

RESEARCH ARTICLE

MEDIATING ROLE OF 30% RESERVATION ON SPECIAL GROUPS' PARTICIPATION IN TANZANIA'S PUBLIC TENDERING : MODERATION BY CONFIDENCE AND PERCEPTIONS.

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ABSTRACT

This paper presents the findings of a study that had examined the relationship between 30% reservation scheme by procuring entities and special groups' participation in public tendering opportunities in Tanzania that is moderated by the role of confidence and perception. Primary data were collected in Tanzania Mainland, involving 550 special groups and 16 procuring entities, using a survey instrument. Results indicate that preferential procurement scheme is positively and significantly explained by confidence and perception, e-procurement system usability, implementation of preferential procurement by PE, special groups involvement in public tendering opportunities and technical readiness. This study provides implications on how preference and reservation scheme can help to ensure that women, elders, youth and persons with disabilities are given priority in public tendering opportunities. Consequently, the participation of special groups will be improved, and hence reduces the extent of poverty and improve human well being in society at large. Thus, the study emphasizes the deliberate efforts in creating more friendly environments to special groups so as to boost their participation as means towards reaching vision 2050 which insists on inclusivity of each group in the economy.

KEYWORDS

Special Groups, Tendering Opportunities, Confidence and Perceptions

1. INTRODUCTION

For a number of reasons, special groups' participation in social development is vital in any nation. Arguments indicate that the participation of special groups improves human well-being in society and lessens the severity of poverty (Owiti, 2018). The participation of these special groups is not merely a philanthropic gesture but a strategic contribution to the socioeconomic fabric, as highlighted by (Djan, 2015). Globally, the history show that special groups were not included in different aspects like economic development, political and social aspects in the world comprising developed and developing countries, and that calls for the attention in different international agreements and treats for the involvements of disabled groups in social-economic developments (Ofori and Fuseini, 2020).

In Africa, specific countries, such as Nigeria, have grappled with the issue of social and economic barriers faced by marginalized groups, including individuals with disabilities, leading to their exclusion from various sectors, including public procurement (Wamoto, 2017).

Tanzania has acknowledged the importance of encouraging the involvement of special groups, ranging from individuals with disabilities, women and youth, in public tendering opportunities to achieve wider societal goals (Athumani et al., 2025). As per PPRA guidelines, the purpose of involvement of Special Groups in public tendering opportunities is to empower them since under normal procurement arrangements they

would not be able to compete. The reserved preferential scheme would enable special groups to participate in numerous public procurement opportunities. In accordance with Section 64 (1) of PPA, Cap 410 as read together with Regulation 36 (1) of Public Procurement Regulation (PPR), GN. No. 443 of 2024 all Procuring Entities (PEs) shall grant an exclusive preference of 30% in its annual procurement to goods, works and services for special groups (PPRA, 2025). The connection between the preferential procurement scheme and the empowerment of special groups still requires further examination. In 2024, Tanzania amended its procurement regulations to reserve 30 percent of contracts for youth, women, and persons with disabilities, giving them preference on public procurement opportunities, and promoting their participation in government procurements (PPRA, 2025). However, despite the reforms and the multitude of efforts expanded by other authors (Basheka, 2018) there are still some claims that special groups are still low in terms of participation in procurement and that preferential programs for local suppliers are inadequate (Leticia, 2018 ; Mwanyenza, 2023 ; Wamoto, 2017). Nonetheless, recognizing the importance of special groups' involvement in public tendering opportunities is crucial for the country in terms of economic development. Such studies, however, have not consider the interaction among 30 percent reservation scheme by procuring entities, participation of special groups in public tendering opportunities, and confidence and perceptions. The paucity of studies on moderating variables in public tendering opportunities participation by special groups necessitates a search for critical factors that influence the effectiveness of interventions so as to understand how confidence and perceptions

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influence e-procurement system usability, implementation of preferential procurement by PE, special groups involvement in public tendering opportunities and technical readiness.

Based on forementioned studies, this study seeks to explore the mediating role of 30 percent reservation scheme by procuring entities on the participation of special groups in public tendering opportunities with moderating role of confidence and perceptions.

2. LITERATURE REVIEW AND REVIEW AND HYPOTHESES

2.1 The Social Bond Theory

The paper was guided by social control theory; the theory was appropriate as the research paper was on one of incubative's key constructs, social influences. Social bond theory is a social relationship and interactional engagement as well as the notion that some friends may mediate others' influence by being more supportive or less supportive through behaviour. Social bond theory was created by (Travis Hirschi, 1969). As described, the social theory suggests, humans are held together by a pyramid of trust, norms, commitment and good morals (Hirschi, 1969). The major proposition advanced is that the key factor in holding people to the development pyramid is a strict adherence to its laws and regulations (Badaso, 2014). Related social bond theory in procurement aspects by positing that procurement can serve as a bound pyramid to link the society to the laws and regulations (Cheema, 2005 ; Makena, 2016). The dimensions of the theory were borrowed based on society being connected by information, laws legislation, ethics morals, respect, trust, authenticity, accountability, responsibility and charitable schemes to society (Hirschi, 1969). The theory argues that if moral codes are internalized and procurement managers 'are' bound (both in the sense of having a stake in their larger community), they will create an environment wherein there is community participation in the "dining table scintilla" that get awarded in tender opportunities (Tukamuhabwa, 2012). That is to say, ethics and compliance to laws enhances accountability, and to control individual ego and sensibilities in compliance to procurement reservations by allowing the implementation of those special groups reserve schemes. In this regard, the theory was very relevant within this study, as it informed the study in understanding the concerned factors for participation by special groups in accessing public tendering opportunities in Tanzania. More so, the theory relayed to a society bound-in social-economic development. Social bound model, which was anchored to good governance with six dimensions such as ; ethics, participation, knowledge, money, accountability and fair laws and regulations (Cheema, 2005). In expounding good governance in public sectors, these were later backed by (Meyer, 2018). In this context, the theory was linked with this study to conceptualize the confidence and perceptions of special groups, e-procurement system implementation and usability and technical readiness of special groups on the involvement of public procurement opportunities. All of these conceptualized aspects were expressed in the theory as the pyramid of society and national development.

2.2 Hypothesis Development

2.2.1 Confidence and Perceptions and the implementation of 30% reservation scheme by PE

Various scholars have appreciated that perception of winning or not winning may reinforce special groups confidence and sense of autonomy as opposed to dependency (Osborne et al., 2003). Perceptions of not winning by the special groups, and inferiority among special groups individually and collectively hinder participation in procurement opportunities (Tessa and Nsimbila, 2022). This is also conducted a study to examine the influence of supply reservation activities on service delivery in Kenya, and discovered that among other challenges was lack of confidence to participate in government procurement opportunities negatively affect the implantation of reservation schemes in Kenya (Mrope et al., 2017). On the other hand, access to tendering opportunities was insignificant and substantial effect on implementation of the preference and reservation scheme, however, access to procurement information was significant and substantial impact on implementation of the preferential and reservation schemes in the County of Tana River in Kenya (Korane and Peter, 2024). Additionally, PEs asserts that the special groups do not participate because of, feeling of not winning, Social inferiority syndrome, red tape on the registration process, uncoordination of special groups owned businesses and financial incapability (Ngajilo, 2023).

In a study, the researchers conducted a survey of 200 procurement officers in Kenyan ministries and identified confidence in institutional capacity and positive perceptions of affirmative action policies as key drivers of procurement efficiency (Ngugi and Mugo, 2012). In the study, the

researchers found that officers who perceive the 30% reservation scheme for special groups as fair and have confidence in their ability to navigate its requirements reported an increase in successful tender allocations to the targeted groups. This supports the hypothesis by indicating that positive perceptions and confidence in the implementation of the policy led to the effective operation of this 30% reservation scheme, meaning it increased access to procurement for the targeted special groups. Another study, assessed Kenya's AGPO program, which earmarks 30% of public tender opportunities for young people, women, and persons with disabilities as another special group in a public sector context (Mutangili, 2025). Assessing information obtained through interviews with procuring entities using qualitative methods as well as using regression models, the study found that positive attitudes toward the policy's fairness and confidence in the implementation and administrative feasibility of the reservation policy increase implementation rates resulting in increased awards of tenders to youth-led groups. The participant responses support the hypothesis by demonstrating how procurement entities' positive attitudes and confidence in the reservations system built enactment of the policy, increasing access by all special groups to procurements in the public sector.

Moreover, the work which employed structural equation modeling to measure affirmative action perceptions in public procurement through a quantitative study which involved Kenyan procuring officers concerning the 30 percent AGPO mandate quota for marginalized groups (Mutangili, 2025). The results showed that officers confidence in policy enforcement, and positive views about socioeconomic benefits account considerably for the variation in implementation success, and low allocations compliant tenders. In addition the study enriches the hypothesis by establishing that procuring entities optimistic perception and self-efficacy in engaging the scheme positively impact affirmative action implementation, therefore increasing marginalized groups participation in government procurement opportunity.

These studies collectively demonstrate that confidence in procedural capabilities and positive perceptions of the fairness and benefits of the 30% reservation scheme significantly enhance its implementation by procuring entities, thereby increasing the participation of special groups in public procurement opportunities.

H1: Confidence and Perceptions positively influences the implementation of 30% reservation scheme by PE

2.2.2 Confidence and Perception and E-procurement procurement system implementation and Usability on implementation of 30% reservation scheme by PE

In ensuring implementation of 30% reservation scheme by PEs, various scholars have suggested that, accounting officers in public organizations should make sure that e-procurement system is used as a solution to improve service delivery to their customers (Maagi and Mwakalobo, 2024). The skills are also important for contract management and ensuring compliance after tendering (Mbonera, 2024). In addition, networking and relationship building with public procuring entities will increase visibility and trust, confidence, which lead to more business opportunities besides positively affecting tendering participation. That is to say, there is a significant relationship the extent to which use e-procurement is used and increase in customer satisfaction regarding procurement. Similar findings who generalized that perceived ease of use is what had the highest effect and the support of the top management had the least effect on the execution of e-procurement system (Jibril, 2023).

A study comprising 135 procurement officers in Kenyan public entities looking to understand the influence of e-procurement to implementation of the 30% AGPO reservation scheme for special groups using moderated regression analysis, highlighted that both trust in e-procurement systems and an officer's perception of the economic transparency of e-procurement moderated the relationship that e-procurement systems usability had (for example, ease of bid evaluation) on execution of the policy (Ndembo and Mkalama, 2024). In particular, it was determined that hyper-useable e-procurement platforms were devised to increase reservation compliance if the officer in question had high levels trust and perception of transparency compared to low levels of trust and perception. This outcome directly aligned with the hypothesis as both trust and perception enhanced the influence of the e-procurement system usability on the effective implementation of the reservation scheme.

In a study in Kenya and Tanzania, considering e-procurement adoption in public procurement addressing the 30% reservation for marginalized groups, and attractiveness for e-procurement use, utilizing a mixed-methods research design using structural equation modeling of e-

procurement data from 200 procuring entities, they identified that moderate the relationship between the effective e-procurement usability and e-procurement outcomes (Maagi and Mwakalobo, 2024 ; Jibril, 2023). More user-friendly systems, such as the automatically monitoring quota system, assure more successful outcomes, thanks to procuring entities' confidence in the monitoring features and belief of equity, ultimately increasing the number of tenders awarded to special groups. Consistent to the hypothesis, it is demonstrated that confidence and favorable perceptions can strengthen the effectiveness relationship between e-procurement usability and outcomes of reservation policy.

H2: Confidence and Perception moderate the relationship between E-procurement system implementation and Usability on implementation of 30% reservation scheme by PE

2.2.3 E-procurement system implementation and Usability and the implementation of 30% reservation scheme by PE

Harmonizing legal frameworks, enhancing training programs, strengthening cyber security, and fostering public-private partnerships are essential in ensuring sustainable e-procurement systems. A study in Tanzania, based on the Technology Acceptance Model, surveyed 56 procurement personnel, and found that perceived usability (for example ease of tender evaluation and the ease of navigating the system) was a significant driver of e-procurement adoption, in part due to lower levels of complexity associated with enforcing quotas (Anyisile et al., 2023). The study tests the proposition by demonstrating how e-procurement platforms with high usability facilitate the authorisation of Tanzania's 30% reservation policies for local and disadvantaged suppliers, increasing the percentage of tender awards for reserved categories by making the processes easier and more transparent.

Another mixed-methods study conducted across COMESA countries specifically assessed e-procurement adoption, and indicated that usability factors like intuitive interfaces and user training positively impact implementation success, and therefore reduce procurement processing time. Conclusively, regression analysis showed that increased usability reduces technical barriers for procuring entities to administer quota based schemes such as the 30% reservation for SMEs and special groups, to lead to greater inclusive participation for compliant systems (Gilbert and Celestin, 2025).

Procuring entities asserts that the non-participation by the special groups is caused by a number of reasons, namely ; feeling of not winning, social inferiority syndrome, red tape on the registration process, poor organization among special groups owned businesses and financial incapability (Ngajilo, 2023). Another study identified ICT infrastructure, awareness, cost of adoption, trust, skills as the impediments to adoption of e-procurement system implementation in private businesses which could also be similar case in public procurement context (Kyara, 2023). Among the most used user experience dimensions in the e-procurement literature were satisfaction, security, transparency, efficiency, and reliability (Hashim et al., 2022). Other user experience-related dimensions identified from the review were usability, compatibility, effectiveness, performance efficiency, functional suitability, attractiveness, explainability, fairness, and visibility. E-procurement system usability faces challenges around internal capability, software development vs off-the-shelf, data collection and negotiation functions (Nawi et al., 2016).

H3: E-procurement system implementation and Usability positively influences the implementation of 30% reservation scheme by PE

2.2.4 Implementation of 30% reservation scheme by PE positively influences special groups involvement in public tendering opportunities

According to Tanzania's Guidelines for Participation of Special Groups in Public Tendering Opportunities, procuring entities must set-aside ten per cent of annual procurement value for people with disabilities; ten per cent for youth, five per cent for women, and five per cent for elders. The set-aside aspect of Tanzania's approach is relatively new, as the Guidelines came into effect in January 2025 ; and so it may be early to assess its impact. Nevertheless, Tanzania has tried to avoid some of the issues related to gender responsive schemes in other countries and has also recognized the barriers that SMEs face in accessing public procurement such as the large size bundled contracts, bid securities and prolonged payment schedules. Additionally, it has also included business development training into the process of certification for Women Owned Businesses; which is crucial, since contractor development has been highlighted as an important aspect of ensuring contractors can meet public sector needs (Changalima et al., 2021). This is also supported by

PPRA report which indicated that, considerable number of special groups had been registered on the NeST system by June 20025 and had secured 501 awards amounting Tsh 16.1 billion under the quota scheme (Mheta, 2025). A study which studied the broader effects of reservation policies in India that included the 30% procurement preferences in public sector contracts, demonstrated that reservation policies improve the participation of marginalized groups in government tenders by providing greater access to procurement (Chin and Prakash, 2013). The results support the hypothesis that introducing a 30% reservation scheme positively impacts the participation of designated groups in public tender processes as the economic benefits of procurement is redistributed and the practices are inclusive (Chin and Prakash, 2016). In his empirical study evaluating the Access to Government Procurement Opportunities (AGPO) program in Kenya, which reserved 30 percent of public procurement tenders for special groups (Nderitu, 2016). The study showed reserved tendering significantly increased the participation rate of those groups, improving procurement performance through more competition for a fairer opportunity. The results support the hypothesis by providing evidence of this direct access to the procurement process while demonstrating how the 30% reservation scheme for special groups was an easy way to increase their economic empowerment in public tendering and to remove exclusionary barriers to procurement processes.

H4: Implementation of 30% reservation scheme by PE positively influences special groups involvement in public tendering opportunities.

2.2.5 Technical readiness on the implementation of 30% reservation scheme by PE

Technical readiness in a procurement context refers to the ability of a firm to marshal its organisational resources to identify contract opportunities and poise itself to be competitive and win (Flynn and Davis, 2017). In this regard, companies, like special groups, need public procurement tendering skills to tap the opportunities, by understanding and responding to tender criteria, managing contracts, and developing new products as the opposite may hinder special groups participation. This is supported who discovered that, different obstacles like limited information on opportunities for public procurement, complicated tendering procedures, tight technical and financial qualification requirements, and similar factors have resulted to the fewer female-owned businesses being involved in public procurement contracts (Mohammed, 2019). Competence, legal capacity, and awareness among special groups substantially influence participation in the tendering opportunities (Mwanyenza, 2023). Specifically, a decrease in competence, including knowledge of procurement procedures, technical expertise, experience in executing public tenders, and operational expertise, reduces the opportunity for special groups to participate in the tendering process. Additionally, the study found that technical readiness, (such as e-procurement tools and bidder digital competencies), ia positively associated with the successful application of SME reservation policies (Karjalainen, 2009). The study supports the proposition that technical readiness contributes to less administrative burden and higher rates of SME success in reserved categories, which supports the proposition that advancing technical readiness supports equitable access to the overall '30%' of reservation opportunities in a tendering process .

H5: Technical readiness positively influences the implementation of 30% reservation scheme by PE

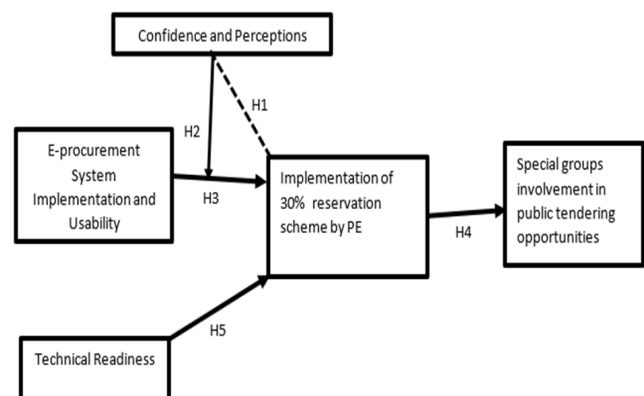


Figure 1 : Conceptual Framework Model:

Source: Figure by Author

3. METHODOLOGY

3.1 Research design and study area

The design of this study was cross-sectional, which is a single point in time approach. Rather than looking for changes over time, it looked at existing differences among groups. Participants were selected for these existing differences rather than placed randomly (Siedlecki, 2020). This approach allowed the researcher to gather a large amount of data in one time point. Cross-sectional studies provide relevant information by taking a "snapshot" of a specific population at a certain point of time and can combine the results to provide a solid understanding of the environment (Charlton et al., 2024). The cross-sectional design is relevant for the immediate differences in the sample group, which provided a relevant analysis of the differences that existed without the variables of change over time (Levin et al., 2022). The study was conducted in Dodoma City and was chosen as a study area due to its rapid urbanisation and the recent government decision to relocate the capital city to Dodoma. This decision has prompted significant growth in various sectors, including procurement opportunities in various works projects, supply of goods and/or provision of services. Therefore the high density of public procuring entities in Dodoma city signifies a high volume of opportunities for a particular group for procurement activity.

3.2 Population, techniques and sample

The population included all special groups of businesses registered by the Public Procurement Regulatory Authority in Tanzania Mainland, with 578 registered under NeST as of June 2025. Additionally, it included 16 procuring entities by considering their involvement in projects concerning registered special groups. Altogether, the study population totaled 262, from which the sample size was drawn. The researcher employed a non-probability sampling strategy known as purposive sampling, to choose participants for the research (Campbell et al., 2020). Using purposive sampling provided the systematic process to collect data from specific leaders areas/groups, participating in a focused study with data collection (Creswell & Creswell, 2017). In addition, purposive sampling was key in achieving rich data from Heads and Senior Procurement Officers within procuring entities as key informants who had deep and intimate knowledge of the procurement and tendering processes (Campbell et al., 2020).

Based on the nature of the study, the unit of analysis was Tanzania Mainland and the unit of inquiry was special groups and procuring entities. The data collection ran from October 2024 to June 2025. A drop-and-pick approach was used to distribute 594 questionnaires to 578 to registered special groups and 16 procuring entities; a survey instrument was given to the respondents and picked up after completion. The last usable questionnaire was received from a total of 566 respondents, for a total of 95.29%. This shows that the number of responses generated was higher than 50%, therefore they can be used for analysis (Kelley et al., 2003; Umbach, 2005).

3.3 Data collection and measurement of study variables

This study applied a survey instrument to collect primary data on the relationship between Implementation of 30% reservation scheme by PE and Special groups involvement in public tendering opportunities. The current study's data came from primary data. Primary data was taken into consideration because it allows the researcher to get data directly from sources. In order to gather information from special groups and officers from three procuring entities, a systematic questionnaire was created. Questionnaire was chosen as the best method for gathering data from a large population because of its homogeneity and objectivity (Saunders, 2011). The questionnaire was chosen from a variety of literary sources that fit the context and goal of the study (Ranganathan et al., 2024; Ranganathan and Caduff, 2023). The survey approach was deemed suitable for the current investigation. The information from respondents was gathered using a standardized questionnaire in accordance with the research objectives, necessitating the following steps. The distribution of the questionnaire and subsequent data collecting marked the start of the

process.

This was in accordance with well-established and validated statements from previous literature that were a part of measuring the study's variables (Creswell and Creswell, 2017). The variables of the current study was operationalized as E-procurement system implementation and usability (3 items), technical readiness (4 items), implementation by PE of 30% reservation scheme (3 items), Confidence and Perceptions (4 items), and Special groups' inclusion and involvement in public tendering opportunities of (5 items) (Tummers and Knies, 2016). Further, operationalisation used a five (5) point Likert-type scale, where 1 = "Strongly disagree" to 5 = "Strongly agree" (Likert et al., 1934, 1993). This meant that respondents were asked to rate the extent to which they agreed or disagreed with the statements provided for each variable.

3.4 Data Analysis

The analysis of the collected data to establish the relationship between Implementation of 30% reservation scheme by PE and Special groups involvement in public tendering opportunities was conducted using the partial least squares structural equation modelling (PLS-SEM) embedded within SmartPLS 4 (Ringle et al., 2025). The PLS-SEM is recognised for its ability to analyse models characterised by relationships with numerous independent, moderator, mediator and dependent variables, while incorporating various indicators and multiple interactions among them (Hair and Alamer, 2022). Additionally, it is regarded as an efficient and contemporary data analysis approach, which does not heavily rely on sample size or the normality of data distribution (Hair, Sarstedt, et al., 2019).

4. RESULTS AND DISCUSSION

4.1 Common method bias

To evaluate common method bias, the researchers utilized the common method bias statistical tests by following the Herman single-factor test procedure recommended by (Podsakoff et al., 2012). The results ascertained that the explained variance is 26.2%. Since this value is below 50%, common method bias is not considered a serious problem in this study. In other words, the data do not seem to have a significant influence by a single method or source strong enough to alter the results. To indicate a problem with common method bias, we would expect a variance percentage exceeding 50%. Since the current value is only 26.2%, therefore common method bias is not a serious problem in this study. The researchers' quantification of common method variance, supports their research's validity and reliability; and indicates that the researchers' methods of data collection did not significantly affect the direction of the findings or their conclusions. The Herman single-factor test is the most common method to test for common method bias, therefore by following the recommended procedures, the researchers were confident that the study had credible measurements and findings. Therefore, the study confirms that common method bias was not a severe concern in this study.

4.2 Assessment of the measurement model

Table 1 presents the constructs such as confidence and perceptions, E-procurement system implementation and usability, implementation of 30% reservation scheme by PE, special groups involvement in public tendering opportunities, and technical readiness demonstrate good to excellent reliability as evidenced by high Cronbach's Alpha and Composite Reliability values (all well above the 0.70 threshold). All constructs also exhibit good to excellent convergent validity as indicated by high average variance extracted (AVE) values all above the 0.50 threshold (Magno et al., 2024). The outer loadings for all indicators are strong and above the generally accepted threshold of 0.708, indicating that the indicators are adequately measuring their respective constructs. The variance inflation factor (VIF) values for all indicators are well below the critical threshold of 5, suggesting that multicollinearity is not an issue within the measurement model, and the indicators are relatively independent in explaining their respective constructs (J. F. Hair, Risher, et al., 2019).

Table 1 : Measurement model

| Variables | Outer loadings | VIF | Cronbach's alpha | Composite reliability | AVE |
|--|----------------|-------|------------------|-----------------------|-------|
| Confidence and Perceptions (CP) | | | | | |
| CP1 | 0.793 | 1.828 | 0.883 | 0.892 | 0.740 |
| CP2 | 0.875 | 2.344 | | | |
| CP3 | 0.889 | 2.822 | | | |
| CP4 | 0.880 | 2.501 | | | |
| E-procurement System Implementation and Usability (ESIU) | | | | | |
| ESIU1 | 0.844 | 1.900 | 0.818 | 0.853 | 0.732 |
| ESIU2 | 0.903 | 2.004 | | | |
| ESIU4 | 0.818 | 1.661 | | | |
| Implementation of 30% reservation scheme by PE (IPE) | | | | | |
| IPE2 | 0.840 | 1.768 | 0.732 | 0.732 | 0.650 |
| IPE3 | 0.803 | 1.663 | | | |
| IPE4 | 0.775 | 1.261 | | | |
| Special groups involvement in public tendering opportunities (SGI) | | | | | |
| SGI5 | 0.868 | 2.237 | 0.872 | 0.884 | 0.796 |
| SGI6 | 0.907 | 2.567 | | | |
| SGI7 | 0.900 | 2.261 | | | |
| Technical Readiness (TR) | | | | | |
| TR2 | 0.912 | 3.559 | 0.922 | 0.922 | 0.812 |
| TR3 | 0.918 | 3.889 | | | |
| TR4 | 0.908 | 3.302 | | | |
| TR5 | 0.865 | 2.377 | | | |

The discriminant validity was examined using the Heterotrait-Monotrait ratio as presented in Table 2. All HTMT values in the table are significantly lower than the common threshold of 0.90 (and even 0.85) (Ab Hamid et al., 2017). This provides strong evidence that discriminant validity is established for all constructs in the model. In simpler terms, each construct measures a distinct concept and is sufficiently differentiated from the other constructs. This is a positive finding, indicating that the constructs are unique and not overlapping conceptually or empirically.

Table 2 : Heterotrait-Monotrait Ratio (HTMT)

| Variables | CP | ESIU | IPE | SGI | TR | CP x ESIU |
|-----------|-------|-------|-------|-------|-------|-----------|
| CP | | | | | | |
| ESIU | 0.491 | | | | | |
| IPE | 0.280 | 0.422 | | | | |
| SGI | 0.039 | 0.070 | 0.161 | | | |
| TR | 0.425 | 0.424 | 0.366 | 0.065 | | |
| CP x ESIU | 0.577 | 0.344 | 0.070 | 0.011 | 0.296 | |

For discriminant validity was also established using the Fornell-Larcker criterion as depicted in Table 3. The square root of the Average Variance Extracted (AVE) for each construct (the values on the diagonal) must be

greater than its highest correlation with any other construct (the values in the off-diagonal cells in the corresponding row and column). Based on the Fornell-Larcker criterion, all constructs in the model demonstrate good discriminant validity (Fornell and Larcker, 1981). The square root of the AVE for each construct is consistently higher than its correlations with all other constructs. This indicates that each latent variable is unique and distinct from the others in the model, supporting the validity of the measurement model. Combined with the HTMT results from the previous Table 2, there is strong evidence that discriminant validity is well-established for all constructs in the study:

Table 3 : Fornell-Larcker criterion

| Variables | CP | ESIU | IPE | SGI | TR |
|-----------|--------|-------|-------|-------|-------|
| CP | 0.860 | | | | |
| ESIU | 0.418 | 0.855 | | | |
| IPE | 0.228 | 0.337 | 0.806 | | |
| SGI | -0.034 | 0.059 | 0.132 | 0.892 | |
| TR | 0.384 | 0.370 | 0.303 | 0.057 | 0.901 |

4.2.1 Model fit summary

Table 4 presents the model fit summary for both estimated and saturated models. Standardised root mean square residual (SRMR) for estimated

model is 0.051. Similarly for saturated model SRMR is 0.047. These numbers are smaller than 0.08 and indicates good model fit of the estimated and saturated models to the data. This is a very good indicator. Normal fit index (NFI) for estimated Model is 0.981 and for saturated is 0.984. This number is larger than 0.90 (even 0.95) and is an excellent fit for the estimated model. It suggests that the model explains a very large portion of variance from a null model. The model fit statistics overwhelmingly suggest that the estimated and saturated structural models provided a very good fit to the empirical data. This suggests that the theoretical relationships in the model were well-represented by the observed data and the findings from the hypothesis testing were valid.

Table 4 : Model fit summary

| | Saturated model | Estimated model |
|------------|-----------------|-----------------|
| SRMR | 0.047 | 0.051 |
| d_ULS | 0.335 | 0.391 |
| d_G | 0.176 | 0.180 |
| Chi-square | 1284.358 | 1314.789 |
| NFI | 0.984 | 0.981 |

4.3 Assessment of the structural model

Table 5 presents PLS-Predict summary for the endogenous latent variables of model. The values of Q^2 predict for Implementation of 30% reservation scheme by PE (IPE) and special groups involvement in public tendering opportunities (SGI) are 0.156 and 0.003 respectively. Since the values of Q^2 predict are greater than zero, this suggest that the model has predictive relevance for the implementation of 30% reservation scheme by PE and special groups involvement in public tendering opportunities constructs. The model demonstrates medium predictive relevance for the dependent variables. This means the model is reasonably well suited to predict future observations of IPE and SGI based on the relationships that have been established.

Table 5 : PLSpredict LV summary

| Variables | Q^2 predict | RMSE | MAE |
|-----------|---------------|-------|-------|
| IPE | 0.156 | 0.922 | 0.694 |
| SGI | 0.003 | 1.001 | 0.820 |

Table 6 demonstrates the importance-performance values. The values of total effects of implementation of 30% reservation scheme by PE (IPE) is 0.132. This means that IPE has the highest total effect on SGI from a list of constructs. This agrees with the hypothesis testing of IPE have positive influences on SGI, which had a total direct effect of 0.132. This suggests that IPE is the most influential construct for SGI. This indicates that the implementation of 30% reservation scheme by PE is the most important area of improvement for special groups involvement in public tendering opportunities, suggesting that IPE is the priority area for change because it was so influential. However, the performance for IPE is quite low, suggesting a substantial gap and therefore improvement is possible. Therefore, any interventions for improvement to SGI should target improvement in IPE. The values of total effects of E-procurement system implementation and usability (ESIU) is 0.034 thus indicating a moderate amount of total effect on SGI. It has the second highest importance, and only after IPE. E-procurement system implementation and usability is also an important factor influencing SGI (indirectly) and it has a reasonable level of performance already. This indicates that ESIU could marginally improve its performance but its current performance is clearly working positively. Supporting ESIU to maintain or slightly improve should positively impact SGI. The values of total effects of technical readiness is 0.027. This is an important consideration and indeed, it is currently performing very well. This indicates that organizations are already quite technically ready. It accounts for SGI (indirectly), so although it is an area that could be improved on, if there is limited resources this would be a low priority for improvement as its performance is already high. It could be argued that put more resources towards improving areas of lower performance that correspond to the same or higher importance. The values of total effects of confidence and perceptions is 0.016 at the present has the lowest importance but the highest performance of all constructs. This suggests that confidence and perceptions are already very high, while they continue to have an influence, any further effort we could make to

raise them, in terms of influencing SGI could have diminishing returns compared to other constructs.

Table 6 : Importance-performance values

| Variables | Total Effects | Performance | Overall score | Ranking |
|-----------|---------------|-------------|---------------|---------|
| CP | 0.016 | 91.725 | 5732.81 | 4 |
| ESIU | 0.034 | 80.142 | 2357.12 | 2 |
| IPE | 0.132 | 72.696 | 550.73 | 1 |
| TR | 0.027 | 85.737 | 3175.44 | 3 |

4.4 Hypotheses testing

This research evaluated the stated hypotheses by using 5000 bootstrap samples during the bootstrapping procedure to determine the associations in the model. Figure 2 can be used to address all of the study hypotheses in a single model. From Table 7 it can be seen that the first research hypothesis confidence and perceptions positively influences the implementation of the 30% reservation scheme by PE is supported. It suggests that the null hypothesis is rejected. The association is significant (p -value<0.05) and suggests that as confidence and perceptions increase, there is a small positive increase in the implementation of the 30% reservation scheme. This also supports the findings that indicated the recognition of their inherent, though not utilized, potential and reinforces a feeling of confidence and independence on behalf of special groups when compared to reliance upon somebody else willfully acting in their interest (Osborne et al., 2003). Additionally, perceptions of defeat by special groups; and inferiority and reliance among special groups both individually and collectively, would mould their participation in procurement opportunities (Tesha and Nsimbila, 2022).

Moreover, the second hypothesis about the interaction between confidence and perceptions and E-procurement system implementation and usability as a function of implementation of 30% reservation scheme by PE was strongly supported. It suggests that the null hypothesis is rejected. There is a strong and statistically significant relationship (p -value<0.05), indicating that the interaction of CP and ESIU factors significantly affect the implementation of the reservation scheme, indicating a moderating or synergetic effect. This supports the study whereby they asserted that it has been established that a lack of knowledge among procurement officers, corruption, lack of awareness among special groups enterprises, a lack of knowledge of procurement procedures, and lack of confidence to undertaking government procurement opportunities (Mrope et al., 2017).

Also, the third hypothesis that E-procurement system implementation and usability positively influences the implementation of 30% reservation scheme by PE is very strongly supported. It suggests that the null hypothesis is rejected. This relationship is highly statistically significant (p -value<0.05) and has the largest path coefficient among the direct effects on IPE indicate ESIU is a strong predictor of the implementation of the reservations scheme. The findings are supported by journal article who tried to evaluate the role of electronic government procurement in service delivery in public sector, and found that, if implemented rightly, electronic government procurement systems contribute much in operationalization, efficiency effectiveness and transparency which basically supports implementation of preferential procurement schemes in public Sector (Kapambwe, 2024).

Furthermore, the fourth hypothesis that implementation of 30% reservation scheme by PE positively influences special groups involvement in public tendering opportunities is very strongly supported. It suggests that the null hypothesis is rejected. The relationship is highly statistically significant (p -value<0.05), suggesting that implementing the 30% reservation scheme directly influences the extent to which special groups are involved in public tendering opportunities.

To end with, the fifth hypothesis that technical readiness has a positive relationship with the implementation of 30% reservation scheme by PE is very well supported. It suggests that the null hypothesis is rejected. The association is strongly statistically significant (p -value<0.05) which means that technical readiness is positively associated with implementation of the 30% reservation scheme. Also, the literature reviewed supports the above findings it highlights the significance of technical readiness in the implementation of the preference and reservation procurement policy. For example, the special group organisation role of ICT infrastructure. To

clarify, technical readiness is compatible with ICT, and it can therefore be said to positively influence the implementation of the preferential procurement scheme (Owiti, 2018).

| Table 7 : Hypotheses testing | | | | | |
|------------------------------|-----------------|-------------|--------------------|--------------|----------|
| Hypotheses | Original sample | Sample mean | Standard deviation | T statistics | P values |
| (H1) CP -> IPE | 0.120 | 0.121 | 0.044 | 2.720 | 0.007 |
| (H2) CP x ESIU -> IPE | 0.081 | 0.080 | 0.021 | 3.871 | 0.000 |
| (H3) ESIU -> IPE | 0.257 | 0.258 | 0.033 | 7.689 | 0.000 |
| (H4) IPE -> SGI | 0.132 | 0.134 | 0.027 | 4.840 | 0.000 |
| (H5) TR -> IPE | 0.202 | 0.203 | 0.036 | 5.556 | 0.000 |

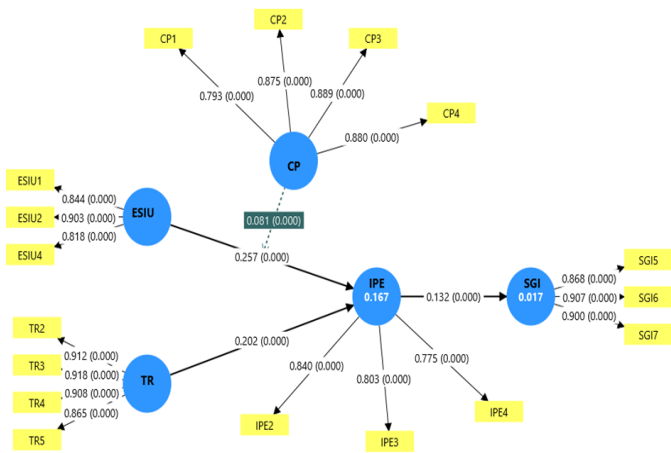


Figure 2 : Structural model

Source: Figure by Author

5. CONCLUSION, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

5.1 Conclusion

This study explored the factors that affect procuring entities' (PEs) ability to implement the 30% reservation scheme for special groups. It focused on confidence and perceptions (CP), e-procurement system implementation and usability (ESIU), and technical readiness (TR). The results showed that all five hypotheses that were tested to assess the conceptual model were significant. Confidence and perceptions were found to influence implementation positively, just as technical readiness was also related. The e-procurement implementation process was particularly strong predictor. The interaction, or system, demonstrates a synergistic effect of CP and ESIU, and implementing the reservation scheme significantly improved participation of special groups in public tendering. These findings emphasized the importance of addressing both technological and perceptual barriers when implementing policies for inclusive procurement.

5.2 Recommendations

In light of the findings, it is suggested that policy makers and those responsible for public procurement should focus on building the supporting technical infrastructure and confidence of its users based on e-procurement systems. Training and awareness initiatives should target both procurement officers as well as the special group enterprises in order to raise understanding and participation level. Furthermore, huge investment on VOICT through ICT infrastructure upgrades at the local government level will help address the obstacles in technical readiness of special groups. Additionally, the government should also set up ongoing monitoring and evaluation mechanisms to track the success of the scheme as well as establishment of documented evidence to inform potential changes to the existing 30% reservation scheme.

5.3 Suggestions for further studies

Subsequent studies could investigate the lasting effects of the 30% reservation scheme focused on the economic empowerment of special groups, which includes women, youth and persons with disabilities. Comparative analysis across various jurisdictions including countries and/or regions with the same or similar preferential procurement policies could also contribute to the cross-contextual understanding of best supported practices, as well as a better understanding and appreciation of the contextual challenges. Moreover, qualitative studies examining the livelihood status of special group owned businesses in public procurement systems could assist in understanding deeper behavioral and systemic impediments which would not necessarily be captured through quantitative data.

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