

# The interplay of social influence and top management support on suppliers' behavioural intentions in e-procurement usage

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## Abstract

*The advancement of information technology has revolutionised most aspects of public procurement, including the way suppliers are involved in public procurement opportunities. This study explores the link between social influence and behavioural intention in the usage of the National e-Procurement System of Tanzania (NeST) among suppliers. The study also examines the moderating effect of top management support (TMS) in the relationship between social influence and behavioural intention. Based on cross-sectional data collected from 447 small and medium-sized enterprise suppliers in Dodoma and Dar es Salaam through structured questionnaires and analysed quantitatively using partial least squares structural equation modelling (PLS-SEM), the study confirms the positive relationship between social influence and behavioural intention in e-procurement usage. Additionally, the study confirms that TMS strengthens the relationship between social influence and behavioural intention. Specifically, suppliers with a high level of TMS experience a greater effect of social influence on their behavioural intentions compared to those with a low level of TMS. Therefore, both social influence and TMS play significant roles in amplifying behavioural intention. These insights provide crucial implications for practitioners and policymakers who are involved in e-procurement, and academics interested in public procurement.*

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## 1. Introduction

Globally, public procurement, which refers to the acquisition of goods, works, and services by government bodies, has undergone several reforms in recent years (Górski, 2022; Križič, 2021; Mchopa et al., 2024). One notable reform is the utilisation of information technology (IT) in the procedures involved in public procurement functions. Consequently, there has been a notable surge in the usage of e-procurement systems (Shatta & Mabina, 2024; Zulkarnain et al., 2023). These e-procurement systems are crucial in enhancing the efficiency and effectiveness of public procurement functions. Furthermore, e-procurement systems have revolutionised the way public procurement functions operate. This is evident as digitalisation and automation of various procurement processes offer numerous benefits to multiple public procurement stakeholders, including buying organisations (procuring entities), suppliers, service providers, and the public at large (Lorentz et al., 2021; Pekolj et al., 2019). The necessity of revolutionising public procurement, particularly through increased usage of e-procurement systems, aligns with the evolving nature of business environments and the pursuit of sustainable development goals, which demand more efficient public procurement endeavours (Siwandeti et al., 2023).

In Tanzania, e-procurement systems have been implemented, with the previous system known as Tanzanian National e-Procurement System (TANePS) and the current one referred to as the National e-Procurement System of Tanzania (NeST) (Mchopa et al., 2024). The recent system, implemented since mid-2023, allows for almost all key procurement activities within public sector entities to be conducted through it, aiming to improve openness and effectiveness in public procurement endeavours [The United Republic of Tanzania (URT, 2023)]. The initiation of this system aims to address the demand from stakeholders in the public sector for robust mechanisms ensuring that funds disbursed in public procurement activities are effectively utilized and meet desired expectations (Muhozi, 2023). Currently, NeST hosts more than 20,000<sup>1</sup> tenderers responsible for conducting business with public organizations (procuring entities) across the country. This system uniquely facilitates e-procurement procedures including e-tendering, e-payment, e-contract management and e-auction, easing transactional processes between suppliers and procuring entities. The system is considered relevant for enhancing transparency

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and accountability, which are important aspects for improving procurement regulatory compliance and performance in the public sector (Masudio et al., 2024; Ntangeki et al., 2023).

While the introduction of NeST has enhanced usage of e-procurement systems in the country, behavioural intention regarding this specific system remain unexplored. Behavioural intention in e-system involve various factors influencing users' behaviours and decisions within electronic platforms (Ha, 2023). They encompass aspects of navigation and interaction that explain users' intention to utilise the system (Shatta, 2023). In this context, the utilisation of the e-procurement systems such as NeST by tenderers, particularly suppliers, may play a crucial role in enhancing interaction between procuring entities and suppliers in public procurement activities. Relevant authorities such as Public Procurement Regulatory Authority (PPRA), responsible for managing the system, have endeavoured to enhance the usage of NeST by both suppliers and buyers in compliance with relevant regulations (Muhozi, 2023). The decision of suppliers to engage in e-procurement systems hinges on the perceived benefits of conducting business with the government, but ultimately relies on their willingness to do so (Shatta, 2023; Siwandeti et al., 2021). Therefore, efforts are needed to encourage tenderers (suppliers) to engage with NeST to facilitate business transactions with procuring entities.

Existing literature suggests an increasing focus on behavioural intention research in several domains within the context of e-procurement systems (AboelMaged, 2010; Nandankar & Sachan, 2020), with specific focus in those deployed in the public sector (Shatta, 2023). These studies emphasize the importance of understanding behavioural intention in the utilisation and acceptance of e-procurement systems within the public sector. Furthermore, recent evidence demonstrates that social influence stands out as among the most extensively researched factors in explaining behavioural intention in various contexts (Misra et al., 2022; Strzelecki, 2023), including e-procurement systems (Shatta, 2023; Soong et al., 2020). These streams of empirical literature indicate that research on behavioural intention involving social influence as a predicting factor is particularly intriguing. While existing literature acknowledges the significance of social influence on behavioural intention (Shatta, 2023; Soong et al., 2020), there is a lack of research exploring the nuanced dynamics that interact with social influence within e-procurement systems to shape suppliers' decisions within e-procurement contexts. Understanding these interactions could offer valuable insights into the complexities of user behaviour and inform the design of more tailored and effective procurement systems.

This study explores the role of social influence on behavioural intention towards e-procurement usage among suppliers. Understanding this relationship is crucial for assessing whether social influence serves as a significant determinant in enhancing the usage intention of NeST among suppliers, who are key stakeholders in public procurement processes. Previous studies such as Shatta (2023), have been conducted on similar topics, particularly in Tanzania; however, these studies were based on the previous system, TANEPS, leaving the perception of suppliers towards the new system, NeST, largely unexplored. Furthermore, to extend existing literature on the link between social influence and behavioural intention, top management support (TMS) towards information technology (IT) is incorporated as a relevant factor that could potentially explain the conditions under which social influence affects behavioural intention. This is relevant as TMS is a recurring, critical factor for effective implementation of information systems (Boonstra, 2013; Sánchez-Rodríguez et al., 2020). Therefore, the study investigates the moderating effect of TMS in the relationship between social influence and e-procurement system usage intention among suppliers. This relationship is critical for contributing to the ongoing debate surrounding behavioural intention in the context of e-procurement systems, leveraging current data from suppliers involved with NeST, a new e-procurement system within the public sector context.

The remaining parts of this paper are organised into 5 parts. Part 2 entails the theory that underpins the study and an examination of existing literature, establishing the groundwork for our hypotheses. Next comes the methodology section in part 3, with part 4 delving into the study's results and discussion. Parts 5 in turn, draw conclusions and discuss the implications of the study, as well as limitations that provide avenues for future research.

## 2. Literature review and hypotheses

This section presents the theory of planned behaviour (TPB) as the foundational theory in the study and reviews of relevant literature in developing hypotheses so as to achieve the main objectives of the study.

### 2.1 Theory of planned behaviour

The TPB explains that behavioural intention to execute a given action are motivational factors that influence human behaviours (Ajzen, 1991). It has been widely used in social and behavioural research (Bosnjak et al., 2020), and postulates that individuals' motives and intention to perform a particular action are explained by subjective norms, perceived behaviour control, and attitudes towards a given

behaviour. Thus, these assumptions bolster the notion that human behaviour is guided by three categories of considerations: behavioural beliefs that are based on the likely consequences of the behaviour, control beliefs that are based on the presence of factors that might motivate or demotivate the execution of the behaviour, and normative beliefs which are beliefs regarding the normative expectations of others (Ajzen, 2012; Bosnjak et al., 2020). The TPB has been employed in this study as it assumes that behaviour is a planned action, thus predicting deliberate actions (Ajzen, 1991). Social influences, which relate to intention, encompass norms (others' perceptions of the behaviour) that are relevant in incorporating the pressures or support from others to execute the behaviour (Laranjo, 2016; Ravis & Sheeran, 2003; White et al., 2009). Hence, contextualising the current study, social influence may help explain suppliers' intention to use NeST, in the presence of social norms. This is pertinent as social influence provides the context within which subjective norms operate, thereby influencing individuals' intention. It is on this basis that the study assumes the role of social influence in enhancing behavioural intention among suppliers regarding the use of NeST.

## 2.2 Social influence and behavioural intention

Social influence refers to the circumstance in which a person's behaviour is influenced by the actions of others and the surrounding environment, including peers, family, friends, and community members (Razak et al., 2017; Strzelecki, 2023). When the surrounding community members have adopted and support the use of e-procurement systems, it positively affects the intention of organisations to adopt the system (Addy et al., 2023). This is because the more organisations link with a shared initiative through the experiences shared by peers, the more it interests other public organisations and stakeholders to adopt (Veit et al., 2011). Moreover, social influence, through peer and other business pressures, exerts a considerable effect on the adoption and usage level of electronic government procurement (Soong et al., 2020). Thus, it is expected that the behavioural intention regarding the usage of e-procurement among suppliers could be well explained by social influences. This is supported by the fact that social influence has been regarded as a direct determinant of behavioural intention (Venkatesh et al., 2012). It is important to acknowledge that the relationship between social influence and behavioural usage of e-procurement systems among Tanzanian suppliers has attracted a number of researchers in the domain (Shatta, 2023). However, the remaining evidence on the perceptions of suppliers regarding the new e-procurement system in Tanzania remains unexplored. This evidence on the new system is crucial, as current suppliers are obliged to use the system in order to conduct business with public entities (Mchopa et al., 2024; Myovela et al., 2023). Therefore, this study suggests the following:

H1: Social influence positively affects behavioural intention in e-procurement usage among suppliers.

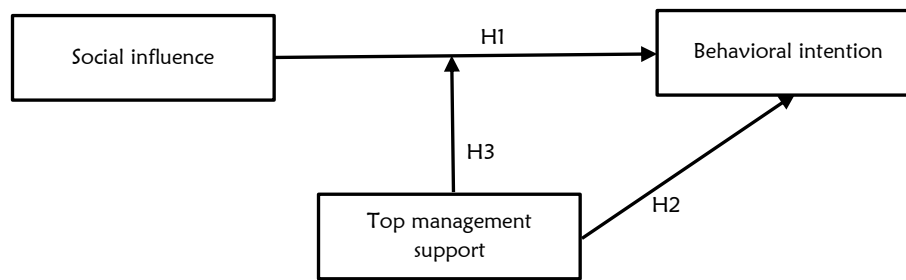
## 2.3 The moderating effect of top management support

In any given organization, top managers serve as the individuals responsible for determining the allocation of organizational resources and possess the ability to influence various human resource-related factors (Kumar et al., 2019). Their support significantly impacts e-procurement usage through multiple channels, including the acquisition and provision of IT infrastructure, influencing human capital readiness, providing staff training, and formulating internal policies and cultural values to enhance usage (Anyisile et al., 2023; Ofori & Fuseini, 2020; Sánchez-Rodríguez et al., 2020). Additionally, Masudin et al. (2021) emphasize that TMS plays a pivotal role in fostering a supportive environment and equipping organizations with resources for implementing IT innovation effectively. Building on this premise, the current study investigates the link between TMS and behavioural intention regarding e-procurement systems (NeST). Furthermore, the study examines the role of social influence on behavioural intention in the presence of TMS. Thus, this study contributes to the existing evidence by addressing the gap in research that explores the combining effect of these two variables on explaining behavioural intention in e-procurement system usage in Tanzanian context. In this context, the following hypotheses are worth investigating.

H2: TMS positively affects behavioural intention in e-procurement usage among suppliers.

H3: TMS strengthens the relationship between social influence and behavioural intention in e-procurement usage among suppliers.

## 2.4 The statistical model



**Figure 1.** The statistical model

Source: Figure by authors

## 3. Methodology

### 3.1 Research approach and design

This study relied on the quantitative approach that aims to test the hypothesised model (Figure 1) by considering social influence as a predicting variable, TMS (moderating variable) and behavioural intention in the usage of NeST as an outcome variable. The quantitative approach was crucial so as to determine the relationships as presented in Figure 1. On the other hand, cross-sectional research design was employed as data were collected only once from the selected respondents (Saunders et al., 2019). Cross-sectional data provide an efficient means of data collection, often necessitating fewer time and resources in contrast to longitudinal studies that track subjects over time (Hair et al., 2020). Their flexibility enables researchers to capture a momentary snapshot of a population. Moreover, cross-sectional data serve as valuable tools for generating initial insights, laying the groundwork for further research and investigation into the relationships between variables (Changalima et al., 2024). In this regard, the combination of quantitative approach and cross-sectional design was relevant to meet the main purposes of the current study.

### 3.2 Sample and data collection

The study involved suppliers as the unit of analysis, representing small and medium-sized enterprise (SME) suppliers engaged in business transactions with procuring entities. These SME suppliers were included in the study due to evidence indicating their significant presence as external stakeholders in public procurement contexts, conducting business with the government through public procurement channels (McKevitt & Davis, 2015; Siwandeti et al., 2021). Specifically, data were collected from two regions of Tanzania, namely Dodoma and Dar es Salaam. These regions were purposefully selected due to their substantial representation of urban-registered suppliers engaged in transactions with procuring entities. A total of 447 SME suppliers, who have prior experience in public procurement undertakings with respective procuring entities, participated in the study. Their prior experience was assessed based on the number of tenders that a given supplier has bid on in any advertised public procurement opportunities within the country.

The SME suppliers were randomly selected from the two regions, resulting in a final sample size of 196 SME suppliers from Dodoma and 251 SME suppliers from Dar es Salaam. Specifically, the study employed simple random sampling, ensuring that every SME supplier in Dodoma and Dar es Salaam had an equal chance of being selected. This was facilitated by using a random number generator, which eased the selection process. The selected suppliers had each bid on at least one tender in an advertised public procurement opportunity. Post-hoc analysis using G\*Power software indicated that a statistical power of 0.99 was achieved with a given effect size of 0.15,  $p = 0.05$ , and a single predictor. The final sample size of 447 was deemed relevant, as the achieved power of 0.99 exceeds the recommended value of 0.8 for obtaining desired results (Cohen, 1988; Faul et al., 2009; Kang, 2021).

Data were collected from managers through structured questionnaires distributed physically to selected SME suppliers in both regions. SMEs' managers were engaged in the study, given their pivotal role in overseeing the operations of their respective enterprises, particularly in the context of bidding procedures for advertised public procurement opportunities (Ismail & Changalima, 2022). Structured questionnaires are crucial for enhancing the standardization of responses, which is essential for facilitating quantitative analysis, thus aligning with the study's objectives. Furthermore, structured questionnaires enable researchers to systematically gather specific information (Hair et al., 2020), ensuring consistency

in the data collected across SMEs' managers. This standardized approach enhances the reliability and validity of the study's findings, allowing for more robust statistical analysis and interpretation. Additionally, structured questionnaires provided a clear framework for SMEs' managers, guiding them through the survey process and minimizing ambiguity in their responses. This methodological rigor enhanced the overall quality of the data collected and strengthens the credibility of the research findings.

### 3.3. Measurements

The study employed previously validated scales to measure its constructs (see Appendix 1). Social influence was measured using three items adopted from Venkatesh et al. (2012), as recently utilized by Strzelecki (2023). It should be noted that these studies were conducted in different contexts, such as mobile internet (Venkatesh et al., 2012) and ChatGPT (Strzelecki, 2023). Consequently, modifications were made to reflect the use of NeST as an e-procurement system facilitating supplier participation in public procurement in Tanzania. Similarly, slight modifications were made to accommodate the context of the country's e-procurement system (NeST) in measuring behavioural intention towards using NeST. Three items adopted from Strzelecki (2023) and Venkatesh et al. (2012) were employed to measure behavioural intention. Furthermore, TMS was measured using three items from Sánchez-Rodríguez et al. (2020). These items were relevant as they directly measure the support from top management towards IT, which directly supports e-procurement usage as conceptualised in the current study. The detailed measures used in this study are presented in Appendix 1, and all measures were rated on a five-point Likert scale from 5 (completely agree) to 1 (completely disagree). The measures underwent pilot testing initially with 30 SMEs' managers who had received training on the application of NeST, as offered by the PPRA and possessed knowledge of its use. The results from the pilot study supported the reliability and validity of the measures, thus a full-scale study was conducted with other selected SMEs' managers.

### 3.4 Data analysis

Partial least structural equation modelling (PLS-SEM) was utilised as a second-generation quantitative analysis method in business research. PLS is a composite-based approach to SEM, wherein constructs are represented as weighted sums of indicators (Hair et al., 2017; Hauff et al., 2024). The decision to use PLS-SEM in data analysis stems from its robustness in examining hypothesized models through bootstrapping procedures, which yield more reliable results. PLS-SEM possesses the capability to analyse relationships among latent and observed variables (Guenther et al., 2023). The study encompassed constructs such as social influence, TMS, and behavioural intention towards e-procurement usage as latent variables, each comprising three observed variables. Analysis was conducted using SmartPLS 4, which is well-suited for running PLS-SEM due to its standardized interface that facilitates both measurement and structural model analysis with ease (Ringle et al., 2024). The PLS-SEM has been widely used for a number of reasons including its robustness with small sample sizes (Hair et al., 2019), its ability to handle complex models with latent variables, its non-parametric nature which makes fewer assumptions about data distribution (Guenther et al., 2023), its suitability for exploratory research (Hair et al., 2019), and usefully when the focus is on prediction rather than explanation, making it a valuable tool in fields such as marketing (Guenther et al., 2023), management (Shela et al., 2023), and procurement and supply chain management (Changalima, 2024; Cheah et al., 2023; Shatta, 2023) where predictive modelling is crucial as evidenced from current studies.

### 3.5 Common method variance

Like previous studies that have collected data from a single person for each survey questionnaire, common method bias (CMB) potentially exists in the collected data. In this study, data were gathered from SMEs' managers responsible for providing information on the study's main constructs. Therefore, the likelihood of CMB potentially exists. To address this concern, the study implemented measures to assess whether CMB was a problem. Two procedures were employed: a Harman single factor test was done to ascertain whether more than 50% of the variance was explained by a single factor in the model. The study found that approximately 40.14% of the total variance was explained by a single factor, which is below the 50% threshold. Thus, CMB did not pose a concern on study's findings (Podsakoff et al., 2003). Additionally, the values of the variance inflation factor (VIF) in the inner model were less than 3.3 as presented in the structural model results, indicating that CMB was not a significant concern and did not substantially affect the study's results (Kock, 2015).

## 4. Results and discussion

### 4.1 Measurement model assessment

The first phase of the analysis involved the assessment of the measurement model to determine the reliability and validity of measures employed in this study. In the first place, the indicator's VIF was assessed for collinearity. The findings reveal that the VIF for each indicator is less than 5 as presented in Table 1. These results indicate that collinearity is not a significant issue in the current study, specifically in the measurement model (Becker et al., 2023; Guenther et al., 2023). The results reveal that indicator reliability was achieved, as loadings for all items involved in the study were above 0.708, which is considered acceptable (Hair et al., 2019; Ringle et al., 2023). Additionally, Cronbach's coefficients for each construct included in the study are above 0.7, supporting the achievement of internal consistency reliability (Tavakol & Dennick, 2011). These findings are further supported by the values of composite reliability (CR), which are all above 0.7 (Hair et al., 2010; Ringle et al., 2023), as presented in Table 1. Furthermore, construct validity was achieved as the assessment in the measurement model supports both convergent and discriminant validity. Average variance extracted (AVE), as presented in Table 1, support the achievement of convergent validity as they are above 0.5 (Guenther et al., 2023; Hair et al., 2010), indicating that more than 50% of the variance in the observed variables is accounted for by the underlying constructs.

**Table 1.** Measurement model results on reliability and convergent validity

Construct	Loadings	VIF	Cronbach's alpha	CR	AVE
<i>Social influence</i>	-	-	<i>0.861</i>	<i>0.907</i>	<i>0.711</i>
SI1	0.916	3.810			
SI2	0.847	2.621			
SI3	0.715	1.452			
SI4	0.881	2.612			
<i>Top management support</i>	-	-	<i>0.914</i>	<i>0.935</i>	<i>0.744</i>
TMS1	0.895	3.372			
TMS2	0.817	2.158			
TMS3	0.890	3.264			
TMS4	0.871	2.868			
TMS5	0.836	2.647			
<i>Behavioural intention</i>	-	-	<i>0.845</i>	<i>0.890</i>	<i>0.619</i>
BI1	0.843	2.073			
BI2	0.709	1.447			
BI3	0.769	1.704			
BI4	0.800	1.863			
BI5	0.807	2.016			

**Source:** Table by authors

Furthermore, discriminant validity, which entails ensuring that constructs in a research model are distinct from one another, is crucial in PLS-SEM as it ensures that the measures used to represent different constructs are not measuring the same underlying concept. To assess discriminant validity, three commonly used techniques were employed in this study (Ab Hamid et al., 2017; Henseler et al., 2015; Ringle et al., 2023). The results in Table 2 and 3 show that all techniques (HTMT, Fornell-Larcker criterion, and cross-loadings) support the achievement of discriminant validity. Specifically, the HTMT matrix shows that all values are less than 0.85, indicating that the correlations between constructs are lower than the threshold suggested by existing evidence (Ringle et al., 2023).

**Table 2.** HTMT matrix

HTMT matrix				
Construct	BI	SI	TMS	TMS*SI
BI				
SI	0.269			
TMS	0.502	0.417		
TMS*SI	0.029	0.476	0.304	

**Source:** Table by authors

Additionally, the Fornell-Larcker criterion demonstrates that the diagonal values (see Table 3), which represent the square root of AVE, are greater than the correlations between constructs (Ab Hamid et al., 2017; Fornell & Larcker, 1981), further confirming discriminant validity. Moreover, cross-loadings analysis (see Table 3) reveals that items load more strongly on their respective constructs compared to other constructs (Ab Hamid et al., 2017; Ringle et al., 2023), providing additional evidence for the distinctiveness of the constructs.

**Table 3.** Fornell-Larcker criterion and cross loadings

Fornell-Larcker criterion			
Construct	BI	SI	TMS
BI	0.787		
SI	0.230	0.843	
TMS	0.452	0.364	0.862
Cross loadings			
Item	BI	SI	TMS
BI1	0.843	0.155	0.440
BI2	0.709	0.209	0.322
BI3	0.769	0.224	0.307
BI4	0.800	0.191	0.355
BI5	0.807	0.129	0.337
SI1	0.219	0.916	0.305
SI2	0.175	0.847	0.225
SI3	0.167	0.715	0.408
SI4	0.208	0.881	0.303
TMS1	0.448	0.284	0.895
TMS2	0.371	0.359	0.817
TMS3	0.415	0.330	0.890
TMS4	0.388	0.308	0.871
TMS5	0.300	0.297	0.836

**Source:** Table by authors

#### 4.2 Structural model assessment

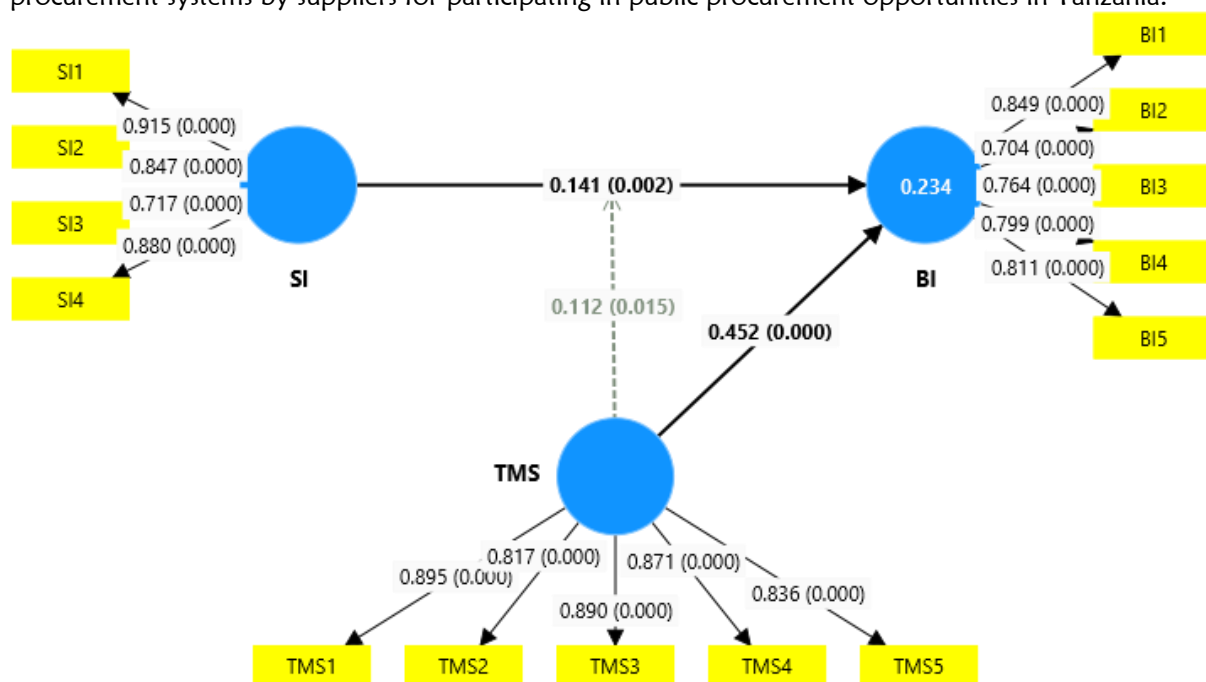
The structural model assessment was conducted subsequent to the successful establishment of reliability and validity of the utilized measures in the measurement model results. The study presents the structural model results by considering crucial dimensions in this phase, such as collinearity assessment, path coefficients, significance of relationships, and predictive relevance, as recommended in PLS-SEM literature (Hair et al., 2019; Ringle et al., 2023). Initially, VIF in the inner model are 1.347, 1.180, and 1.271 for the relationships between social influence and behavioural intention, TMS and behavioural intention, and the moderating effect on the link between TMS and behavioural intention, respectively. These results support the notion of no multicollinearity concerns that could affect the study's findings (Hair et al., 2019). The model achieved predictive relevance, as the  $Q^2$  value for assessing the model's predictive relevance was 0.202, which is above zero, supporting the achievement of the predictive relevance in the final model (Hair et al., 2019).

Furthermore, the structural model supports the relevance of all indicators included in the study, as indicated by their statistical significance achieved through bootstrapping procedures (Chin, 1998; Guenther et al., 2023). The findings on the hypothesized model were analysed after running bootstrapping procedures in SmartPLS 4, which are essential for testing the relationships and examining the effect size ( $f^2$ ) for each relationship. Thus, the results were presented by considering p-values, beta coefficients, t-statistics, and  $f^2$  (Ringle et al., 2023). To provide comprehensive findings, the study presents results from three models. Model 1 presents the direct effects without the moderator, while Model 2 includes both the predicting and moderating variables, without testing the moderating effects. The final model (model 3) incorporates all variables and tests the moderating effects (see Figure 2). These results are presented in Table 4. It should be noted that the  $R^2$  values in all models support the predictive role on the outcome variable. The value of 0.234, as presented in Figure 2 and Table 4, signifies a variance of about 23.4% in the outcome variable (behavioural intention in the usage of e-procurement). This variance is contributed by social influence, TMS, and the interaction effect (TMS\*SI) in the structural model.

With respect to H1, the findings in Table 4 demonstrate that social influence and behavioural intention are positively and significantly related ( $\beta = 0.141$ ,  $p = 0.002$ ,  $t = 2.936$ ) with small effect ( $f^2 = 0.02$ ). These results are presented in the final model (model 3) which supports H1, which corresponds with those in model 1 (without the moderating effect). The study's findings imply social influence plays a significant role in determining suppliers' behavioural intention to use NeST, the e-procurement system in Tanzania. This suggests that the attitudes and behaviours of their peers and colleagues have an impact on whether suppliers choose to use the system or not. This finding is important because it highlights the importance of social factors in encouraging the adoption and usage of e-procurement systems among suppliers in Tanzania. The findings corroborate Shatta (2023), who identified social influence as a determinant for enhancing usage of e-procurement systems in Tanzania. However, unlike Shatta (2023),

the current study presents evidence based on the newly implemented e-procurement system. This evidence on the new system is relevant, as user experiences vary across electronic platforms.

Regarding H2, the findings reveal that TMS plays a crucial role in influencing suppliers' behavioural intention regarding the usage of e-procurement systems. Specifically, the results indicate a positive and significant relationship between TMS and behavioural intention ( $\beta = 0.452$ ,  $p < 0.01$ ,  $t = 7.865$ ), with a notable effect size ( $f^2 = 0.226$ ). These results are consistent across both Model 2 and Model 3, affirming the importance of TMS in enhancing suppliers' intention to engage with e-procurement systems. This consistency reaffirms the significance of organizational leadership in fostering a conducive environment for IT adoption among suppliers. By providing consistent support and endorsement, top management can effectively encourage suppliers to engage with e-procurement platforms, ultimately enhancing desired outcomes from the participation in public procurement processes. The results corroborate (Sánchez-Rodríguez et al., 2020), who found a positive and significant relationship between TMS on e-procurement usage among SMEs. Also, Marei (2022) supports the current study's findings, as the study establishes that TMS is crucial in enhancing e-procurement usage. However, the current study uniquely provides evidence on the link between TMS and the behavioural intention regarding the usage of e-procurement systems by suppliers for participating in public procurement opportunities in Tanzania.



**Figure 2.** The structural model

**Source:** Figure by authors

Lastly, the study hypothesized H3, which suggests that TMS strengthens the relationship between social influence and behavioural intention regarding e-procurement usage among suppliers. The results in Model 3 support this hypothesis, revealing a significant moderating effect of TMS ( $\beta = 0.112$ ,  $p = 0.015$ ,  $t = 2.166$ ), with a small effect size ( $f^2 = 0.032$ ) (Cohen, 1988). These findings indicate that TMS acts as a positive moderator of the relationship between social influence and behavioural intention among suppliers. The significance of this moderating effect emphasises the crucial role of TMS in shaping suppliers' responses to social influence and their subsequent behavioural intention towards e-procurement systems. In essence, TMS serves to enhance the impact of social influence on suppliers' intention to engage with e-procurement platforms. This suggests that when suppliers perceive strong backing and endorsement from top management in IT matters, they are more likely to respond positively to social pressures from their peers and colleagues regarding e-procurement usage. These findings are supported by existing studies that establish the moderating effect of TMS in the context of e-system usage, along with other predicting variables (Kagoya & Mbamba, 2021; Marei et al., 2021). Nevertheless, the current study uniquely provides evidence on the moderating role of TMS on the link between social influence and behavioural intention related to the usage of e-procurement among suppliers, specifically for participating in public procurement opportunities.

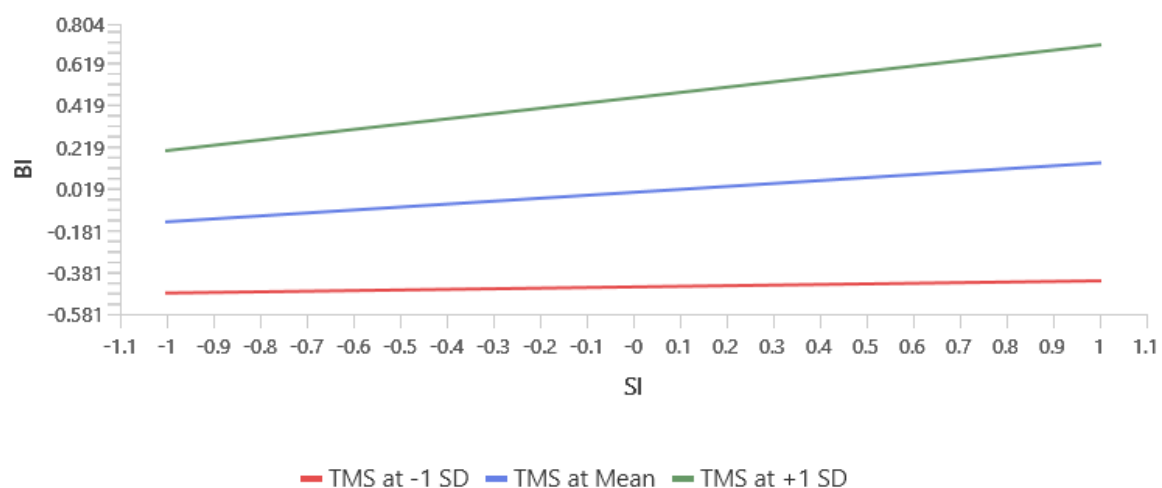


**Table 4.** Structural model

Relationships	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values	LLCI	ULCI	R <sup>2</sup>
<b>Model 1 (social influence on behavioural intention)</b>								
SI -> BI	0.241	0.252	0.048	5.044	0.000	0.175	0.332	0.058
<b>Model 2 (social influence and TMS on behavioural intention)</b>								
SI -> BI	0.072	0.076	0.061	1.181	0.119	-0.024	0.175	0.210
TMS -> BI	0.426	0.431	0.052	8.130	0.000	0.344	0.516	
<b>Model 3 (The moderating effect of TMS)</b>								
SI -> BI	0.141	0.145	0.048	2.936	0.002	0.068	0.224	0.234
TMS -> BI	0.452	0.456	0.057	7.865	0.000	0.359	0.550	
TMS*SI -> BI	0.112	0.106	0.051	2.166	0.015	0.016	0.185	

**Source:** Table by authors

The findings depicted in Figure 3 demonstrate the slope plotting, revealing the moderating effect of TMS in the relationship between social influence and behavioural intention towards the use of national e-procurement in response to public procurement opportunities. The findings indicate that at a low level of TMS (red line), the impact of social influence on behavioural intention towards the use of NeST is weaker. The results, illustrated with a red line, suggest that suppliers with a low level of TMS experience minimal effects of social influence on enhancing the utilization of NeST as an e-procurement system. Conversely, the green line indicates that the effect of social influence on behavioural intention towards the use of NeST among suppliers is stronger when TMS is at a high level. These findings imply that TMS serves as a positive moderator, strengthening the link between social influence and behavioural intention regarding the use of e-procurement system.



**Figure 3.** Slope plotting for showing moderating effect

**Source:** Figure by authors

## 5. Conclusion and implications

### 5.1 Conclusion

The study developed and tested a research model that includes the relationship between social influence and behavioural intention regarding the usage of NeST, an e-procurement system in Tanzania, among suppliers. The model also incorporated TMS as a moderating variable. The findings of this study underscore the significant role of social influence and TMS in shaping e-procurement system usage intention among suppliers in Tanzania. It is evident that both social influence and TMS positively influence suppliers' willingness to utilize NeST, the national e-procurement platform. Furthermore, the study reveals that TMS strengthens the impact of social influence on NeST usage intention among suppliers. This suggests that when suppliers receive strong backing from their management in IT matters, they are more inclined to embrace NeST, especially when influenced by their peers and colleagues. These conclusions highlight the intertwined nature of social and organizational factors in driving e-procurement system usage and underscore the importance of fostering supportive environments for IT utilization within SME suppliers.

### 5.2 Theoretical implications

The study relies on the TPB to explore the behavioural intention of suppliers regarding the use of NeST, an e-procurement system for bidding in public procurement opportunities. This is relevant by incorporating the implications of TPB in exploring e-procurement usage intention. Conversely, this study contributes to different streams of literature that have focused on the adoption and usage of e-procurement in various contexts. It adds to the local literature that has examined determinants of e-procurement usage and adoption (Mushi & Nsimbila, 2022; Myovela et al., 2023; Shatta et al., 2020; Siwandeti et al., 2021). The study uniquely provides evidence on the behavioural intention regarding the usage of NeST, a newly implemented e-procurement system within Tanzania, by linking it to social influence as one of the crucial determinants of e-procurement usage. This extends the findings of Shatta (2023), which provided evidence on the previously used e-procurement system (TANePS). The current study extends the moderating role of TMS in the relationship between social influence and the usage of e-procurement among suppliers for effective participation in public procurement opportunities. This is relevant, as studies have shown the moderating role of TMS in explaining e-government implementation with user attributes as predicting variables (Kagoya & Mbamba, 2021), and the moderating effect of TMS on the link between organizational readiness and e-procurement usage (Marei et al., 2021).

Generally, the current study represents a pioneering investigation into the dynamics surrounding the utilisation of NeST among suppliers in Tanzania, notably by examining the effect of social influence and the moderating role of TMS on behavioural intention. This unique approach sheds light on previously unexplored aspects of e-procurement system usage within the Tanzanian context. By scrutinizing the interplay between social influence and TMS, the study offers valuable insights into the nuanced mechanisms that shape suppliers' intention to engage with NeST. Such findings hold significant implications for practitioners and policymakers seeking to enhance the effectiveness of e-procurement initiatives in Tanzania and beyond. Moreover, by identifying these key determinants, the study lays the groundwork for future research endeavours aimed at further elucidating the multifaceted factors influencing the adoption and usage of e-procurement systems within diverse socio-economic contexts.

### 5.3 Practical implications

The study offers some practical implications, as it has been evidenced that social influence significantly determines behavioural intention regarding the usage of NeST, the e-procurement system in Tanzania. This evidence is crucial, as social influence contributes to the notable efforts aimed at enhancing the e-procurement system usage among SME suppliers within the country. Currently, there are ongoing efforts to encourage SME suppliers engaging in public procurement opportunities through various means such as training provided by PPRA. The study contributes to these efforts by highlighting the importance of fostering positive social influence and support from top management, which may enhance SME suppliers' participation in public procurement. Consequently, NeST, a platform designed to streamline government procurement processes and enable vendors to access procurement opportunities, submit bids electronically, and participate in the government procurement process more efficiently, can be effectively utilized by suppliers through social influence and TMS. This is possible as the combination of the two factors have been found to be relevant for enhancing usage of e-procurement system (NeST) among suppliers.

### 5.4 Policy implications

The effective integration of social influence and TMS within policy frameworks emerges as a critical avenue for advancing the adoption and utilization of IT among suppliers, particularly within the context of e-procurement systems such as NeST. To achieve this integration, guidelines and best practices can be developed to leverage social influence and TMS within local SME suppliers, thereby fostering the optimal utilization of e-procurement platforms. Also, capacity-building initiatives may be instituted to empower SMEs in harnessing the synergistic influence of social influence and support towards IT initiatives. Policy interventions should prioritize the enhancement of access to NeST and similar e-procurement systems among suppliers, with a particular emphasis on SMEs. This can be achieved through initiatives aimed at improving digital infrastructure and expanding internet connectivity, especially in remote or underserved areas. Conversely, tailored training programs which are currently provided by PPRA should be expanded more to equip suppliers with the requisite skills to navigate and utilize e-procurement platforms effectively. Therefore, by strategically leveraging social influence and TMS towards IT adoption and utilization, coupled with efforts to enhance access and provide comprehensive training, policymakers can facilitate the widespread uptake of e-procurement technologies, thereby fostering greater efficiency and transparency in public procurement processes.

### 5.5 Limitations and future research

The study relied on data collected from SME suppliers located in Dodoma and Dar es Salaam, underscoring the need for further sampling across a diverse array of suppliers from additional regions. Expanding the sample to encompass a broader geographical scope would enhance the generalizability and representativeness of the findings. Furthermore, the study adopts a cross-sectional approach, acknowledging that data characteristics may vary over time. So, future research could benefit from including longitudinal data to capture relevant variations and provide deeper understanding into the dynamics of e-procurement system usage among SME suppliers. Though the study provides valuable insights into this specific aspect, there exists potential for further inquiry into supplier satisfaction with the usage of NeST. Extending the model to include satisfaction levels would provide a more comprehensive understanding of SME suppliers' experiences and perceptions regarding the e-procurement system.

Furthermore, the study's conceptual model presents behavioural intention within a specific context, yet acknowledges the presence of other factors that may exert influence. These factors could be derived through application of other relevant theoretical models. Hence, in view of other factors such as performance expectancy, effort expectancy, facilitating conditions, hedonic motivation, price value, and habit as defined from unified theory of acceptance and use of technology (UTAUT) (Strzelecki, 2023; Venkatesh et al., 2012), may be included in the research model. Also, the TPB includes three main components which are attitude, subjective norms, and perceived behavioural control (Ajzen, 1991, 2012), which could be fully tested in the current research model. Additionally, perceived benefits and prior experience in government bidding could serve as significant determinants that warrant consideration in future research. By incorporating these variables and other potential mediators or moderators, future studies could refine and enrich the hypothesized research model, thereby advancing our understanding of the complex interplay between individual and contextual factors in shaping e-procurement system usage among suppliers.

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## Appendix 1. Measurement items

Constructs and items	Sources
<p><i>Social influence</i></p> <ul style="list-style-type: none"> <li>• <b>SI1:</b> People who are important to me think I should use NeST.</li> <li>• <b>SI2:</b> People who influence my behaviour believe that I should use NeST.</li> <li>• <b>SI3:</b> People whose opinions I value prefer me to use NeST.</li> </ul>	Venkatesh et al. (2012) and Strzelecki (2023)
<p><i>Top management support</i></p> <ul style="list-style-type: none"> <li>• <b>TMS1:</b> The support of top management was decisive in providing the financial resources needed to implement purchasing management IT tools.</li> <li>• <b>TMS2:</b> Top management considers the adoption and use of IT tools (including electronic procurement) as a priority in our firm.</li> <li>• <b>TMS3:</b> Top management considers that our firm must adapt itself to the new IT trends</li> </ul>	Sánchez-Rodríguez et al. (2020)
<p><i>Behavioural intention</i></p> <ul style="list-style-type: none"> <li>• <b>BI1:</b> I intend to continue using NeST in the future.</li> <li>• <b>BI2:</b> I will always try to use NeST in my studies.</li> <li>• <b>BI3:</b> I plan to continue to use NeST frequently.</li> </ul>	Venkatesh et al. (2012) and Strzelecki (2023)