Stakeholder expectations, inter-organizational coordination and procurement practices among humanitarian organizations

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Abstract

Purpose – This paper aims to examine the interconnectedness between stakeholder expectations (SE), inter-organizational coordination (IOC) and procurement practices within humanitarian organizations (HOs) based in Uganda.

Design/methodology/approach – Employing a quantitative cross-sectional design, data were gathered from 43 HOs and analyzed using SmartPLS 4.0.8.3. Variance-based structural equation models (VB-SEMs) were employed to examine both direct and indirect effects.

Findings – The findings show a significantly positive relationship between SE, IOC and procurement practices. Additionally, the mediating role of IOC in the relationship between SE and procurement practices is evident.

Research limitations/implications – While this study offers insights into procurement practices in HOs, the use of a quantitative approach might limit capturing dynamic changes over time. Future research could

benefit from a nuanced approach involving interviews and longitudinal studies to uncover incremental changes.

Practical implications – During relief management, HOs need to understand their SE through information sharing and capacity building. This understanding can aid in selecting procurement practices that align with SE and ensure the delivery of relief.

Originality/value – Leveraging stakeholder theory, this research contributes to the understanding of how SE and IOC influence the adoption of procurement practices in HOs during relief delivery.

Keywords Stakeholder expectations, Inter-organizational coordination, Procurement practices

Paper type Research paper

1. Introduction

Prior research highlights the significance of procurement practices in the overall performance of humanitarian operations (Gray *et al.*, 2021; Moshtari *et al.*, 2021). However, the effectiveness of relief activities carried out by different relief organizations varies considerably (Pusterla and Pusterla, 2021), thus placing procurement practices into the spotlight within relief operations (e.g. Roepstorff, 2020). In recent years, researchers have increasingly focused on the role of purchasing in humanitarian operations (e.g. Moshtari *et al.*, 2021; Paciarotti *et al.*, 2021; Lamenza *et al.*, 2019). As we delve deeper into understanding how procurement practices influence relief operations (e.g. Wankmüller and Reiner, 2021), it becomes evident that humanitarian organizations (HOs) may struggle to fully harness the potential benefits hidden in effective procurement practices unless they understand stakeholder expectations (SE) and the importance of inter-organizational coordination (IOC) – areas that have often been overlooked in previous studies.

Moshtari *et al.* (2021) indicate a need for further empirical research to elucidate the relationship between SE and procurement practices among HOs, along with the mechanisms that facilitate such relationships. Prior studies have placed less emphasis on empirically testing this association (Moshtari *et al.*, 2021; Wankmüller and Reiner, 2021). This research aims to address the gap identified by Moshtari *et al.* (2021). Furthermore, our understanding of the role of IOC in enabling SE to align with HO's adoption of procurement practices remains limited, despite a possible link as suggested by Moshtari *et al.* (2021). Given the expanding population's diverse needs and the organizations striving to meet them, understanding how IOC empowers HOs to recognize varied SE and their influence on procurement practices is highly relevant. Besides, IOC can provide purchasing managers with valuable insights for tailoring procurement processes to cater to diverse stakeholder needs.

In the increasingly complex landscape of humanitarian operations involving multiple stakeholders, it is essential to understand their requirements to successfully manage them (Fontainha *et al.*, 2020). By developing a conceptual model grounded in stakeholder theory, we investigate how SE and IOC contribute to explaining procurement practices in HOs (Freeman, 1984; Freeman *et al.*, 2021). Based on stakeholder theory, we posit that HOs should acknowledge those impacted by organizational practices (Freeman *et al.*, 2021). This entails organizations focusing on fulfilling the needs of social stakeholders alongside maximizing shareholder profits. Socially responsible management entails engaging groups that were previously not considered by the organization, such as relief beneficiaries, donors, governmental agencies and community members. HO management should be aware of and consider all stakeholders' demands and expectations. As procurement accounts for 65% of the total cost of relief operations (Moshtari *et al.*, 2021), there is a persistent endeavor among donors, governments and non-governmental organizations involved in relief operations to understand how procurement practices within HOs can create sustainable solutions aligned with SE. Thus, how such practices are used to meet stakeholder needs becomes a focal point of our inquiry, since it translates into efficiency in the face of diminishing resources from donors and governments amid escalating humanitarian needs. Drawing on this theory,

Freeman (1984) argues that organizations should be accountable to all stakeholders, not just shareholders. According to Freeman et al. (2021), all parties legally connected to an organization must participate in this accountability framework, thereby eliminating the possibility of showing a preference for particular interests over others. To analyze how stakeholders interact and contribute to meeting each other's needs, it is vital to comprehend the management requirements governing social initiatives.

Consequently, HOs are equipped to navigate the complexity and uncertainty of procurement activities in a manner that addresses stakeholder needs. This is achieved by understanding various stakeholder groups and collaborating with other HOs to bridge capacity gaps. Emergency operations present a diverse array of stakeholder needs that a single organization may not be able to fulfill (Freeman et al., 2021). Addressing this call and the existing research gaps, we explore how SE influence procurement practices in HOs, while also investigating the mediating role of IOC based on the stakeholder theory and the call for more empirical studies in the stakeholder theory literature as suggested by Moshtari et al. (2021). Employing variance-based structural models (VB-SEM) through SmartPLS version 4.0.8.3, we assess the influence of SE and IOC on the procurement practices of 43 HOs operating in Western Uganda. The findings underscore the positive correlation between SE and procurement practices in HOs, with IOC partially mediating this relationship. The theoretical framework and hypotheses are introduced in section 2, the methods used to test the hypotheses are described in section 3, the results are presented in section 4, and the findings, conclusions and theoretical and practical implications are discussed in section 5, alongside the study's limitations.

2. Development of the theoretical framework and hypotheses
2.1 Stakeholder theory
Stakeholder theory suggests that organizations should take into account both internal and external groups that influence their practices (Freeman, 1984). Internal stakeholders, such as management and employees, oversee procurement, while external stakeholders, such as government, donors and suppliers, exert influence (Day et al., 2014). External stakeholders encompassing host governments, donors and beneficiaries, wield significant influence over the procurement practices of HOs (Moshtari et al., 2021; Wankmüller and Reiner, 2021) Their impact extends to budgets, work plans and implementations, shaping expectations and governing rules and regulations. These stakeholders also determine funding conditions and prerequisites for relief activities, influencing both local and international HOs. Hostile organizations collaborate with other stakeholders to meet stakeholder needs, such as beneficiaries, by procuring relief supplies and accommodating their diverse demands, ensuring a better overall humanitarian experience. Such practices are intrinsically tied to stakeholder theory, as they underscore the connection between SE, IOC and procurement practices within HOs. However, there has been relatively scanty research on how SE impacts the procurement practices adopted by HOs (Moshtari et al., 2021). This study advocates that for successful results in procurement practices, HOs must first understand their stakeholders' expectations. By doing so, they can evaluate their capabilities and identify their potential gaps, allowing them to collaborate with other entities to meet stakeholder requirements (IOC). Our arguments are anchored in stakeholder theory. Our next sections discuss the relationship between SE, IOC and procurement.

2.2 Stakeholder expectations and procurement practices
Moshtari et al. (2021) conduct a systematic literature review on procurement in HOs and note a need for empirical studies linking SE and procurement practices. As HOs are accountable to different stakeholders, their practices are shaped by these stakeholders (Lai and Fu, 2021). HOs need to understand the interests of stakeholders, including government, donors, social

investors, suppliers, beneficiaries and the community at large (Xu *et al.*, 2021; Schiffling, 2013). Aligning procurement practices with these expectations is helpful (Paciarotti *et al.*, 2021; Wankmüller and Reiner, 2021), aiding in resource coordination such as food, shelter and medical facilities, while adhering to legal and policy requirements (Dora and Kumar, 2020; Altay and Pal, 2014). These expectations reflect the diverse needs and motivations of stakeholders based on their power and influence. The government expects HOs to create jobs and meet social needs while adhering to existing laws without hindering government operations. Donors expect cost-effective, transparent and accountable procurement practices (Moshtari *et al.*, 2021; Lamenza *et al.*, 2019) that align with policy guidelines (Moshtari *et al.*, 2021; Ahsan and Kumar Paul, 2018). However, beneficiaries and suppliers have different expectations. Beneficiaries seek quality relief items, accessibility, as well as timely information (Pusterla and Pusterla, 2021; Safarpour *et al.*, 2021), while suppliers prioritize supply continuity and timely payment. HOs must recognize and understand various stakeholder groups and their expectations to shape their procurement practices (Moshtari *et al.*, 2021) and fulfill diverse stakeholder demands.

Stakeholder theory underscores that organizations must identify and comprehend stakeholders and their expectations, as both significantly influence their practices. Stakeholder influence/power and expectations can negatively or positively impact adopted practices to meet their expectations. Hence, the hypothesis below is suggested:

H1. SE positively relate to procurement practices in HOs.

2.3 Stakeholder expectations and inter-organizational coordination
Literature reviews connect SE with IOC (John *et al.*, 2022; Dora and Kumar, 2020; Altay and Pal, 2014). Altay and Pal (2014) argue that SE influence resource coordination, such as food, shelter and medical care. This is achieved through adopting contracting mechanisms that ensure the coordination of HOs and suppliers of aid materials, employing practices like optimal pricing. Coordination with other HOs reduces inventory risk associated with overstocking and understocking (John *et al.*, 2022). In such a mechanism, HOs can adjust orders to meet stakeholder needs while simultaneously establishing price agreements between HOs and suppliers (John *et al.*, 2022). In addition, Mutebi *et al.* (2022) argue that aligning stakeholder needs with procurement practices requires cooperative efforts to develop revised informed consent procedures.

Furthermore, Ruesch *et al.* (2022) emphasize the importance of HOs' understanding of stakeholder needs and the active involvement of cluster leads in information exchange. Through these collaborative activities, organizations deliver relief to various beneficiaries while simultaneously building trust (Saab *et al.*, 2012). Given the complexity of the humanitarian ecosystem, where stakeholders exhibit diverse needs, IOC becomes imperative. Through collaboration, HOs can collectively understand and address stakeholder demands and concerns, a task they might struggle to accomplish independently (Ruesch *et al.*, 2022). This collective effort enhances donor utility (Fathalikhani *et al.*, 2020), by promoting transparency, accountability and sustainability (Aryatwijuka *et al.*, 2022; Hilhorst *et al.*, 2021; Khan *et al.*, 2019). Collaborative efforts also foster learning and role clarity among HOs (Mutebi *et al.*, 2021; Jensen and Hertz, 2016), align with government objectives (Ruesch *et al.*, 2022), provide significant relief and prevent duplicated work through efficient coordination (Ruesch *et al.*, 2022). Consequently, stakeholder theory emphasizes the necessity of establishing and upholding enduring stakeholder connections as being essential to an organization's performance (Freeman *et al.*, 2021). This implies that HOs achieve their desired performance by collaborating with various stakeholders, which maximizes stakeholder value rather than focusing solely on cost minimization (Freeman *et al.*, 2021). Building on empirical literature and theoretical arguments, this paper presents the following hypothesis:

H2. SE positively influences procurement practices in HOs.

2.4 Inter-organizational coordination and procurement practices

In addition to understanding SE, collaboration also influences how HOs adopt procurement practices. Collaboration with others involves aligning tasks or actions to achieve specified goals cooperatively (John *et al.*, 2022). Moshtari *et al.* (2021) contend that implementing procurement practices in humanitarian settings requires collaboration. HOs can then adapt relevant procurement processes through sharing expertise and learning (Mutebi *et al.*, 2022). Similarly, localizing procurement practices requires collaboration (Frennesson *et al.*, 2021), as it encourages local actors' participation and the development of local capacity (Frennesson *et al.*, 2021). This promotes efficiency in procuring relief items promptly, resulting in reduced implementation costs (Moshtari *et al.*, 2021). Furthermore, Saikouk *et al.* (2021) and Dubey *et al.* (2019) argue that coordination between organizations builds trust, which in turn facilitates the sharing of practices that might otherwise be costly or impractical to accomplish through complex socioeconomic transactions. Hence, stakeholder theory (Freeman *et al.*, 2021) emphasizes cooperation over competition as a method to improve organizational performance. In Liu *et al.*'s study (2021), external stakeholders positively influence the adoption of green procurement practices by organizations. This, therefore, leads to the following hypothesis:

H3. IOC positively influences procurement practices in HOs.

2.5 Stakeholder expectations, inter-organizational coordination and procurement practices

According to Moshtari *et al.* (2021), understanding SE enables inter-organizational collaboration, leading to the adoption and implementation of procurement practices. Studies demonstrate that SE have a positive impact on IOC (John *et al.*, 2022; Dora and Kumar, 2020; Altay and Pal, 2014). Stakeholder theory (Freeman *et al.*, 2021) suggests that SE facilitate information exchange and management. In addition, procurement practices have been linked to improved collaboration (Moshtari *et al.*, 2021; Saikouk *et al.*, 2021; Dubey *et al.*, 2019). However, Rebs *et al.* (2018) find that while SE can promote information sharing, they may also introduce risks to procurement implementation. Thus, we hypothesize:

H4. IOC mediates the relationship between SE and HOs' procurement practices.

The theoretical framework in Figure 1 summarizes the hypothesized links generated from the literature review.

3. Methods

3.1 Research instrument, data collection and sample

To assess the theoretical model and formulated hypotheses, quantitative data were collected from 43 HOs using a self-administered questionnaire. To ensure reliability and validity, every

Source(s): Figure by author
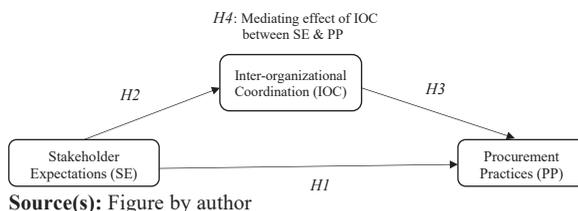
measurement item was adopted from prior research in line with recommendations by Churchill (1979) and Day *et al.* (2014).

Five items were adapted from Fontainha *et al.* (2020) to measure SE. These items were employed to evaluate the expectations of the various stakeholders involved in relief operations. Similarly, measuring items for IOC were sourced from Dubey *et al.* (2019). The study employed five procurement practices-ethical practices, buyer-supplier relationship, E-procurement, sourcing strategy and supplier selection-adapted from Moshtari *et al.* (2021). Following Jarvis *et al.*'s (2003) recommended criteria, all study variables were reflective in nature and were rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Schuberth *et al.*, 2020). The unit of analysis was the HO, while the unit of inquiry included logistics/supply chain coordinators, project and operations managers and supply chain/procurement officers.

Upon completing the preliminary questionnaire, feedback was sought from three top supply chain management faculty members and three experts from the field of humanitarian practitioners to assess its clarity, readability and content validity. Their input resulted in minimal alterations to the questionnaire, confirming its satisfactory comprehensibility and validity for both academics and professional respondents.

The survey instrument was distributed in three mailings, following Dillman's (1978) modified Total Design for Survey Research. This involved sending the survey questionnaire with a cover letter outlining the study's objectives to each participant within the sample frame. A follow-up email was sent to non-respondents four weeks later, encouraging their participation. Non-respondents still present after the first follow-up received a second survey and a cover letter eight weeks after the initial distribution. In total, 102 valid responses were obtained from the unit of inquiry, out of which 46 and 56 responses corresponded to the first and second mailings, respectively. After aggregating the data into the unit of analysis (HO), an overall response rate of 86.73% was achieved, indicating the participation of 43 HOs.

In terms of respondents' demographics, Table 1 reveals that the majority were male, followed by female participants. This trend suggests that HOs perceive males as more practical, flexible and reliable for humanitarian procurement activities. The age distribution showed that most employees were in the 26–30 age range, followed by 31–35. This could be attributed to the demand for youthful, energetic employees who possess versatility and are open to career shifts in the evolving landscape of humanitarian operations. The educational background of respondents predominantly consisted of a bachelor's or postgraduate degree, signifying their understanding of the questionnaire's content. The preference for qualified employees aligns with the expectations of professional bodies like the Association of Chartered Certified Accountants and Certified Public Accountants. Furthermore, a significant portion of HO employees had not been associated with these organizations for more than five years, indicating potential challenges in retaining talent due to the dynamic nature of procurement. Finally, the majority of respondents held positions as project managers, followed by operations managers, indicating an in-depth understanding of HO operations. Table 1 also shows that 37.3 and 30.3% of surveyed HOs were involved in providing services related to education and to shelter, settlements and non-food items (NFIs), respectively. This suggests an emphasis on enhancing the living conditions of beneficiaries through affordable and long-lasting solutions aimed at increasing resilience. In addition, 90.7% of organizations had engaged in humanitarian work for over ten years, reflecting substantial real-world experience and the capacity to provide insightful solutions. This demonstrates the capacity of HOs to meet SE through a variety of procurement strategies, with 95.3% of NGOs employing at least 50 individuals.

	Frequency	Percent
Respondents characteristics		
Gender		
Male	63	61.8
Female	39	38.2
Total	102	100
Age bracket		
Below 25	18	17.6
26–30	29	28.4
31–35	23	22.5
36–40	1	1
41–50	13	12.7
Above 50	18	17.6
Total	102	100
Employee position		
Logistics/supply chain coordinators	16	15.7
Project managers	32	31.4
Operations managers	30	29.4
Supply chain officer/procurement officers	24	23.5
Total	102	100
Sample characteristics		
Sector of the NGO		
Food security and nutrition	6	14
Water, hygiene and sanitation	1	2.3
Education	16	37.3
Health	6	13.9
Shelter, settlements and NFIs	13	30.3
Energy and environment	1	2.3
Total	43	100
Period of operation		
5–10 years	4	9.3
11–15 years	12	27.9
16–20 years	16	37.2
Above 20 years	11	25.6
Total	43	100
Professional qualification		
CPA	5	4.9
ACCA	95	93.1
CIM	1	1
CIPS	1	1
Total	102	100
Employee tenure		
>5 years	47	46.1
6–10 years	36	35.3
11–15 years	13	12.7
16–20 years	6	5.9
Total	102	100
Level of education		
Bachelor's degree	80	78.4
Postgraduate	13	12.7

(*continued*)

Table 1.
Respondents and sample characteristics

	Frequency	Percent
Master's degree	9	8.8
Total	102	100
Number of employees		
Below 50	2	4.7
50–100	9	20.9
151–200	18	41.8
Above 200	14	32.6
Total	43	100

Table 1. **Source(s):** Table 1 created by author

3.2 Data management

Once data were collected, they were coded and entered in the Software Package for Social Scientists (SPSS) version 25 for data cleaning and assessing sample adequacy and data suitability for factor analysis. The Kaiser–Meyer–Olkin (KMO) and Bartlett's tests were utilized to determine the adequacy and appropriateness of the data for confirmatory factor analysis (CFA) in partial least square (PLS) analysis. As a general rule, KMO values should exceed 0.7 and Bartlett's test should yield significance ($p < 0.05$.) (Field, 2009). The results indicate that the KMO and Bartlett's test values for procurement practices (KMO = 0.712; Approx. Chi-Square = 776.926; df = 153; Sig = 0.000), IOC (KMO = 0.723; Approx. Chi-Square = 231.587; df = 15; Sig = 0.000) and SE (KMO = 0.716; Approx. Chi-Square = 669.221; df = 105; Sig = 0.000) all meet the required thresholds. This implies that both the samples and the data were adequate and suitable for CFA, as the KMO values exceeded 0.7 and Bartlett's test of sphericity demonstrated significance.

3.3 Common method bias

Common method bias (CMB) can introduce type I and type II errors that compromise the validity of findings if left uncontrolled (Rodríguez-Ardura and Meseguer-Artola, 2020; Flynn *et al.*, 2018), especially in cross-sectional studies (Ketokivi, 2019). Such errors can lead to the rejection of true null hypotheses (Type 1) or the failure to reject false null hypotheses (Type II) regarding study variables. To mitigate the risk of these errors, a rigorous pre-testing process was implemented to ensure the internal coherence and usability of the research instrument. This process included interviews and consultations with senior managers and academics possessing significant practical experience in the field of procurement practices within non-governmental organizations (NGOs). The feedback gathered facilitated the refinement and enhancement of the survey tool. Furthermore, a pre-test involving 30 HOs was conducted, leading to further improvement in the questionnaire based on insights gained from the pilot testing. After piloting, the instrument's structure was optimized by arranging study variables in the final questionnaire, prioritizing criteria and then predictors. Respondents were instructed to base their responses on organizational documentation for procurement practices rather than personal experience (Dubey *et al.*, 2018). Additionally, measurements of variables were adjusted to align with the context of the study based on existing peer-reviewed papers. A six-point Likert scale was employed to prevent the ambiguity associated with a middle point in a five-point Likert scale, which can indicate non-decisiveness among respondents. To enhance the study's validity, multiple informants per sample unit were used (Robins *et al.*, 2002). Finally, a Herman single-factor analysis (Harman, 1967) was conducted, indicating that CMB is unlikely to be a significant concern, as a single factor accounts for 27.39% of the variance.

3.4 Testing for non-response bias

Non-response bias arises when data cannot be collected from certain sample units by researchers (Podsakoff *et al.*, 2012). Procedural and statistical measures were undertaken to address non-response bias. During the invitation process, an introductory letter and a questionnaire were emailed to potential participants. Data collection occurred in two waves (Hulland *et al.*, 2018), characterized by early and late responses (Chen and Paulraj, 2004). A multivariate chi-square test was conducted to assess the impact of early and late responses on non-response bias (Armstrong and Overton, 1977). According to Esser and Vliegenthart (2017), at a 95% level of confidence and a *p*-value of 0.05, no significant differences were observed in terms of structural characteristics for dependent, independent and intermediate variables between early and late responses.

3.5 Data analysis

A variance-based partial least square-structural equation model (PLS-SEM) was used through SmartPLS version 4.0.9.5 to test the research hypotheses. Considering the nature of the constructs, where the significance of residual variances of indicators and the insignificance of measurement error among study variables are key factors, variance-based PLS-SEM was chosen (Guenther *et al.*, 2023). This approach also enables the simultaneous testing of direct and indirect relationships (Ramli *et al.*, 2018). Additionally, it facilitates the evaluation of the measurement model's validity and reliability, modeling of higher-order constructs (HOCs) (e.g. procurement practices in this study), predictive model performance, model comparisons and model fits (Sarstedt *et al.*, 2022). The first step involved creating an assessment model to determine the validity and reliability of the various constructs. Cronbach Alpha coefficient and composite reliability (CR) were assessed, with values above 0.7 indicating acceptable reliability (Hair *et al.*, 2020). Convergent validity was analyzed using item loading above 0.708 and average variance extracted (AVE) above 0.5. Discriminant validity was evaluated using the Heterotrait-Monotrait correlation (HTMT) ratio, with a value exceeding 0.85, indicating distinct constructs (Becker *et al.*, 2023). Moving to the assessment of study hypotheses, a structural model was developed and examined following the evaluation of the measurement model. The evaluation of the structural model included analyzing collinearity between study variables, significance and relevance of path coefficients, coefficient of determination (R^2 values) and explanatory (in-sample) and out-of-sample predictive power (PLSpredict) (Sarstedt *et al.*, 2022). To obtain PLS structural model estimates, bootstrapping was carried out with 10,000 sub-samples and replacement at a 95% bias-corrected confidence interval (Hair *et al.*, 2021).

4. Results

4.1 Measurement validation

The measurement model was assessed employing the standard repeated indicator approach (Sarstedt *et al.*, 2019) to evaluate reliability and validity, using SMARTPLS version 4.0.9.5. According to Sarstedt *et al.* (2019), items with factor loadings above 0.708 are considered reliable and valid and only items meeting this criterion were retained. Additionally, the Cronbach's alpha and CR values for both the HOC procurement practices and the lower-order construct (LOC) of SE and IOC were above 0.7, indicating internal consistency (Hair *et al.*, 2021; Shamim *et al.*, 2017). Furthermore, all study variables exhibited AVE values exceeding 0.5, confirming convergent validity (Hair *et al.*, 2021). The results in Table 2 indicate that the data used in the study meet reliability and validity criteria. Further, following Hair *et al.* (2021) recommendation, Heterotrait-Monotrait (HTMT) ratios below 0.85 affirmed discriminant

Constructs	Item codes	Item loading	Reliability and convergent validity				
			Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)	
Ethical practices	EthP1	0.784	0.829	0.837	0.898	0.747	
	EthP6	0.898					
	EthP7	0.906					
Buyer-supplier relationship	RSP1	0.878	0.778	0.812	0.898	0.816	
	RSP2	0.928					
Sourcing strategy	SRC2	0.887	0.832	0.839	0.899	0.748	
	SRC3	0.843					
	SRC4	0.864					
Supplier selection	SS6	0.889	0.748	0.749	0.888	0.799	
	SS7	0.899					
E-procurement	eP1	0.862	0.62	0.622	0.84	0.724	
	eP4	0.84					
Inter-organizational coordination	IOC2	0.782	0.79	0.791	0.864	0.613	
	IOC3	0.798					
	IOC4	0.773					
	IOC5	0.778					
Stakeholder expectations	Se14	0.766	0.919	0.922	0.937	0.715	
	Se16	0.884					
	Se17	0.93					
	Se18	0.854					
	Se21	0.765					
	Se3	0.844					
Procurement practices			0.793	0.855	0.838	0.767	

Discriminant validity	1	2	3	4	5	6	7
Buyer-supplier relationship (1)							
E-procurement (2)	0.61						
Ethical practices (3)	0.664	0.635					
Inter-organizational coordination (4)	0.607	0.375	0.712				
Procurement practices (5)	0.878	0.845	0.99	0.728			
Sourcing strategy (6)	0.285	0.214	0.428	0.295	0.734		
Stakeholder expectations (7)	0.766	0.436	0.832	0.827	0.803	0.308	
Supplier selection (8)	0.423	0.146	0.467	0.59	0.666	0.136	0.528

Source(s): Table 2 created by author after PLS-A analysis

Table 2.
Reliability and validity

validity. This criterion was met by both the HOC and LOC variables, as shown in Table 2 confirming distinct independent variables for predicting the dependent variable.

4.2 Descriptive and correlation results for study variables
Correlation analysis was employed to examine the associations between the research variables. As indicated in Table 3, the study variables were positively, moderately, linearly and significantly correlated. The descriptive statistics in Table 3, revealing moderate means and fairly close standard deviations for the variables, underscore that SE, IOC and procurement practices were prevalent within the studied HOs. Given the significant associations among the study variables, the next step was to proceed with hypothesis testing using variance-based PLS-SEM through SMARTPLS version 4.0.9.5.

4.3 Structural model evaluation

Upon confirming the validity and reliability of the measurement model, the partial least square-structural equation model (PLS-SEM) was developed and tested using SMARTPLS version 4.0.9.5. The significance of path coefficients was assessed through bootstrapping and a 95% bias-corrected confidence interval was utilized to assess the structural integrity. The explanatory power of PLS-SEM, indicated by R^2 for IOC and procurement practices, as well as predictive accuracy (Q^2) was computed using a blindfolding approach with seven omission distances based on Peng and Lai (2012). To validate the model's performance against the collected data, an out-of-sample prediction was conducted using Shmueli *et al.*'s (2016) PLSpredict procedure (tenfold, power ten) for procurement practices. This choice was informed by the fact that PLS-SEM analysis produces lower prediction errors compared to the linear benchmark models, as evidenced by mean absolute error (MAE) and root mean squared error (RMSE). The results in Table 4 indicate that the coefficient of determination (R^2) for IOC and procurement practices were 0.497 and 0.601, respectively, exceeding the threshold of 0.33 suggested by Sarstedt *et al.* (2019) and Cohen (1988), thus considered moderate. These R^2 values indicate meaningful predictive relevance, as they lie between 0 and 1 (Hair *et al.*, 2016). Additionally, the endogenous constructs demonstrated relevance, as indicated by positive Q2predict values for both IOC and procurement practices. Finally, the PLS-SEM's out-of-sample predictive power for procurement practices produced lower MAE and RMSE than naive linear benchmarks (Sarstedt *et al.*, 2019), confirming the model's fit to the collected data.

Latent variables	Mean	Std. dev	1	2	4
Stakeholder expectations	3.86	0.54	1.000		
Inter-organizational coordination	3.90	0.49	0.54**	1.000	
Procurement practices	3.91	0.53	0.79**	0.65**	1.000

Note(s): $N = 43$
** and * indicate significance at the 0.01 and 0.05 level (2-tailed)
Source(s): Table 3 created by Author

Table 3.
Descriptive and correlation results for study variables

	ß	*T*-stat	*P*-values	Bca
Direct path				
Inter-organisational_coordination procurement_practices	0.177	2.127	0.022	0.010–0.329
Stakeholder _expectations inter-organisational_coordination	0.705	13.426	0.000	0.591–0.797
Stakeholder _expectations procurement_practices	0.640	7.442	0.000	0.439–0.777
Indirect path				
Stakeholder _expectations inter-organisational_coordination procurement_PRACTICES	0.125	2.061	0.022	0.011–0.243
Total effects				
Inter-organisational_coordination procurement_practices	0.177	2.127	0.022	0.010–0.329
Stakeholder _expectations inter-organisational_coordination	0.705	13.426	0.000	0.591–0.797
Stakeholder _expectations procurement_practices	0.765	16.896	0.000	0.638–0.818

Predictive criteria	R^2	Adj.R^2	Q^2predict	RMSE	MAE
Inter-organizational coordination	0.497	0.495	0.492	0.720	0.567
Procurement practices	0.601	0.509	0.546	0.681	0.499

Source(s): Table 4 made by Author

Table 4.
Hypotheses results

4.4 Hypotheses testing

The direct effects of SE and IOC on procurement practices (PP) were tested. The results presented in Table 4 and Figure 2, indicate that the effect of SE (ß = 0.640, $p < 0.05$) and IOC (ß = 0.177, $p < 0.05$) on PP was observed to be positive and significant as well as the effect of SE (ß = 0.705, $p < 0.05$) on IOC. Hence H1, H2 and H3 are supported. Using the bootstrapping resampling techniques recommended by Hair *et al.* (2021), we examined the mediation impact. We employed the bias-corrected and accelerated confidence interval bootstrapping approach to produce 10,000 sub-samples. This approach allowed us to determine confidence intervals and decide whether to accept or reject alternative hypotheses. A zero between the lower and upper bound limits would indicate that the indirect effect is insignificant, leading to the rejection of the corresponding hypothesis. In the presence of the mediator (IOC), the scores reveal that the effect of SE on PP was positive (ß = 0.125, $p < 0.05$), indicating that IOC partially and significantly influences the relationship between SE and PP; therefore, H4 is substantiated based on Baron and Kenny (1986). This implies that organizational coordination bridges the gap between SE and procurement practices.

5. Discussion

In this study, we examined the impact of SE and IOC on procurement practices in HOs. In addition, we investigated how IOC mediates the relationship between SE and procurement practices in HOs.

Regarding the objective of establishing the relationship between SE and procurement practices, the results support the first hypothesis (H1), showing a positive correlation between SE and procurement practices. This suggests that SE influence humanitarian procurement practices. These results are in line with earlier research (Moshtari *et al.*, 2021; John *et al.*, 2022), indicating that SE play a role in shaping HO procurement practices during relief deliveries. Specifically, the findings suggest that SE encompass aspects like receiving relief items of acceptable quality and accessibility, timely information about relief operations and well-coordinated programs. To meet these expectations, HOs may employ standard procurement contracts and electronic procurements, which facilitate information exchange between internal and external stakeholders.

Supporting H2, results show a positive and significant relationship between SE and IOC. This underscores the importance of understanding SE for effective coordination among HOs. Research indicates that HOs' understanding of stakeholders attracts collaboration in delivering value to diverse stakeholders (Ruesch *et al.*, 2022; Lehtinen and Aaltonen, 2020). Additionally, Fathalikhani (2019) find that NGOs' cooperation facilitates stakeholder utility attainment, including governmental and donor goals and increases the effectiveness of non-profits in providing relief. Therefore, HOs that are familiar with SE can assess their capabilities and form partnerships with HOs that have expertise and processes to meet those
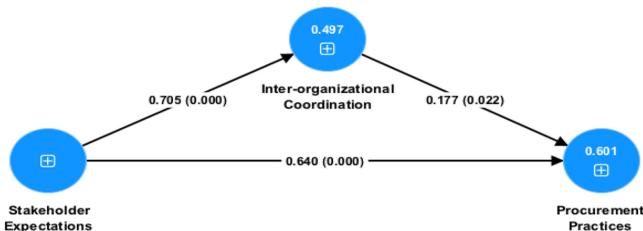
Source(s): Figure by Author Using PLS-SEM in SmartPLS version 4.0.9.5

expectations. In addition, recognizing other HO's concerns and pressures in delivering high-quality relief items in a safe, caring and competent environment is crucial. The findings also suggest that HOs, that recognize stakeholder demands for accountability, will synchronize their activities with other HOs, as synchronization enables stakeholder tracking.

Additionally, this survey confirms a significant and positive relationship between IOC and procurement practices, supporting H3. HOs that engage in collaborative efforts with others are more inclined to adopt procurement practices that streamline the process of acquiring relief items. To align their procurement activities with their partners, HOs make use of electronic procurement systems for information gathering and supplier contract updates. Furthermore, those HOs that allocate resources appropriately when collaborating with others tend to execute proper sourcing strategies. Such strategies include skillful negotiating for the most competitive prices when procuring relief items from multiple sources. In their collaborative efforts, HOs must also take into account the compatibility between expertise and processes. They should opt for local suppliers to ensure prompt responses and establish contracts with suppliers who uphold environmental standards, anti-terrorism laws and quality standards compliance. Drawing on the research findings, HOs that understand the challenges and considerations faced by fellow HOs tend to acquire relief items through flexible and framework-based procurement contracts employing cost-reimbursement payment methods. This resonates with prior research such as Wankmüller and Reiner (2021), highlighting that collaboration among HOs with aligned competencies can enhance procurement coordination by ensuring compliance with standards and regulations, facilitated by the use of flexible procurement framework contracts.

SE and procurement practices exhibit a positive and significant direct relationship, along with indirect relationships through IOC (H4). Hence, SE are directly linked to procurement practices, while also being enhanced by IOC, thus confirming (H4). This implies that when HOs understand their SE, they are equipped to address various aspects. These encompass the receipt of relief items that meet acceptable quality standards and are accessible, the timely dissemination of information about relief operations and the facilitation of more efficient coordinating efforts. HOs seek collaborative partners armed with resources, expertise and processes to effectively implement procurement practices. These strategies encompass the adoption of relevant multiple sourcing strategies, the creation of flexible procurement framework contracts utilizing cost-reimbursement payment methods, and the establishment of contracts with suppliers adhering to environmental laws, compliance standards and quality standards. Additionally, HOs also engage with suppliers who uphold anti-terrorism laws. As with other HOs, these actions collectively enable them to fulfill their stakeholders' expectations.

5.1 Conclusion
The aim of this study was to investigate the relationships between procurement practices, inter-organizational cooperation and SE among Ugandan HOs. Overall, the study reveals positive and significant relationships among the variables. The study also establishes a partially indirect relationship between SE and procurement practices through IOC.

5.2 Theoretical implications
This study, grounded in stakeholder theory, contributes to the discourse on SE, IOC and procurement practices. In this way, it fills a gap in the limited research on the antecedents of procurement practices in HOs in developing countries. In addition, the study confirms a direct link between SE and procurement practices, using IOC as an intermediary. This contribution addresses a gap in the literature, as identified by Moshtari *et al.*'s (2021) systematic literature review on procurement practices in the humanitarian sector, which calls for investigations

into the mechanisms for enhancing procurement practices. This, in turn, generates more scholarly debate about the exact relationships examined within this paper.

5.3 Practical implications

The study provides recommendations to enhance procurement practices in HOs. HO managers should identify and understand SE to effectively adopt and implement procurement practices. The procurement process should be characterized by electronic and ethical procurement, mechanisms for reporting and disciplining employees engaging in illicit activities, supplier selection based on factors like delivery capacity and past performance, multiple sourcing strategies and a flexible procurement framework. Addressing the requirements for affordable, high-quality relief items that meet acceptable standards is a pivotal element in aligning with SE for HOs. Ensuring these items are provided within a hygienic and competent environment is essential. Coordinated programs and services are expected from other stakeholders, including the government and donors. As a result, HOs should adopt procurement practices that promote transparency.

Additionally, IOC serves as the bridge connecting SE to procurement practices. To meet these expectations, managers should identify other HOs with sufficient resources, expertise and effective work processes, synchronizing their activities accordingly. This approach enables the adoption and implementation of procurement practices that align with stakeholder expectations.

5.4 Limitation and future research

The cross-sectional quantitative survey nature of this study, aimed at evaluating literature-based hypotheses, entails certain limitations. Consequently, comprehending the underlying reasons behind the findings poses challenges. To fully grasp the nuances of the phenomenon, qualitative case studies and in-depth interviews are essential. Furthermore, as this study exclusively concentrated on HOs working in Western Uganda, it may not fully capture the opinions of all HOs operating throughout Uganda. To enhance the external validity of the findings, future research endeavors could encompass a broader spectrum, incorporating Ugandan HOs as well as those from other economically disadvantaged nations.

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