sustainability measures.

Authors	Topic coverage	Context	Social dimensions
Lu et al. (2012)	Socially responsible supplier development: Construct development and measurement validation.	Chinese manufacturing firms – Asian economy	Ethics codes, employees, investors, community, suppliers
Mani et al. (2016)	Social sustainability in the supply chain: Construct development and measurement validation	Indian manufacturing industry – Asian economy	Equity, safety, health and welfare, philanthropy, ethics, human rights
Awaysheh and Klassen (2010)	The impact of supply chain structure on the use of supplier socially responsible practices	Industries in Canada – North American economy	Supplier human rights, supplier labour practices, supplier codes of conduct (COC)
Shafiq et al. (2014)	Socially responsible practices: an exploratory study on scale development using stakeholder theory	Industries in Canada – North American economy	Internal, supplier, customer, and community stakeholders
Marshall et al. (2015)	Environmental and social supply chain management sustainability practices: Construct development and measurement	Industries in Ireland – European economy	Social monitoring, social management systems, social supply chain, new product and process development, social supply chain redefinition

3. Research methodology

3.1. Process of identifying the constructs

This research aims to develop and validate measures for assessing a firm's social sustainability performance, particularly in emerging African economies. Fig. 1 is a flowchart highlighting the methodological approach of this research in developing and validating the measures.

First, the study used qualitative research methods to classify and establish the initial constructs through a comprehensive literature review followed by in-depth interviews. The measure development technique followed the approach by Churchill and Gilbert (1979). The researchers combined the concepts from various studies in the literature to establish the elements required to shape the constructs.

Combining the keywords as indicated in Table 2 and starting with the definition of social sustainability, the study developed search terms used to look for articles in the scientific database ISI Web of Science core collections. The first combination of keywords includes the following: (TS = "social sustainability" OR TS = "social aspect" OR TS = "social indicators" OR TS = "ethical sourcing" OR TS = "socially responsible" OR TS = "social performance"). A second search was conducted with the following combinations: (TS = "supply chain" OR TS = " supply chains"). The electronic searches yielded 43,768 and 5875 results on two separate searches with different keywords. The total number of records was reduced to 463 after combining both searches and removing duplicates. The search was restricted to peer-reviewed articles published in scholarly journals in the last two decades, i.e., 2000–2021. The study excluded articles that were not published in English. Only journals rated in the CABS Academic Journal Guide 2018 are considered. Finally, 85 papers on social sustainability and a firm's social performance are selected based on the review of the abstracts.

Second, the study conducted interviews in Ghana to seek expert opinions to confirm and identify relevant measures in the African context. Five top executives participated in the interviews. Each of the interviews lasted between 45 and 60 min. All the interviewees hold high-level positions in their respective companies. The study selected a senior manager from each of the five companies for the interviews through purposive sampling. The researchers chose the firms listed in Table 3 because they had implemented social sustainability programmes in their respective organisations.

Third, following the extensive review of the literature and the interviews, the study presented 37 social dimensions (see Appendix B), of which 34 were drawn from the literature review, and 3 were from the in-depth interviews. These dimensions were then presented to 28 well-

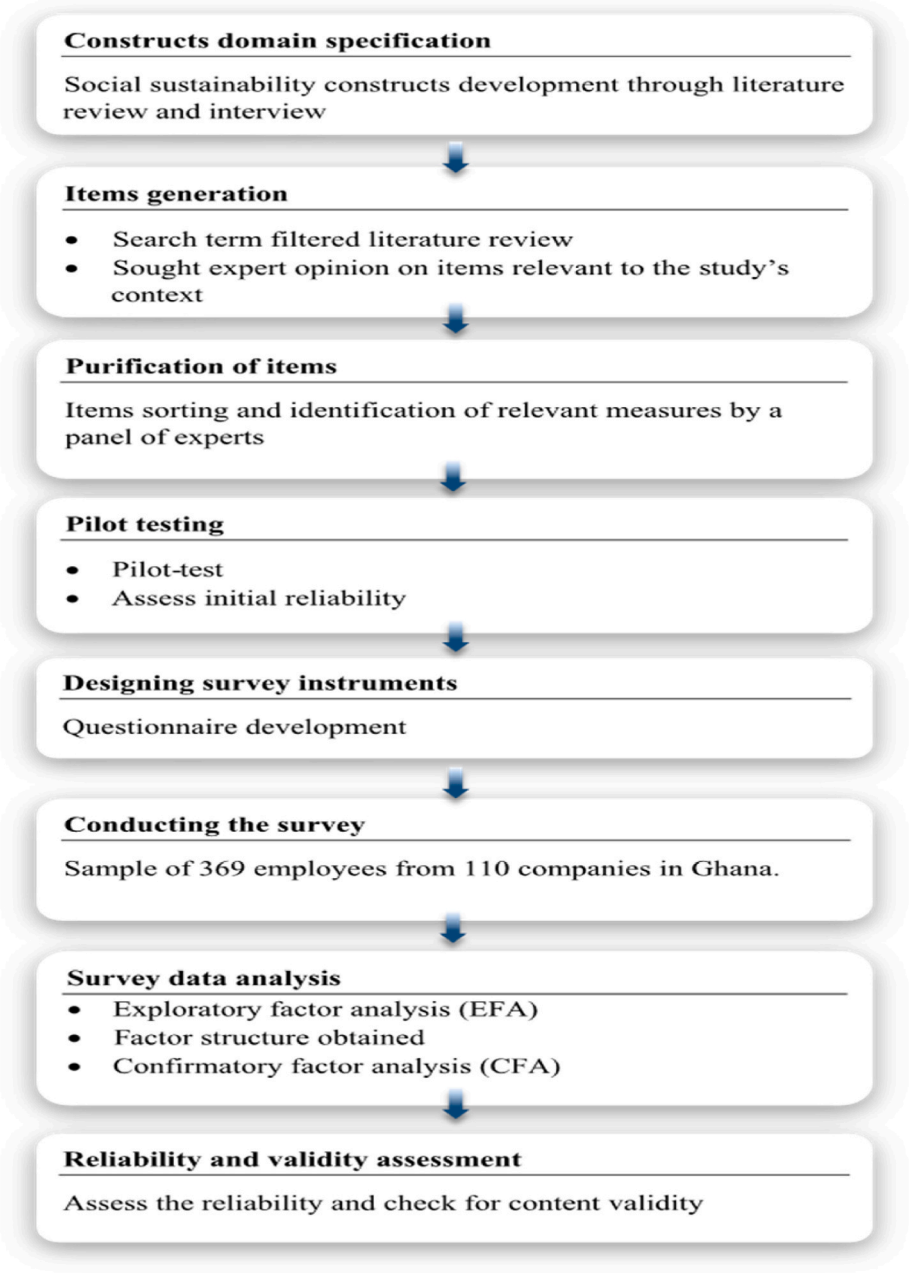


Fig. 1. Flowchart of the research process.

selected Ghanaian experts in a simple poll, asking them to answer "Yes" or "No" to the questions about the social sustainability practices they believed were *actual, necessary, or acceptable* in their industry. Since most of the social dimensions available in the literature were based on studies conducted in developed and emerging Asian economies, it was necessary to run the poll in the emerging African context. The social dimensions that received a "Yes" response from more than 75% of the experts were retained. After the poll, the study included eight social dimensions (Table 4) - human rights, ethics, equity, poverty alleviation, employees, community, regulatory enforcement, and ethnicity and inequality. The three social dimensions generated from the in-depth interviews are poverty alleviation, regulatory enforcement and 'ethnicity and inequality, while the remaining five were the outcomes from the literature review. The study further generated 53 items (see Appendix 1) following the poll to assess the eight dimensions.

Fourth, the study formed a panel with expertise in sustainability in Ghana. The study created an expert panel centred on Yeung (2008) to draft the measures. Primarily, the creation of the expert panel was based on two conditions. Firstly, the expert panel members must thoroughly understand the concept of sustainability, particularly the social aspect. Secondly, the panel members should have diverse backgrounds and experience in emerging African economies to gather various views. The panel members were selected from the Ghana Institutes of Procurement and Supply and the Chartered Institute of Supply Chain Management, both in Ghana. The expert panel comprised nine practising professionals in the industry and four academics.

Finally, following the steps of Shafiq et al. (2014), the study assessed the content validity of the initial pool of items by providing a list of 53 measuring items (see Appendix A) to the expert panels, as explained in Table 5. The panel members were asked to classify randomly ordered items into the social dimensions. To avoid ambiguity, the study clearly defined the dimensions. Following the first round, the expert panel made several changes, reworded some items, and dropped one. The same expert panel classified the 52 items based on their dimensions a second

Table 2
Keyword combination.

social sustainability/firms' social performance	"social sustainability" AND "firms' social performance" "social Indicators" AND "social sustainability" "social aspect" AND "social performance measures" "social practices" AND "firms' social performance"
social sustainability performance/ supply chain sustainability	"social sustainability performance" AND "supply chain sustainability" "social Indicators" AND "supply chain" "social aspect" AND "supply chain sustainability" "social practices" AND "supply chain"
social responsible buying/ethical sourcing	"socially responsible sourcing" AND "ethical sourcing" "social sustainable buying" AND "social indicators" "socially responsible buying" AND "ethical sourcing. "social sustainable buying" AND "social performance"

Table 3
The interviewees' profiles.

	Company name all in Ghana	Management Area	Expertise
1.	Duraplast – North Industrial Area Accra	Supply chain	Social and environmental sustainability
2.	Tullow	Deputy manager	Sustainability
3.	Kaman Supply Chain Ltd (KSCL).	Procurement and Logistics	Sustainability
4.	AngloGold Ashanti	Occupational Health and Safety	Health and Safety
5.	Linsbet Group	Logistics and warehousing	Sustainability

Table 4
Social sustainability dimensions.

Total	Dimensions	References
5	Human Rights; Equity; Ethics; Community; Employee.	Shafiq et al. (2019); Mani et al. (2016); Lu et al. (2012); Rodríguez et al. (2016): Fung Wong and Kim (2020); Shafiq et al. (2020)
3	Poverty Alleviation; Regulatory Enforcement; Ethnicity and Inequality	Through the interview

Table 5
Information on the expert panel.

	Panel One
1	The study provided Panel one with a list of 53 measuring items
2	Panel one made changes, reworded some items and dropped 1 item.
3	52 items remained.
	Panel Two
1	Panel two were provided with the remaining 52 measuring items
2	Panel two similarly made changes and reworded some items. The items that 80% of the panel members felt belonged to the same dimension were retained.
3	Panel two dropped 2 items and retained 50 items across 8 dimensions for the final survey instrument.

time. The panel made changes and reworded some of the items. The only items retained after the second round of classification were those that more than 80% of the panel members felt belonged to the same dimension. This classification procedure, similar to Q-sort, was proposed by DeVellis (2003) and was adopted by Shafiq et al. (2014). After the second round, the study dropped two more items and retained 50 items across eight dimensions for the final survey instrument.

3.2. Pilot-test

A pilot study is a small-scale version of the primary survey that allows the researcher to test a data collection approach on a limited number of cases before collecting data for the main study (Abdulameer et al., 2020). A pilot test was carried out to ensure that industrial practitioners verified all measurement items and to justify the measurement through reliability and validity tests, respectively (Albuam, 1993). The pilot study collected 100 responses from selected firms. Data analysis showed all eight constructs had Cronbach's alphas higher than 0.70, showing good internal consistency of the construct measures. Furthermore, the overall Cronbach's alpha for the 50-item measure was 0.913, indicating an appropriate level of reliability (Hair et al., 2017). All 50 items were kept for the formal survey data collection based on the pilot testing. A five-point Likert scale was used to rate the items, ranging from (1) strongly disagree to (5) strongly agree, representing the eight social dimensions.

3.3. Main data collection

For the main data collection of this study, the target population comprised all firms in the Accra-Tema metropolis of Ghana. The accessible population consist of senior managers and business owners of firms selected from the Ghana business directory and registered with the Association of Ghana Industries (AGI) in the Accra-Tema metropolis as of October 2021. Data collection in Ghana and other parts of Africa is problematic because most individuals are not used to filling out and returning questionnaires (Gyensare et al., 2016). As a result, the study uses the purposive sampling strategy because it is vital to include specific business practitioners well-versed in the phenomenon to achieve its aim. The study selected 110 firms from a sample comprised of 625 firms. Three or four senior managers and business owners were invited to fill out the questionnaire for each chosen firm. Of the 400 questionnaires distributed, 387 responses were received, of which 369 were valid responses and considered in the data analysis. The 18 questionnaires were rejected because of incomplete responses or missing data. The response rate of 92% is very high, and there should be a minimum concern about non-response bias (Ledden et al., 2011).

4. Data analysis and results

Table 6 provides an overview of the participants' profiles. The questionnaire respondents were asked to rate 50 questions on social sustainability practices in their companies on a 5-point Likert Scale, with 1 indicating "strongly disagree" and 5 meaning "strongly agree". The study first validates these measures using principal component analysis to reduce the 50 items to a smaller thematic subset known as factors (Yong and Sean, 2013). The extracted factors are evaluated for adequate reliability using Cronbach's coefficient alpha (Nunnally, 1978). Finally, the study uses exploratory factor analysis (EFA) followed by confirmatory factor analysis (CFA) to determine the constructs' reliability and validity (Churchill and Gilbert, 1979).

4.1. Exploratory factor analysis

The study applied the principal component analysis (PCA) method of exploratory factor analysis with Varimax Rotation to ascertain social sustainability practices' factor structure or dimensionality. Using Varimax rotation, all fifty (50) measures were subjected to PCA (Yong and Sean, 2013). The study applied commonly used decision criteria to identify the factors underlying the SSP dimension (Hair et al., 2019).

During the PCA process, data cleaning included removing items with

Table 6
Participants' profile.

Variable	Frequency	Percentage (%)
Industry		
Manufacturing	201	54.4
Service	168	45.6
Number of employees		
Less than 10	54	14.6
Between 10 and 25	152	41.2
Between 26 and 50	77	20.9
51 and over	86	23.3
Years in operation		
Less than 2 years	1	0.3
Between 2 and 5 years	93	25.2
Between 6 and 10 years	101	27.4
Above 10 years	174	47.2
Job title		
Supply chain manager	20	5.4
Procurement manager	34	9.2
CEO and Operation manager	95	25.7
General manager	142	38.5
Supervisor	78	21.1
Total	**369**	**100**

low extraction communalities, low loadings (0.50), and significant cross-loadings (Yong and Sean, 2013; Hair, 1998). Similarly, factors with eigenvalues of 1 and higher were considered when determining the cut-off value for extraction. As indicated in Table 7, the Kaiser-Meyer-Olkin (KMO) value of 0.834 obtained is higher than 0.70, indicating that the sample size is sufficient for factor analysis. Furthermore, the Chi-square = 3641.4, df = 325, p = 0.000 for Bartlett's Test of Sphericity suggests that the variables correlate well. The study yielded seven (7) factors, which account for 66% of the variance. The first factor is concerned with "community" practices. The second consideration is "equity." The third factor is the firm's "poverty alleviation." The fourth factor is the firm's "human rights" practices. The fifth factor is "ethics" within the company. The sixth factor relates to the firm's "regulatory enforcement" practices. The final (seventh) factor is associated with the firm's "employee" practices. The eight-factor "ethnicity and inequality" was dropped since the data provided insufficient validity.

4.2. Reliability analysis

Cronbach's coefficient alpha was used to conduct reliability analyses for the seven extracted factors/dimensions of social sustainability practices. For the exploratory study, all factors met the minimum cut-off point of 0.60 (Hair, 1998). According to the data, the community, equity, poverty alleviation, human rights, ethics, regulatory enforcement, and employees had enough internal consistency and dependability to meet the standards.

4.3. Confirmatory factor analysis (CFA)

The study investigated the confirmatory factor analysis (CFA), model fit indices, convergent validity, discriminant validity, and nomological validity of the components (Hair et al., 2017; Hu and Bentler, 1999).

Fig. 2 depicts the measurement model for the seven extracted social sustainability performance dimensions. CFA allows us to learn about the psychometric properties of the scales extracted through the EFA processes. Convergent validity ensures that social sustainability practices' dimensions (factors) measure what they should measure. In contrast, discriminant validity demonstrates the uniqueness of each dimension to avoid multicollinearity (Fornell and David, 1981; Anderson, 1988; Hair et al., 2017).

The study used IBM AMOS version 23.0 covariance-based structural equation modelling (CB-SEM) software to perform confirmatory factor analysis using a Maximum Likelihood estimator. The table for the Normality Test is presented in Appendix C. The results show that all the

Table 7
Principal component analysis.

Items	Factors						
	1	2	3	4	5	6	7
CoM2	**0.836**	0.079	0.123	0.05	−0.004	0.055	0.109
CoM1	**0.742**	0.084	0.095	0.008	0.015	0.073	0.106
CoM3	**0.738**	0.096	0.1	0.046	0.12	0.033	0.034
CoM6	**0.73**	−0.074	0.112	0.04	0.018	0.096	0.179
CoM4	**0.726**	0.146	0.103	0.063	0.058	0.053	0.165
CoM5	**0.714**	0.095	0.057	0.012	−0.01	0.092	0.127
EQ4	0.119	**0.833**	0.097	0.057	0.11	0.106	0.093
EQ6	0.125	**0.75**	0.043	0.117	0.062	0.032	0.051
EQ3	0.068	**0.748**	0.109	0.052	0.133	0.012	0.017
EQ5	0.053	**0.727**	0.071	0.044	0.073	0.155	0.229
PA1	0.132	0.067	**0.809**	0.04	0.068	0.103	−0.004
PA2	0.089	0.102	**0.779**	0.02	0.054	0.081	0.015
PA3	0.07	0.096	**0.763**	0.041	0.082	0.079	0.129
PA5	0.224	0.043	**0.731**	0.048	0.015	0.046	0.108
HR6	0.025	0.079	0.076	**0.873**	0.049	0.095	0.11
HR7	0.069	0.07	−0.02	**0.806**	0.025	0.015	0.1
HR5	0.063	0.099	0.086	**0.797**	0.138	0.064	0.028
ET1	0.043	0.14	0.115	0.095	**0.814**	0.109	0.099
ET2	0.07	0.027	0.078	0.034	**0.807**	0.121	0.017
ET3	0.029	0.193	0.013	0.086	**0.789**	0.053	0.031
EF2	0.13	0.074	0.184	0.097	0.063	**0.846**	0.082
EF4	0.097	0.066	0.043	−0.004	0.089	**0.769**	0.183
EF1	0.101	0.124	0.085	0.09	0.137	**0.751**	−0.033
EM3	0.159	0.086	0.103	0.124	0.061	0.002	**0.809**
EM2	0.255	0.146	0.022	0.069	0.046	0.128	**0.77**
EM1	0.257	0.135	0.12	0.074	0.048	0.12	**0.711**
Eigenvalue	6.212	2.63	2.027	1.799	1.661	1.488	1.291
% of Variance	23.891	10.114	7.796	6.919	6.389	5.723	4.966
Cum. % of variance	23.891	34.004	41.801	48.719	55.108	60.831	65.797

KMO = **0.834**; Barletts Test Chi-square = **3641.4**, df = **325**, p = **0.000**; Total variance explained = **65.8%. Note:** Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

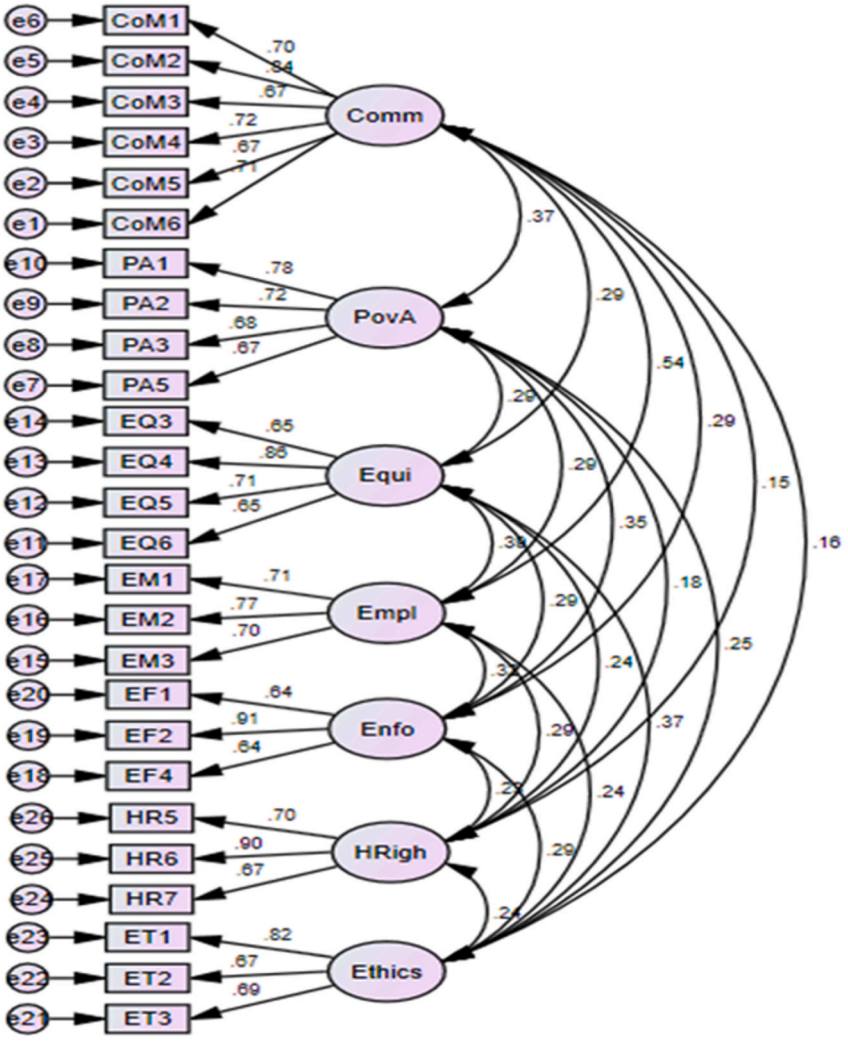


Fig. 2. First-order factor measurement model for SSP implementation.

50 questionnaire Likert Scale items had skewness and kurtosis within the recommended threshold of −1.5 to 1.6 and less than 2.7, respectively. Further, the absence of outliers and the very low skewness and kurtosis values (approximately zero in almost all items) suggest that data is approximately in a normal distribution. RMSEA (root mean square error of approximation) and CFI are two informative indexes used by Maximum Likelihood estimation to assess model fit (Shafiq et al., 2014). According to Bentler (1992) and Hu and Bentler (1999), CFI values of 0.90 or higher indicate well-fitting models. The CFI value for all social sustainability performance constructs ranges from 0.90 or higher, indicating a good fit. An RMSEA score of less than.05 indicates a good fit, and values up to.08 suggest reasonable approximation errors.

4.3.1. Assessing model fit

The model's fit indexes (Byrne, 2001) were excellent. The model fit information for the measurement model is highlighted in Table 8, showing that the model for testing social sustainability performance passed all necessary tests. The Chi-value is high because of the sample size and, therefore, not a suitable measure of fit. We have provided Chi-square divided by the degrees of freedom. Chi-square/df should be less than 3 to indicate an excellent fit (Hu and Bentler, 1999).

Table 8
Model fit summary.

Parameter	Final
χ2 (df)	338.368
Df	278
CMIN/DF	1.217
GFI	0.935
AGFI	0.92
CFI	0.982
TLI	0.979
RMSEA	0.024
SRMR	0.023
Pclose	1.000

Notes: df-Degree of freedom, RMSEA- Root mean square error of approximation, GFI-Goodness of Fit Index, AGFI-Adjusted Goodness of Fit Index, TLI-Tucker-Lewis Index, CFI-Comparative fit index, SRMR- Standardised root mean square residual, were reported.

4.4. Convergent validity

Hair (1998) explains that convergent validity determines whether the elements of a particular construct are convergent or share a high proportion of variance. To meet the convergent validity threshold, several authors (Fornell and David, 1981; Hair et al., 2017) recommend composite reliabilities (C. R.s) greater than 0.70 and average variance extracted (AVE) estimates of 0.50 or higher. Looking at Table 10, the

minimum AVE and CR for all seven dimensions were 0.50 and 0.70, respectively. As a result, convergent validity was achieved.

4.5. Discriminant validity

The study established discriminant validity because the seven-variable model revealed low to moderate correlations (Anderson, 1988). The researcher used the Fornell and David (1981) criterion to test discriminant validity by comparing the AVE values' square root to the inter-variable correlations' values (see Table 9). The study discovered that the square root of the AVEs was always higher than the inter-construct correlations; thus, the seven-dimension model demonstrates its uniqueness and discriminant validity (Fornell and David, 1981; Hair et al., 2017).

4.6. Common methods bias test

The study found seven factors via exploratory factor analysis (Table 7), with the first factor accounting for 23.8% of the variation (less than 50%), demonstrating the absence of common technique bias (Podsakoff et al., 2003). There was, however, a high risk of common method variance bias due to the study's reliance on a single data instrument (Podsakoff et al., 2003).

Fig. 3 presents a second strategy for demonstrating no systematic bias introduced by the research methods typically used. A common latent component (common) with fixed parameter estimates was added to the CFA model to examine the possibility of method bias in AMOS's measurement model. The average variance of the model's primary components was 42%, whereas the average variance of the common latent factor was 11%. In addition, the difference in item loading estimates between the principal factors for all items and those of the principal factors after introducing the common latent variable were all higher than 0.2; therefore, there was no problem with common method bias (Podsakoff et al., 2003).

5. Discussion of the findings

Following the measure development process, eight broad social sustainability dimensions were identified. These were: community, equity, poverty alleviation, human rights, ethics, regulatory enforcement, employees, and 'ethnicity and inequality'. As mentioned earlier, a panel of Ghanaian experts evaluated 53 items classified under these broad dimensions to determine which were most likely to be used in this context. This selection process reduced the final items to 50 after the evaluation, which the study categorised under the eight dimensions. The study then quantitatively assessed these dimensions using survey data from 369 employees across 110 companies covering Ghana's manufacturing and service sectors. This analysis indicated that 'ethnicity and inequality' had insufficient statistical validity to be developed as a distinct and independent dimension, and thus it was removed from subsequent analysis. Out of the 50 social sustainability performance items, a detailed analysis of the survey data found that 26 are statistically robust and are categorised under seven dimensions. Table 10 lists these specific 26 evaluation measurement items of social sustainability performance and their detailed statistical validity and reliability results. Fig. 4 presents a framework of the multidimensional measures of social sustainability performance.

The study, therefore, recommended 26 SSP evaluation measures under seven dimensions. The seven dimensions include community (CoM), equity (EQ), poverty alleviation (PA), human rights (HR), ethics (ET), regulatory enforcement (EF), and employee (EM) dimensions (see Table 11).

5.1. SSP dimension 1: community

The community dimension includes six items especially relevant to emerging African economies. These communities-related items include supporting education and cultural activities, improving the quality of life, incorporating the interests of the communities, stimulating economic development, improving the community's welfare, and using local materials/products. The community dimension is consistent with Shafiq et al. (2014), who argued that community stakeholders must pressure firms and regulators to improve social sustainability practices. It also aligns with Lu et al. (2012), who urged to improve community quality of life. It was argued that most communities look to the firms to assist them with social interventions and protect them from the negative impacts of their operations. However, these firms generally neglect the social needs of most African communities. Authorities rarely enforce government regulations until a disaster strikes. For example, a recent explosion that destroyed Apiate, a small town in Western Ghana, occurred while a mining company was transporting a highly combustible product (CNN 2022). The extent of the blast's devastation and casualties sent shockwaves through Ghana. The accident severely affected a multinational corporation with 140 subsidiaries in more than 50 countries.

5.2. SSP dimension 2: equity

The equity dimension includes four items related to prohibiting discrimination and combating inequalities within a firm. The items include the prohibition of discrimination, the provision of equal opportunities, equal wages irrespective of gender, and the prevention of disparities in the workplace. The findings of this study on equity are consistent with that of Mani et al. (2016) on the importance of equality practices in developing countries' manufacturing supply chains. This study expanded their findings on the manufacturing supply chain in developing countries to include the service sector in emerging African economies.

5.3. SSP dimension 3: poverty alleviation

The poverty alleviation dimension includes four items of specific relevance within the emerging African context, including economic and humanitarian measures to lift people in a community out of poverty, incorporate the poor as suppliers as a mechanism for supporting poverty alleviation, making poverty alleviation critical goals of social sustainability initiatives in the firm, and including poor producers in selection criteria. Africa's poverty rate is relatively high, but there is a lack of

Table 9
Discriminant validity (Square root of AVEs in diagonal-bold) (Fornell and Larcker) criterion.

Constructs	1	2	3	4	5	6	7
1. Community	**0.72**						
2. Equity	0.25**	**0.71**					
3. Poverty Alleviation	0.32**	0.24**	**0.72**				
4. Human Rights	0.15**	0.22**	0.14**	**0.73**			
5. Ethics	0.14**	0.29**	0.19**	0.20**	**0.74**		
6. Regulatory Enforcement	0.26**	0.26**	0.27**	0.18**	0.27**	**0.76**	
7. Employees	0.44**	0.32**	0.24**	0.24**	0.18**	0.27**	**0.73**

**$p < 0.01$.

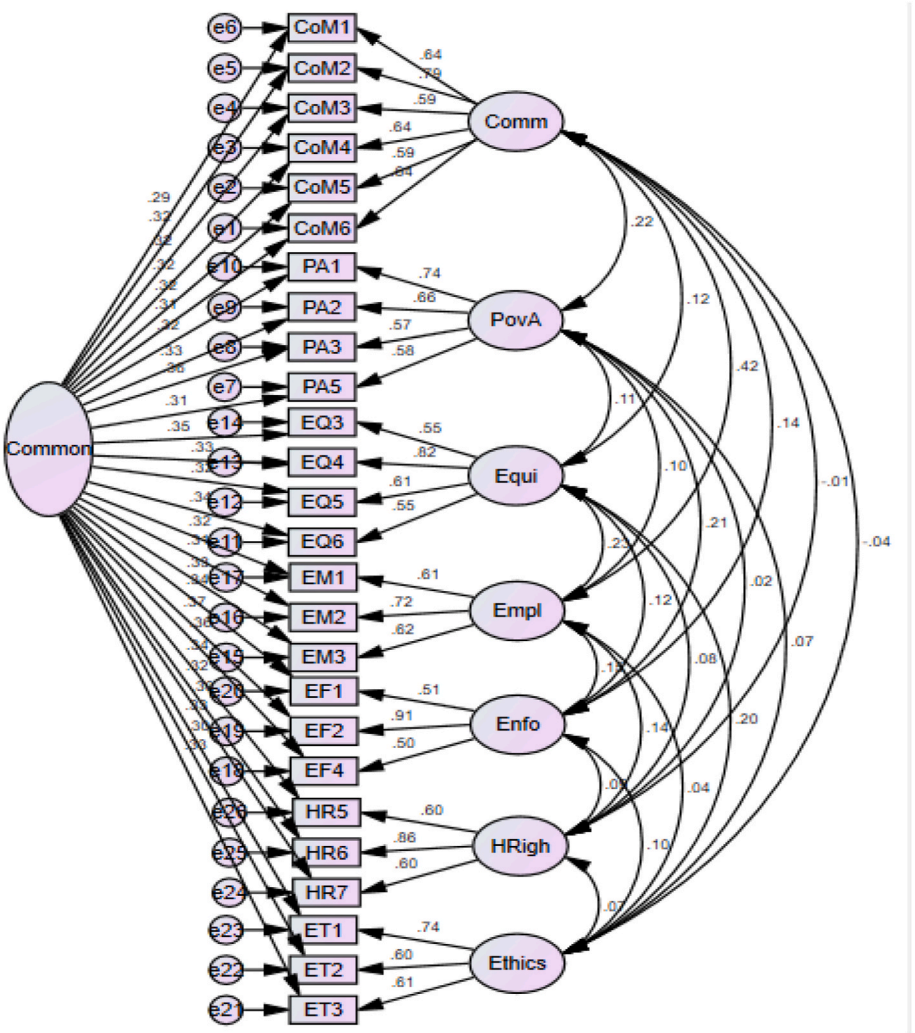


Fig. 3. Common methods bias test.

validated measures for quantifying corporations' poverty alleviation initiatives in the existing literature. Poverty alleviation is a critical social concern for firms striving to implement social initiatives to lift people out of poverty. There are several poverty alleviation programmes in Ghana, for example, the LEAP (Livelihood Empowerment Against Poverty) programme, the Education Capitation Grant, the National Health Insurance Scheme (NHIS), and the School Feeding Program (Appiah-Kubi, 2021). However, while these programmes help to some extent in Ghana, there are limited well-validated ways to measure the social performance of businesses, particularly in alleviating poverty.

Despite its use in qualitative studies, this study is the first to develop measures under the poverty alleviation dimension. Many researchers have conducted qualitative assessments of firms' poverty alleviation efforts as part of their social measures (Rodríguez et al., 2016; Liu et al., 2020). However, this study adds to the literature by explicitly developing measures for the poverty alleviation dimension, which should help firms evaluate their SSP.

5.4. SSP dimension 4: human rights

The human rights dimension includes three items related to employment terms. These are respecting workers' rights, treating workers with respect and dignity, and preventing workplace abuse. Our findings acknowledge the findings of Awaysheh and Klassen (2010), Mani et al. (2016), and Carter and Jennings (2002), whose measures were centred on suppliers and supplier locations. However, our study focused on the firm's human rights protection in the workplace and treating their workforce with respect and dignity. Human rights protection is a significant challenge for firms in an emerging African economy like Ghana. This is because Ghana has a very high unemployment rate (Sulemana et al., 2019) which substantially contributes to the challenge of protecting workers' rights.

Similarly, the use of child labour in Ghana is rife. For example, in 2010, over 1.8 million children worked on cocoa farms in Ghana and Cote d'Ivoire in western Africa (Lambon-Quayefio and Owoo, 2018). Firms should look at their human rights policies to improve their SSP.

5.5. SSP dimension 5: ethics

The ethics dimension comprises three items: establishing a set of transparent and stringent codes of conduct, establishing an ethics compliance team, and committing to extending well-defined ethics and principles in the firm. First, the study's findings align with previous research by Mani et al. (2016) conducted in Asian developing economies that identified the ethical dimension in the downstream and upstream manufacturing supply chains. Also, Lu, Lee, and Cheng (2012) proposed an ethics code for firms with data from industrial settings. Second, our findings build on previous research by taking samples from the manufacturing and service industries in an emerging African economy, making our results more representative and generalisable than those of

Table 10
Measurement validity and reliability assessment results.

Codes	Construct	α	CR	AVE	T values	Loading	
	Community	0.86	0.87	0.52			
CoM1	We financially support education and cultural activities in the communities where we operate				12.44	0.70	
CoM2	We help improve the quality of life in the communities where we operate				14.59	0.84	
CoM3	We incorporate the interests of the communities where we operate in our business decisions				11.95	0.67	
CoM4	We stimulate the economic development in the communities where we operate				12.79	0.72	
CoM5	We extend an effort to improve the welfare of the community				11.80	0.67	
CoM6	We extend an effort to use local materials/products				Fixed	0.71	
	Equity	0.81	0.81	0.52			
EQ3	We prohibit discrimination based on age, race, class, culture etc., in hiring, compensation, training, promotion, or retirement				10.40	0.65	
EQ4	We offer equal opportunity irrespective of class, colour, or gender				12.26	0.86	
EQ5	We ensure equal wages irrespective of gender or social class				11.11	0.71	
EQ6	We combat inequalities at the workplace and address wage disparities				Fixed	0.65	
	Poverty Alleviation	0.81	0.81	0.51			
PA1	We put in place economic and humanitarian measures to lift people in a community out of poverty				11.79	0.78	
PA2	We incorporate the poor as suppliers as a mechanism for supporting poverty alleviation.				11.25	0.72	
PA3	Poverty alleviation is one of the critical goals of social sustainability initiatives in our firm.				10.76	0.68	
PA5	We include poor producers in our supplier selection criteria				Fixed	0.67	
	Human Rights	0.79	0.81	0.58			
HR5	Our employment terms and conditions respect the rights of workers				11.50	0.70	
HR6	Workers are treated with respect and dignity				11.64	0.90	
HR7	No employee is subjected to any form of abuse				Fixed	0.67	
	Ethics	0.77	0.77	0.54			
ET1	We established a set of transparent and stringent codes of conduct in our firm				10.98	0.82	
ET2	We have established an ethics compliance team, department or division in our firm				10.53	0.67	
ET3	We commit to efforts to extend well-defined ethics and principles in our firm				Fixed	0.69	
	Regulatory Enforcement	0.76	0.78	0.54			
EF1	We have a comprehensive code of conduct enforcement				10.23	0.64	
EF2	We periodically examine records of compliance with the code of conduct and that of our suppliers				10.63	0.91	
EF4	We enforce such policies by devising contractual obligations against social breaches from either suppliers or the buying firm				Fixed	0.64	
	Employees	0.77	0.77	0.53			
EM1	We provide our employees with salaries that properly and fairly reward them for their work				11.00	0.71	
EM2	We provide procedures that help to ensure the health and safety of our employees				11.44	0.77	
EM3	We care for the private and professional lives of employees				Fixed	0.70	
	Fit Statistics	**Alpha**	**Chi-square (df)**	**X2/ df**	**RMSEA**	**AGFI**	**CFI**
	Social Sustainability Practices	0.869	338.3(278)	1.22	0.02	0.92	0.98

Notes: CR- composite reliability, alpha (a) - Cronbach's Alpha, AVE -Average variance extracted, DF- Degree of freedom, RMSEA- Root mean square error of approximation, AGFI-Adjusted Goodness of Fit Index, CFI- Comparative fit index were reported.

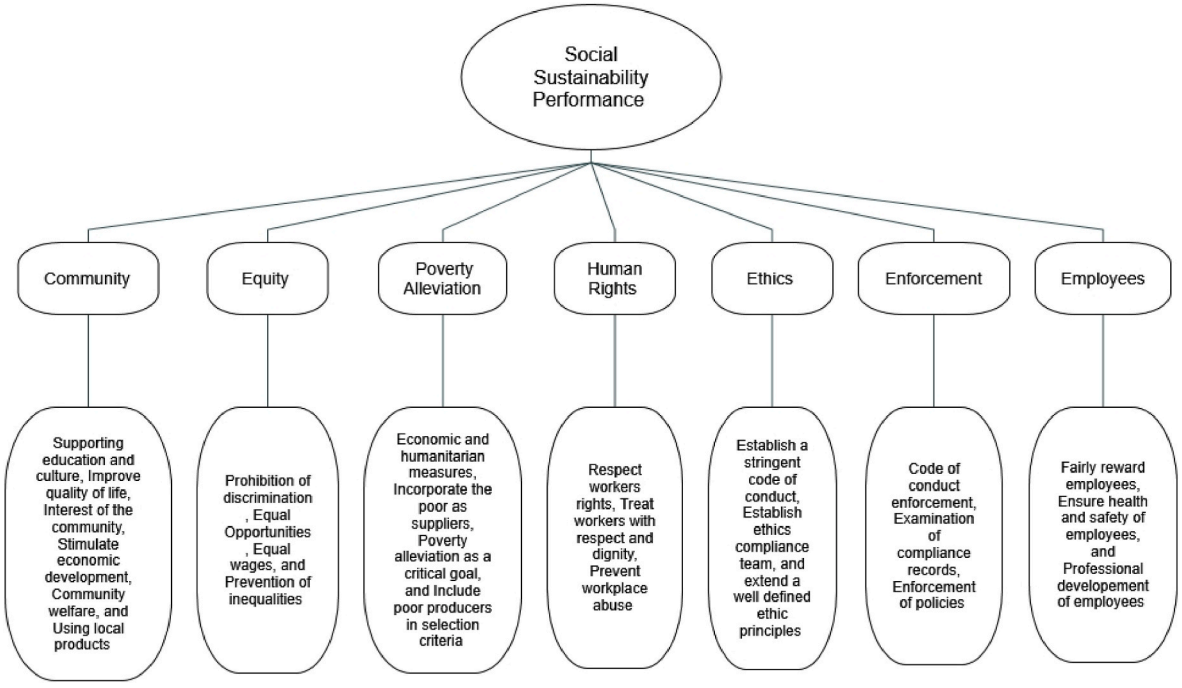


Fig. 4. A framework of multidimensional measures of the social sustainability performance.

Table 11
Seven dimensions of SSP identified in the study.

Social sustainability dimensions	New to the existing literature	Relevant to the emerging African context
1. Community	No	Yes
2. Equity	No	Yes
3. Poverty Alleviation	Yes (New measure identified)	Yes
4. Human Rights	No	Yes
5. Ethics	No	Yes
6. Regulatory Enforcement	Yes (New measure identified)	Yes
7. Employees	No	Yes

other studies.

5.6. SSP dimension 6: regulatory enforcement

The regulatory enforcement dimension includes three items related to implementing rules and regulations to prevent social breaches. These include a comprehensive code of conduct enforcement, periodic examination of compliance records, and enforcement of such policies by devising contractual obligations against social violations. This dimension is new to the existing literature. Although the enforcement dimension is essential and examined in various studies, researchers have not empirically validated measures under the regulatory enforcement dimension. It is particularly vital for firms in Ghana since enforcing regulations can be lax, and often, social breaches occur before regulatory authorities react (Annan et al., 2015).

5.7. SSP dimension 7: employees

The employee dimension includes three items related to wages and the professional development of a corporation's workforce. The related items include providing employees with salaries that properly and fairly reward them for their work, ensuring the health and safety of our employees, and being thoughtful of their private and professional lives. This study is consistent with previous studies by Shafiq et al. (2020) and Lu et al. (2012), which identified employee dimensions in the social aspect of sustainability.

6. Conclusions

This research addresses a significant knowledge gap in understanding the complex issue of social sustainability in emerging African economies. It does this by proposing and empirically validating a set of multidimensional measures of a firm's social sustainability performance. More specifically, using a mixed research method, the study proposes, tests, and validates 26 measures across seven distinctive dimensions to better understand and assess a firm's SSP in emerging African economies. Based on the empirical evidence collected from the study, the seven dimensions and 26 validated measures of social sustainability performance are presented within a theoretical framework, as shown in Fig. 4. The dimensions cover community, equity, poverty alleviation, human rights, ethics, regulatory enforcement, and employees. As the first study on developing and validating measures for social sustainability performance within an emerging African economy, the findings of this research make significant contributions to research and practice more broadly, as explained in the following subsections.

6.1. Research contributions

This study makes several significant contributions to social substantiality in general and social sustainability performance measurement in particular. First, the study advances current research by theoretically conceptualising and empirically validating multidimensional SSP measures in the context of emerging African economies. A social sustainability performance measurement framework is developed to provide a theoretical basis for researchers to develop more in-depth investigations in various settings. For example, researchers can focus on improving specific dimensions covered and testing or extending the framework for different regions. Furthermore, the study sample covered both manufacturing and service industries, representing a more diverse range of companies than other studies available in the literature, which have focused on a single sector only (Lu et al., 2012; Mani et al., 2016)

Second, the findings from the literature on the current knowledge gap on understanding and measuring SSP raise awareness among social sustainability researchers of the importance of addressing the challenges of achieving the United Nation's sustainable development goals through improving social sustainability. The SSP framework and the identified measures should significantly enrich our knowledge of better social sustainability performance management.

Last, in addition to the relevant indicators reported in the literature, this study identifies two important new measurement indicators: poverty alleviation and regulatory enforcement. These two dimensions are particularly vital in emerging African economies. Many scholars have studied how firms reduce poverty as part of their social policies (Rodríguez et al., 2016). However, their evaluations are subjective and potentially misleading. This study presents empirically-proven measures for alleviating poverty to evaluate a firm's social sustainability performance accurately.

6.2. Managerial implications

Firms are increasingly aware of the need to improve social sustainability in their business operating practice. The outcome of this study provides these firms with guidelines having significant practical and managerial implications. First, at the strategic level, the SSP measurement framework can be used by firms as a guide for social sustainability strategy development relevant to their business environment and their endeavours to address relevant United Nations Sustainable Development Goals (UNSDGs). The framework can also help firms to develop a more focused strategy for social sustainability within their organisations. Second, the detailed multidimensional measures can serve as a practical toolkit for firms to manage and assess their social sustainability performance, e.g. to evaluate their strengths and weaknesses in their quest to implement social sustainability initiatives to improve social performance. Most managers interviewed for this study stated that there were no measures tailored to their context for measuring SSP. They mainly evaluate their performance based on client feedback. The establishment of such measures would therefore be highly beneficial to the firms. Lastly, the findings on poverty alleviation will raise awareness among firms and help business managers take action to help people in their communities out of poverty.

6.3. Limitations and future research directions

This study has its limitations too. First, despite following a rigorous development process, the samples were drawn from only one emerging African country, Ghana. Additional research would be needed to determine the findings' generalizability and establish consistency if this is to be applied in other emerging regions. Second, the SSP measurement items developed provide a comprehensive list to help firms understand and evaluate their social sustainability performance based on the research participants' assessment. Future research can explore and develop metrics to measure the achievement and impact of the firm's social sustainability practice. However, gathering actual data for impact measurement could be an arduous and challenging task due to the complexity and entanglement of social issues with other issues. Third, the dimension of poverty alleviation probably needs further in-depth investigation to be more targeted. Future research could disentangle

the numerous components of poverty alleviation and develop and validate these independently. Fourth, the study relied on articles from the scientific database ISI Web of Science core collections, which should have captured most of the relevant social sustainability articles. We recognised that the study might have overlooked some pertinent articles in other databases. Finally, smaller businesses face unique challenges, particularly in emerging African nations. Consequently, future research could focus on determining and validating appropriate SSP measures applicable to small and medium-sized enterprises (SMEs).

CRediT authorship contribution statement

Mathias Kofi Denu: Conceptualization, Methodology, Writing – original draft, Formal analysis. **Yongmei Bentley:** Writing – review & editing. **Yanqing Duan:** Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Original social sustainability dimensions and items

Construct Name	Source	Construct Definition	Items
Human Rights (HR)	Shafiq et al. (2019); Mani et al. (2016)	Businesses must support and uphold internationally recognised human rights and refrain from complicity in human rights violations.	- We ensure that our suppliers do not use child labour - We ensure that there is no forced labour in our supply chain - We have human rights policy for our manufacturing facilities - We ensure that suppliers do not use sweatshop labour (sweatshop is labour abuses towards workers, e.g. their rights, surroundings, and safety) - Our employment terms and conditions and that of our suppliers respect the right of workers - Workers are treated with respect and dignity No employee is subjected to any form of abuse
Ethics (ET)	Lu, Lee, and Cheng (2012): Fung Wong and Kim (2020)	How a firm's internal and external actions reflect its commitment to upholding ethical standards.	- We established a set of transparent and stringent codes of conduct in our manufacturing supply chain. - We have established an ethics compliance team, department or division in our firm. - We commit to an effort to extend well-defined ethics and principles in our firm. - We commit to an effort to provide ethical studies with best practices to employees. - We avoid practices with a clear intention of taking undue advantage of others or the system - We respect fundamental international standards against criminal conduct (bribery, corruption) There are clear standards and policy on ethical issues which is expected to be deployed throughout the supply chain. - We avoid or declare a potential conflict of interest
Equity (EQ)	Mani et al. (2016)	The prevention of any form of discrimination, especially on gender, to ensures workplace equality.	- We ensure diversity at our workplace and supply chain partner's locations - We ensure strict adherence to gender non-discrimination policy in our supply chain locations. - We prohibit discrimination based on age, race, class, culture etc., in hiring, compensation, training, promotion, or retirement. - We offer equal opportunity irrespective of class, colour, or gender - We ensure equal wages irrespective of gender or social class Our supply chain partners combat inequalities at the workplace and address wage disparities. - We are sensitive to gender, age, culture and norms. *(Dropped)*
Poverty Alleviation (PA)	Rodríguez et al. (2016): Interview	The economic and humanitarian measures put in place by firms intended to lift people in a community out of poverty	- We put in place economic and humanitarian measures to lift people in a community out of poverty - We incorporate the poor as suppliers as a mechanism for supporting poverty alleviation. - Poverty alleviation is one of the critical goals of social sustainability initiatives in our supply chains - We train members of the community in income-generating skills - We include poor producers in our supplier selection criteria
Employees (EM)	Lu et al. (2012)	Firms deal with employee contracts, pay, benefits, and turnover difficulties. The rights of part-time employees and their future entitlement to full-time employment	- We provide our employees with salaries that properly and fairly reward them for their work

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(*continued*)

Construct Name	Source	Construct Definition	Items
			- We provide procedures that help to ensure the health and safety of our employees - We care for the private and professional lives of employees - We support our employees who want to pursue further education
Community (CoM)	Lu et al. (2012)	Firms' community involvement is a pattern of activities addressed at individual citizens and community groups in which firms collaborate with groups of people to enhance their social well-being.	- We financially support education and cultural activities in the communities where we operate - We help improve the quality of life in the communities where we operate - We incorporate the interests of the communities where we operate in our business decisions - We stimulate the economic development in the communities where we operate. - We extent of effort to participate in community services and volunteerism. *(Dropped)* - We extend an effort to improve the welfare of the community - We extend an effort to use local materials/products
Regulatory Enforcement (EF)	Shafiq et al. (2020): Interview	Activities that the regulatory agencies engage in to facilitate compliance with regulatory objectives. Include monitoring and legislation to ensure compliance with social sustainability measures.	- We have a comprehensive code of conduct - We periodically examine records of compliance for code of conduct and that of our suppliers - We avoid inadequate regulations due to bureaucracy, corruption, or lack of resources and infrastructure - We enforce such policies by devising contractual obligations against social breaches from either suppliers or the buying firm. - Our supply chain partners encourage us to abide by its ethical guidelines at all times - Relationship with this customer will suffer if we do not adhere to its supplier code of conduct *(Dropped)* - We ensure legislation and enforcement of measures to ensure social compliance - We are monitored regularly by external agencies to comply with social regulations
Ethnicity and Inequality (EI) *(Dropped)*	Interview	Ethnicity is a common sense of origin and culture-based identity. Uneven access to opportunity is what defines inequality.	- Ethnicity stands out as a significant factor in determining who receives what in our organisation - Ethnicity has resulted in an unequal allocation of opportunities among organisation members. - Every member of our organisation is represented in our policies, regardless of ethnicity. - There are no ethnic biases in our supplier selection. - We avoid exclusionary policies that disproportionately allocate opportunities based on ethnicity - We ensure ethnic minority representation in the workforce and supply chains - Discrimination based on ethnic origin is prohibited.

Appendix B. Social sustainability criteria (*please tick Yes or No for each row)*

Social sustainability criteria				
	Criteria	Brief Description	Yes	No
1	Labour Rights and Decent Work	This relates to the firm recognising employees' rights, avoiding excessive working time, recognising their right to strike, collective bargaining and freedom of association.		
2	Human Rights	Businesses must support and uphold internationally recognised human rights and avoid complicity in human rights violations.		
3	Ethnicity and Inequality	Ethnicity is a common sense of origin and culture-based identity. Uneven access to opportunity is what defines inequality.		
4	Health and Safety	Employers have a legal duty to ensure the health, safety and welfare at work of employees in much as it is reasonably practicable.		
5	Community	Firms' community involvement is a pattern of activities addressed to individual citizens and community groups in which firms collaborate with groups of people to enhance their social well-being.		
6	Equity	The prevention of any form of discrimination, especially on gender, to ensures workplace equality.		
7	Education	Programs for skills management and lifelong learning; percentage of employees receiving regular performance and career development.		
8	Child and bonded labour	It concerns work by children under 15, which prevents school attendance. Also, guiding against people giving themselves into slavery as security against a loan or when they inherit a debt from a relative.		
9	Philanthropy	The promotion of the welfare of others by generously donating resources to very good causes and also donating to deprived schools and NGOs.		
10	Wages	We provide fair wages and avoid wage discrimination regarding gender, race and religion.		
11	Contractual and other stakeholder influence.	Influential powers of stakeholders on decision-making, information disclosure and engagement.		

(*continued on next page*)

(*continued*)

Social sustainability criteria				
	Criteria	Brief Description	Yes	No
12	Ethics	How a firm's internal and external actions reflect its commitment to upholding ethical standards.		
13	Product responsibility	The focus is on appropriately tested materials and adequately tested by suppliers that may result in harmful and dangerous products flowing through the supply chain.		
14	Society/societal commitment	Commitment to the welfare of society and the environment.		
15	Housing	Quality of housing and provision of adequate quality housing as part of community development.		
16	Cultural heritage/diversity	Indigenous knowledge. Inclusiveness.		
17	Discrimination	People are treated unfairly based on race, gender, age and sexual orientation.		
18	Sustainable sourcing	It involves integrating social, ethical and environmental performance factors into selecting suppliers.		
19	Working condition	Wages and conditions of work, including wage levels		
20	Community Infrastructure	This focus is on the community's access to improved drinking water, sanitation, and other social amenities.		
21	Dangerous working environment	This considers how dangerous the business environment may affect employees of firms and the risk it imposes on their health.		
22	Diversity	Focus on institutions that value diversity and respect for differences. The provision of equal opportunities for staff regardless of differences.		
23	Local sourcing	Buying locally for local capacity enhancement and sustainability development.		
24	Employees	Firms deal with employee contracts, pay, benefits, and turnover difficulties. The rights of part-time employees and their future entitlement to full-time employment		
25	Poverty Alleviation	The economic and humanitarian measures put in place by firms intended to lift people in a community out of poverty		
26	Development of minority enterprises	The focus is on firms addressing procurement disparities between minority enterprises and non-minority enterprises.		
27	Social cohesion	It involves promoting fair wages, wealth distribution and charity work. It refers to key national welfare concerns.		
28	Social development	This promotes the dignity and worth of people. It also recognises the importance of human relationships.		
29	Gender	How do firms address the issue of gender discrimination and inequality? Are women given the same opportunities as men?		
30	Disabled/marginalised inclusion	The economic and social participation and inclusion of adults with disability who have high support needs, as well as other marginalised people in society.		
31	Regulatory enforcement	Activities that the regulatory agencies engage in to facilitate compliance with regulatory objectives. Include monitoring and legislation to ensure compliance with social sustainability measures.		
32	Business practices	This focus on responsible business practices that ensure the enhancement of social sustainability practices in the supply chain.		
33	Information disclosure	The provision of textual information on the company's social sustainability performance to stakeholders and supply chain Partners.		
34	Mobility and accessibility	It relates to adequate access to transportation services, various modes of non-motored mobility, and a straightforward approach to nearby public services.		
35	Research and development	This help improves the social sustainability dimension through R&D and innovative ways.		
36	Stakeholders Right	This is about the rights of all stakeholder groups with a stake in the business. Recognising the rights of stakeholders may bring shared value to business and society in general.		
37	Occupational health and safety management system	It relates to measures and implementation status of safety management systems in place that can be audited sustainably.		

-End of Questionnaire-.

Appendix C. Assessment of outliers and normality of items

Items	Min	Max	Mean	SD	Skewness	Kurtosis
HR1	1	5	3.980	0.722	−0.542	0.701
HR2	1	5	3.760	0.741	−0.301	0.373
HR3	1	5	3.470	0.804	−0.175	−0.018
HR4	2	5	3.630	0.817	0.052	−0.599
HR5	1	5	3.820	0.776	−0.210	−0.204
HR6	1	5	3.860	0.801	−0.097	−0.594
HR7	1	5	3.760	0.867	−0.103	−0.556
ET1	1	5	3.590	0.793	−0.266	−0.007
ET2	1	5	3.490	0.873	−0.275	−0.114
ET3	1	5	3.540	0.800	−0.019	−0.294
ET4	2	5	3.690	0.771	0.093	−0.581
ET5	1	5	3.700	0.806	−0.041	−0.415
ET6	1	5	3.590	0.868	−0.056	−0.434
ET7	1	5	3.560	0.813	0.055	−0.367
ET8	1	5	3.590	0.820	−0.261	0.157
EQ1	1	5	3.730	0.777	−0.270	0.127
EQ2	1	5	3.760	0.885	−0.284	−0.195
EQ3	1	5	3.730	0.750	−0.327	0.559
EQ4	1	5	3.650	0.805	−0.410	0.712
EQ5	1	5	3.690	0.825	−0.459	0.634
EQ6	1	5	3.580	0.769	−0.090	0.218
PA1	1	5	3.510	0.801	−0.176	0.199
PA2	1	5	3.480	0.773	−0.171	0.341
PA3	1	5	3.430	0.719	0.131	0.532
PA4	1	5	3.270	0.841	0.018	−0.225
PA5	1	5	3.440	0.832	−0.269	0.327
EM1	1	5	3.380	0.829	−0.201	−0.008
EM2	1	5	3.560	0.858	−0.312	0.176
EM3	1	5	3.530	0.790	−0.186	0.280

(*continued on next page*)

(*continued*)

EM4	1	5	3.260	0.946	−0.211	−0.085
CoM1	1	5	3.400	0.901	−0.468	0.195
CoM2	1	5	3.420	0.821	−0.328	0.359
CoM3	1	5	3.400	0.819	−0.262	0.214
CoM4	1	5	3.410	0.836	−0.280	0.239
CoM5	1	5	3.410	0.816	−0.218	0.417
CoM6	1	5	3.540	0.820	−0.424	0.586
EF1	1	5	3.710	0.769	−0.576	0.704
EF2	1	5	3.740	0.705	−0.426	0.762
EF3	2	5	3.640	0.653	0.236	−0.430
EF4	1	5	3.630	0.725	−0.046	0.203
EF5	2	5	3.670	0.724	−0.195	−0.149
EF6	1	5	3.620	0.778	−0.277	0.282
EF7	1	5	3.610	0.734	−0.188	0.486
EI1	1	5	3.630	0.794	−0.674	1.116
EI2	1	5	3.640	0.796	−0.367	0.415
EI3	1	5	3.590	0.826	−0.199	0.242
EI4	1	5	3.660	0.832	0.105	−0.586
EI5	1	5	3.540	0.797	0.096	−0.308
EI6	1	5	3.650	0.779	0.001	−0.112
EI7	1	5	3.770	0.806	0.060	−0.657

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