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TECHNOLOGICAL FACTORS INFLUENCING VENDORS' PARTICIPATION IN PUBLIC ELECTRONIC PROCUREMENT SYSTEM IN ILALA, TANZANIA

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ABSTRACT
Tanzania is among countries which adopted and implemented an Electronic Procurement System (EPS) in their procurement operations. However, little attention has been given on technological factors that influence vendors' participation in public electronic procurement system (PEPS). This study examined technological factors influencing vendors' participation in PEPS. Ilala District was chosen as a study area and research design was cross-sectional. Simple Random sampling technique and purposive sampling technique were used to select 300 respondents and three key informants respectively. Qualitative and Quantitative data were collected through Key Informants Interviews (KIIs) guide and structured questionnaire respectively. Structural Equation Modelling (SEM) and content analysis were used for quantitative and qualitative data analysis respectively. The study found technological factors like information transparency, creativity and innovation, data quality and management, system integration, data security;computer and IT literacy were significant at p-value<0.001. Therefore the study concluded that, technological factors have influence on the vendors' participation in PEPS. The Study recommends to Public Procurement Regulatory Authority (PPRA) to consider oversee significant technological factors (like data management, data quality, information transparency and security) for attracting vendors to participate in the system. PPRA should maximise privacy on sensitive data and allow access by levels for operation purpose only.

Keywords:*Participation, Public e-Procurement, Technological Factors, Vendors*
Paper type*: Research paper*
Type of Review: *Peer Review*

1. INTRODUCTION

The world has witnessed the massive discovery and changes in technology invention which stem from the uses of internet in business operation. The use of technology in this digital era has never been underemphasised since it plays a pivot role in almost everyone's life and organisations activities (Shatta

et al., 2020; Alomar and De Visscher, 2017). Adoption of internet stimulates business and embraced e-procurement, where public institutions have been applying it in innovative ways to deliver services and improve procurement performance (Chebii, 2016; Choi *et al.,* 2016; Nwankpa 2015). The term e-procurement in this study used to describe the use of electronic methods, typically over the internet to conduct transactions between awarding authorities and vendors. E-Procurement was introduced by the government with the essence to save the public needs electronically. It aimed to save in timely and transparent manner, improved productivity, better service delivery, elimination of bureaucracy and cost savings (Mahuwi and Panga, 2020; Gasco *et al.,* 2018; Rodriguez and Trujillo, 2014). Moreover, the study of Lewis-Faupel *et al.* (2016) advocated that adoption of e-procurement aimed at reducing procurement time, costs as well as providing sound administrative processes and full engaged vendor's participation. E-procurement developed through different stages as per technology advancement and time from purely traditional procurement to a lastly stage where internet platforms replaced traditional procurement and everything done via integrated electronic systems due to organisation e-readiness (Choi *et al.,* 2016).

Competitive institutions are conducting business-to-business e-procurement, with focus in lowering costs, where procurement transactions in some countries estimated to account for 10% to 30 % of the respective country's Gross Domestic Product (Mwemezi, 2015; Mohamed, 2013). Studies like Belokrylov (2017) and Bahaddad *et al.* (2015) show factors which hinder' vendors from participating in public e-procurement system which are partnership scarcity, resource indivisibility, institutional environments, Poor knowledge on Informational Technology (IT), financial resources and technological incapacity. Furthermore, studies done by Gasco *et al.* (2018); Sarpong *et al.* (2017) and Makoba and Eliufoo (2017) discovered more others barriers for participating in e-procurement like poor legal environment, IT infrastructure, human capital, unreliable power supply and security risks. Moreover, suppliers' readiness on the use of e-procurement results in ultimate improved public service delivery, computer self-efficacy, information transparent and accountable government (Mutangili, 2019; Mensah, 2019). Therefore, regardless of barriers highlighted, vendors' participation public e-procurement system (PEPS) is still un-avoidable and must be nurtured.

Despite the significant role of e-procurement in government funded projects, vendors participated in this public e-procurement systems in capturing procurement opportunities, particularly in developing countries is still low (Aduwo *et al.,* 2016) where Tanzania has no exception on this ground. Thepublic procurement process still employs a paper-system with maverick buying by approving non-qualified suppliers due to lack of reasonable number of suppliers to compete against each other (Uromi, 2014). For the sake of attracting more vendors to participate in the system, the current study adopted technological acceptance drivers IT infrastructure, trust, security, computer and IT skills, IT benefits, data quality, creativity and innovation and data management (Mchopa, 2020; Shouran *et al.,* 2019; Belokrylov, 2017) to examine their influence for vendors' participation in the system. Therefore, this study examined technological factors influencing vendors' participation in PEPS. Specific objectives (i) Ranking technological factors toward vendors' participation in public e-procurement system (ii) Examine technological factors influencing vendors' participation in PEPS.

2. THEORIES GUIDING THE STUDY

2.1 Resource Base View (RBV)

Resource Based View (RBV) as per Barney (2001), analyse and interpret resources of the organisations on how can be applied to achieve sustainable competitive advantage. This study used RBV theory as the base of technological resources required by vendors for participation public e-procurement system, the main two assumptions of RBV are: (i) Organisation resources may differ between industry (ies) (ii) There are no perfectly mobility of resources across organisations, so it can be a long lasting on organisation's

resources differences (Barney, 2001). Resources are valuable when they help an organisation to implement strategies that improve its efficiency and effectiveness. Resources are rare when more organisations want the resources than being able to obtain it. Resources are inimitable and non-substitutable when they are immobile and expensive to imitate or replicate, examples of resources (tangible or intangible form) are skills and ability (Computer and IT literacy), technology (data, software and hardware), capital (IT infrastructures), procedures (information transparency) and process (security enhancement) (Newbert, 2007). From these grounds, the current study termed computer and IT skills, security, information (data), and capital for infrastructure as the technological resources examined to document their influence on vendors' participation in PEPS. Nevertheless, the RBV criticised as tautological, the principal role of product markets is underdeveloped due to limited prescriptive implications (Priem and Butler, 1996; Collis, 1994). Therefore, TAM model by Davis (1989) was adopted to neutralize the criticism.

2.2 Technology Acceptance Model (TAM)

This model was postulated by Davis(1989) and widely used in the study for individual's adoption of technology. TAM argues the perceptions and individuals' beliefs about use and attitudes towards the technology, which determine the intention to adopt or not to adopt an innovation. Regardless of TAM introduced in 1989, it is still being employed in various Information system (IS) adoption studies (Jeyaraj *et al.*, 2006). The model is mostly used to examine factors influencing individual acceptance of a technology. Han (2003) argues that, TAM is empirically adopted in various IS innovation studies from database systems, communication technologies to Internet-based services (electronic procurement system inclusive). The two attributes under TAM, namely perceived usefulness (PU) and perceived ease of use (PEOU). PEOU is defined as whether the use of the information system will be free from effort by the user (termed as full integration, computer and IT literacy) and on the other hand, PU is referred to as whether the user's job performance will be enhanced when the system is employed (termed as quality of data, security, informational transparency and data management) (Davis, 1989). Scholars from numerous empirical studies tested TAM, and their results were consistency and reliable hence confirms the validity of the theory, therefore TAM fit the current study on technological factors influencing vendors' participation in public e-procurement system as the new technology in a working environment (Brandon-Jones and Kauppi, 2018; Mayasari *et al.*, 2017; Ashrafi *et al.*, 2014). For the current study, TAM combined with RBV theory in order to supplement what was missing as a basic need for the individual to have full capacity of adopting the technology by vendors' participation in PEPS.

3. **METHODOLOGY**

The study area was Ilala District, Tanzania. The District chosen has a total number of 1110 vendors who were eligible to participate in public e-procurement system out of 9740 vendors' countrywide counts (11.4%) (URT, 2018). Eligibility came from the fact that, they applied to trade with government and pre-qualified by Government Procurement Services Agency (GPSA). The research design was cross-sectional. This research design was adopted due to its ability to support data collection with variable interaction at once (Saunders *et al.*, 2012). The design also allows the use of a variety of analytical techniques, and use of different methods for data collection (Creswell, 2014; Flick, 2011). Thesample size of 300 respondents (vendors) was used in this study. Theminimum sample size estimated by using Cochran' (1977) formula for finite population:

$$n = \frac{no}{1+(no-1)/N} = \frac{384}{(1+384)/1110} = 286 \quad \ldots\ldots (1)$$

Where: n=sample size calculated, n_o=standard sample size from infinite population, N=Population

This is how n_0 obtained from infinite population:

$$n_0 = \frac{z^2pq}{e^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384 \quad \text{(2)}$$

Where n_o=Infinite sample size,p=estimated proportion of attribute, z=selected critical value, q= 1-p, e level of precision. Assuming p=0.5, taking confidence level as +0.5, p=0.5, q=1-0.5=0.5, z=1.96, e=0.05.

The study adopted simple random sampling technique to select vendors as obtained from online register available at GPSA in framework agreement contract in the Financial Year 2018/2019. The sample was obtained after random numbers generated with the help of excel thereafter 300 vendors picked and issued with a structured questionnaire for quantitative data gathering. Purposive sampling technique adopted to select key informants by considering the richness of information about the system. The system experts dealing with public e-procurement from GPSA, Public Procurement Regulatory Authority (PPRA) and Medical Stores Department (MSD) were selected as key informants.

Qualitative data analysis was done by stages, started from recording, transcribing, categorising, axial coding and lastly grouped into related themes (technological indicators). The study used technological themes for comparing their influence on vendors' participation in PEPS by a content analysis technique using thematic approach to identify related facts. Quantitative analysis was done by using Confirmatory Factor Analysis (CFA) for ranking technological factors and thereafter, a Structural Equation Modelling (SEM) was used for multiple relationship analysis. The advantage of using SEM is its effectiveness in presenting the correlational relationships and causal effects among the variables. Also, the model was useful to include mean and variance for each variable involved in the model in presentation of output, which is visually and more informative (Awang *et al*., 2015).

Bartlett's test of spericity ($p<0.001$ acceptable) and Kaiser- Meyer- Olkin (KMO< 0.5 cutoff) measure of sampling adequacy was tested for evaluating the appropriateness of the data for factor analysis (Darko *et al.,* 2017). The study KMO value was 0.883 for technological factors and 0.876 for vendors e-procurement participation which were higher than the threshold of 0.5 and Bartlett's test of spericity ($p<0.001$), indicating that sample is acceptable for further analysis. Principal Component Analysis (PCA) was adopted by factor analysis to find fitting technological factors with 12 indicators and 7 indicators for vendors' e-procurement participation. The eigen-value for each aspect was above 1.0 and the total variance were within acceptable range of 50% and above as per social sciences. Results found 10 indicators from technological factors fit for further analysis so 2 technological factors indicators deleted at this stage, but for the case of vendor public e-procurements participation, all 7 indicators passed at this stage. Both technological factors and vendors e-procurements indicators, took only those with factors loading above 0.5 which is acceptable (Hair *et al.,* 2010).

According to Cronbach (1951), the Cronbach's Alpha as per social science is the widely used measures of reliability (assessing internal consistency of aspects) (Bonett and Wright, 2015). The Cronbach's Alpha was significant at 0.899 for technological factors and 0.846 for vendors' e-procurement participation indicators (see Table 1), which were above the cut-off reliability of 0.7 thresholds, meaning that, there were strong consistencies among aspects. Construct validity of a test is measured in two aspects that are discriminant and convergent validity. These examine the extent to which measures of a latent variable shared their variance and how they are different from others (Alarcón *et al.,* 2015). The Composite Reliability (CR) was used to measure construct validity, where the CRs in this study are in an acceptable range of above 0.80 for both technological factors and vendors' e-procurement participation. The last measure was a convergent validity to measure the degree to which individual items reflects a perspective convergent in comparison to items measuring different aspects. Convergent validity measured by using

the Average Variance Extracted (AVE), the study found AVE =0.666 for technological factors and AVE=0.726 for vendors e-procurement participation, as recommended by Fornell and Larcker, 1981, where threshold of AVE should be above 0.5, see Table 1.

Table 1: Data reliability, validity and principal component analysis (PCA) results

Technological (Aspect)	Factor loading range	Initial Eigenvalue %	Cumulative variance	Cronbach's Alpha	AVE	CR	KMO	Bartlett's Test
Technological indicators	0.621-0.784	2.721-51.731	51.731%	0.899	0.666	0.910	0.883	P<0.001
Vendors' participation	0.685-0.764	5.531-52.575	52.575%	0.846	0.726	0.886	0.876	P<0.001

AVE=Average Variance Extracted>0.5, CR=Composite Reliability>0.8, KMO=Kaiser- Meyer- Olkin>0.5

After running factor analysis using PCA method, then Confirmatory Factor Analysis was conducted with the purpose of confirming factors for further analysis using Structural Equation Modelling (SEM). CFA under maximum likelihood (ML) which places the assumption of multivariate normality of the data (Zimet, 2018) was estimated, for testing the model fit. Table 2 shows the tested indicators and their cut off points, where the entire tested indicator meets the required threshold (cut-off point). On meeting the model fit as required, 2 indicators from each category dropped, hence 8 indicators from technological factors and 5 indicators from vendors' e-procurement participation remained for further analysis. The results have factor loadings of higher than 0.5 which is acceptable. The path coefficients between aspects were above 0.100 which is acceptable to account for a certain impact within the framework. The R^2 for the predicted variables were all greater than 0.10 and therefore, they were appropriate to examine the significance of the paths associated with these variables (Hair *et al.*, 2010).

Table 2: The Model fit results

Name of category	Index	Current study results	Level of acceptance	Comments
Absolute fit	Chisquare	105.68	P < 0.05	Sensitive to sample> 200
	RMSEA	0.059	RMSEA < 0.08	Range 0.05 to 1.00 acceptable
	GFI	0.947	GFI > 0.90	GFI = 0.95 good fit
	AGFI	0.909	AGFI > 0.90	AGFI = 0.95 good fit
Incremental fit	CFI	0.971	CFI > 0.90	CFI = 0.95 good fit
	TLI	0.958	TLI > 0.90	TLI = 0.95 good fit
	NFI	0.946	NFI > 0.90	NFI = 0.95 good fit
Parsimonious fit	Chisq/df	2.032	Chisq/df < 5.0	Should be below 5.0

Three categories of fitness are incremental, parsimonious and absolute, fit besides ensuring the reliability and validity could be achieved. According to Hair *et al.*, (2010), recommend the use of at least three fit indexes by including one index from each category of model fit. Absolute fit presents three types of

index, which is chisquare,Goodness Fit Index (GFI) and Root Mean Square Error Approximation (RMSEA). Incremental fit proposed four types of index, which is Adjusted Good of Fit (AGFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI) and Normed Fit Index (NFI). Last but not least, parsimonious fit indicates only one of index, namely chi-square over degree of freedom or Minimum Discrepancy per Degree of Freedom (CMIN/DF). These fitness categories achieved as shown above Table 2 and literature supported.

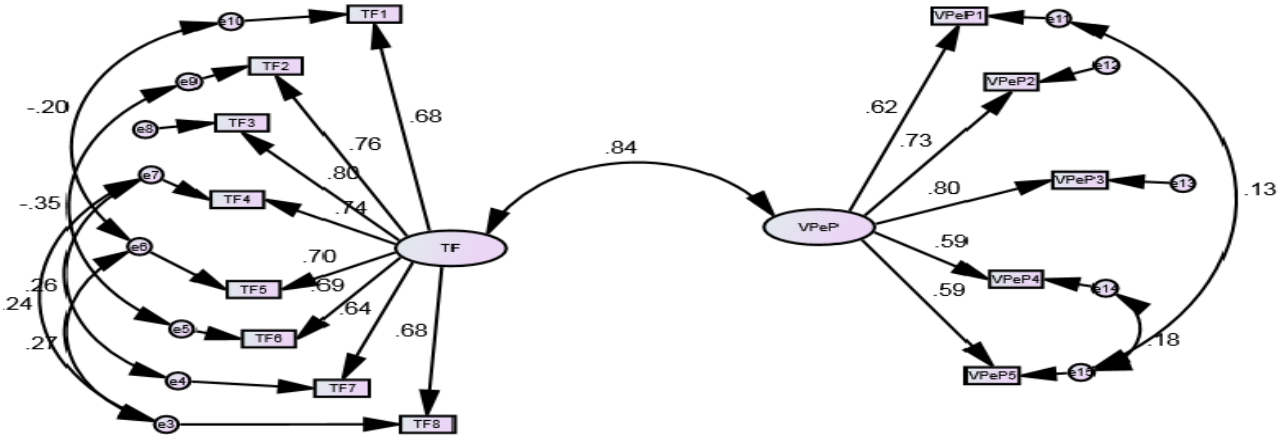

Figure 1: Confirmatory analysis

TF1: Information Transparency; TF2: Creativity& Innovation; TF7: Better data management; TF4: Full system integration; TF5: Data quality; TF6: Computer & IT Literacy; TF7: Presence soft/hard-ware; TF8: Promising Security; VPeP1: Trust; VPeP2: Production planning; VPeP3: Increase market share; VPeP4: Contract control; VPeP5: Inventory control

The study tested the adequacy of the structural model by using model fit. Good model fit was proved for Minimum Discrepancy per Degree of Freedom (CMIN/DF) =2.032;Goodness of Fit Index (GFI) =0.947; Root Mean Square Residual (RMR) = 0.029; Comparative Fit Index (CFI) = 0.971;Tucker-Lewis Index (TLI) = 0.958; Adjusted GFI= 0.909; Root-Mean Square Error of Approximation (RMSEA) = 0.059. The overall model CMIN/DF is 2.007 which is within the threshold indicates that the observed covariance matrix matches the estimated covariance matrix. The value of RMSEA is 0.059 which provides additional support for the model fit. The value of the parsimony fit index (AGFI) of 0.909 is another evidence for the model to be acceptable to fit for the measurement model (Wongpakaran *et al.,* 2018; Darko *et al.,* 2017).

4. FINDINGS AND DISCUSSIONS

4.1 Ranking technological factors on vendors' participation impact in public e-procurement system

Public e-procurement systems dependent much on technological resources includes IT infrastructure, quality data, information transparency, data management, security and computer and IT skilful for attracting vendors to participate in public e-Procurement system, rank of technological factors were inevitable for proper allocation of scarce supportive resources. Technological factors as shown in the Table 3 indicate that, among others, data management has great loading weight of 79.6 % and the least loading one which were IT Infrastructure (software and hardware) was 63.5 %, which implies that, vendors were so sensitive on their data privacy for participation in public e-procurement system than considering IT infrastructure which available in the market. Others technological aspects goes as follow: data quality (70.4%), promising security (68.3%), information technology knowledge (69.0%), accessibility of data (transparency-67.9%), creativity and innovation (76.1%) ground for better market position and full system integration compatibility (74.4%) with public e-procurement system with easily available software and hardware at competitive price.

Table 3: Standardized Regression Weights: (Group number 1 - Default model)

Indicators		Technological factor	Naming	Estimate
TF3	<---	TF	Better data management	0.796
TF2	<---	TF	Creativity and Innovation	0.761
TF4	<--	TF	Full system integration	0.744
TF5	<--	TF	Data Quality	0.704
TF6	<---	TF	Computer and IT literacy	0.690
TF8	<---	TF	Promising security	0.683
TF1	<---	TF	Informational transparency	0.679
TF7	<---	TF	Present software and Hardware	0.635

Generally, the results implies that quality of data must meet the required standard, security for data should be assured, transparency on data sharing should be maximized and knowledge shared to vendors should be nurtured and lastly, IT infrastructures (software and hardware) availability enhanced. And once all these achieved successful, vendors' participation in PEPS will be maximised, due to the assurance on their competitiveness for sensitive data privacy.

4.2 The Technological factors influence toward vendors' participation in public e-procurement system

The regression weights in Table 4 show the strong technological factors influence toward vendors' participation in the system. They were also significant relationships among the technological construct as well as its measurement indicators. All indicators within latent variable have a regression weigh above 0.6 which indicates strong influence, hence, proved to be the best measurement as per their respective latent variable.

Given the results in Table 4, it shows that technological factors (informational transparency, creativity and innovation, data management, system integration, data quality, computer and IT literacy, software and hardware availability and promising security) has significant influence for vendors' participation in public electronic procurement system. H_1 is supported by having β coefficient of 0.84 and significant at $P < 0.001$.

Table 4: Hypothesis Testing Results on technological influence to vendors' participation

L. V			Estimate	S.E.	C.R.	P-value	Remark
VPeP	<---	TF	0.84	0.064	12.371	0.001	Supported

Significant at (p< 0.001), L.V= Latent Variable, TF= Technological factor, VPeP=Vendor public e-procurement participation*

The hypothesis was tested, and results show that, it is significant at $p<0.001$ and hence the alternative hypothesis supported. The results are shown in Table 4 with reference to the estimates, standardised estimates (S.E), critical ratio (C.R) and significant ratio.

Table 5: Latent variables and observed measurement results

L. V			Naming	Estimate	S.E.	C.R.	P-value
TF8	<---	TF	Promising security	0.848	0.069	12.34	0.001
TF7	<---	TF	Present software and Hardware	0.704	0.062	11.382	0.001
TF6	<---	TF	Computer and IT literacy	0.878	0.07	12.464	0.001
TF5	<---	TF	Data Quality	0.895	0.07	12.815	0.001
TF4	<---	TF	Full system integration	0.853	0.062	13.809	0.001
TF3	<---	TF	Better data management	1			
TF2	<---	TF	Creativity and Innovation	0.911	0.065	14.122	0.001
TF1	<---	TF	Informational transparency	0.772	0.062	12.356	0.001
VPeP1	<---	VPeP	Maximize trust	0.973	0.094	10.389	0.001
VPeP2	<---	VPeP	Help in Production planning	0.964	0.077	12.469	0.001
VPeP3	<---	VPeP	Increase market share	1			
VPeP4	<---	VPeP	Help contract control	0.759	0.078	9.778	0.001
VPeP5	<---	VPeP	Help on Inventory control	0.79	0.081	9.718	0.001

Significant (p < 0.001), L.V= Latent Variable, TF= Technological factor, VPeP=Vendor public e-procurement participation, TF1: Information Transparency; TF2: Creativity& Innovation; TF7: Better data management; TF4: Full system integration; TF5: Data quality; TF6: Computer & IT Literacy; TF7: Presence soft/hardware; TF8: Promising Security; VPeP1: Trust; VPeP2: Production planning; VPeP3: Increase market share; VPeP4: Contract control; VPeP5: Inventory control*

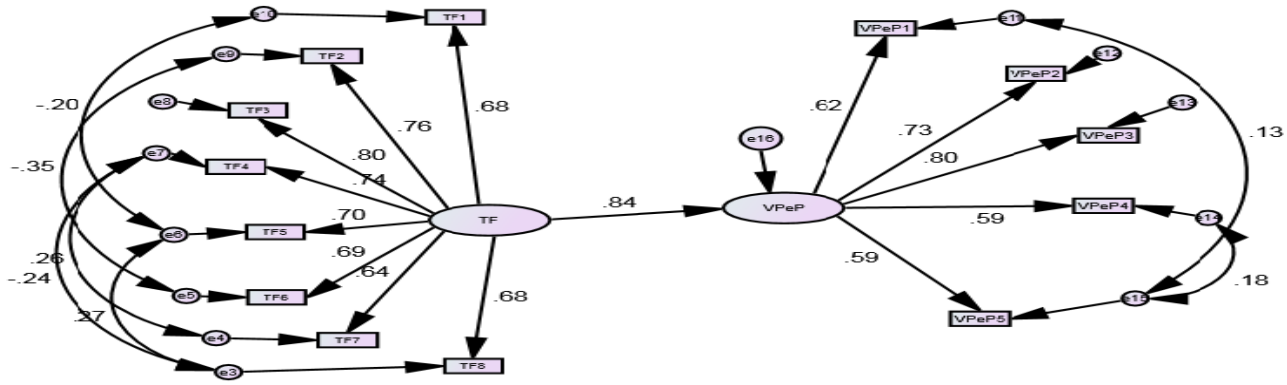

Figure 2: SEM analysis

TF1: Information Transparency; TF2: Creativity& Innovation; TF7: Better data management; TF4: Full system integration; TF5: Data quality; TF6: Computer & IT Literacy; TF7: Presence soft/hard-ware; TF8: Promising Security; VPeP1: Trust; VPeP2: Production planning; VPeP3: Increase market share; VPeP4: Contract control; VPeP5: Inventory control

The loading for technological factors count for 84% on indicators used to lead vendors' participation in public e-procurement system. This implies that, technological factors were significant and the strongest influence on vendors' participation in public e-procurement system. The loading for all indicators on both latent variables in endogenous and exogenous variable were above 50%. This implies that, vendors to participate in public e-procurement system, technological aspects (informational transparency, computer and IT skilful, infrastructure availability, data quality, data management and security have to be

achieved. The finding was supported by one of the Key Informants' argument for technological influence for vendors' participation, quoted saying that:

> *"…Currently, the government investing much to make sure vendors are knowledgeable about the system as it is still a challenge to us and we wish them to participate willingly in the respective e-procurement system…" (PPRA system coordinator).*

The study finding correspond with study conducted by Bahaddad *et al.,* (2019) and Basri *et al.,* (2011) for factors influence technological acceptance/adoption were IT knowledge and skills, IT resources, security level, internet reliability, data accessibility and accuracy. The study findings also concurred with study done by Seo *et al.,* (2018); Dean-Swarray and Stork (2013), documented that, vendors' adoption for e-procurement system can be influenced by affordability and transparency of information, data management, security against risks and real time information. Further these key informants from different institutions'arguments aligned with the study finding, as quoted saying:

> *"…Vendors' participation is subjective, as it mostly depends with the accessibility and availability of quality data which can make them to trust the system (MSD, TANePS personnel 7th May, 2019)*
> *Treatment of vendors has to accommodate fairness and equality on data provided (transparency in data provision), without bias to any of them, by doing so, they will value participating…" (GPSA, TANePS personnel).*

Remarks from the Key Informants imply that, the quality of data and transparent on data can influence vendors' participation in PEPS.

5. CONCLUSION AND RECOMMENDATIONS

There are strong significant in technological indicators data management, system integration, informational transparency, creativity and innovation, data quality, computer and IT literacy, IT infrastructures (software and hardware) and security assurance for vendors' participation PEPS.

Since the finding show that vendors' participation in public e –procurement system is highly influenced with the presence of good technological aspects which were secured against associated risks and advanced spread of knowledge for respective system. The study therefore recommends to PPRA to oversee all significant technological aspects include quality of data loaded in the system,transparency for shared information and observe security for all associated risks. This can be done by continue training vendors on how to integrate their system with the public e-procurement system and agreeing the levels on the accessibility of their data to the public by understanding all steps before posting. Given that technological factors stands better chance for vendors to participate in the system, it is recommended to the vendors to invest on technological resources which will enable them to easy participate in PEPS.

5.1 Theoretical implication of the study.

The current study proved the argument from both theories, where the Resource-Based Theory (View), argued that for the vendors to participate in public e-procurement system, must acquire relevant knowledge, having IT resources (software and hardware) to support full integration, but also acquire quality data and manage them properly. These all found having strong influence on vendors' participation in public e-procurement system. On the other side, the TAM assumed that, anyone can only accept new technology based on the relative advantages like information transparent, security assurance, assured innovation, creativity and quality data. The current study proved these arguments as a basic requirement for vendors' participation in the system.

5.2 Analytical method contribution

The first-generation models like Regression (linear, multiple, Logit, probit), simple t-test, Difference in Difference (DID) and Propensity score matching (PSM) has been the common models for a number of studies. The observed shortfall includes failure to handle complex relationship, treat both observed measures and un observed measures under dependent and independent variables. The current study adopted second generation as its major analytical contribution, where applied Covariance Structural Equation Modeling (CB-SEM) allows complex multiple relationship and uphold both mediating and moderating at a time. The model from second generation also was being the strongest predictive and been highly reliable model reduction of errors due to having confirmatory analytical options for model fitness, hence improve its robustness.

5.3 Areas for Further Research

The current paper has assessed the technological influence for vendors' participation in public electronic procurement system in Ilala District, Tanzania. First, the study suggests area for further research been assessment of others factors independently like environmental factors, organisational factors or governmental factors on how they can influence vendors' participation in public electronic procurement system. Second, since this study has focused on private sectors participation in public e-procurement system, the study suggests further research to be conducted on assessment for implementation in public e-procurement system by public institutions in Tanzania.

5.4 Limitation/ Challenges of the study

The study was carried out in Ilala District in Tanzania; therefore, the findings cannot be generalised to developed countries and neighbouring African countries due to contextual and technological differences. However, the findings can be generalised to all Tanzania Districts since the used vendors for common used items across the country. Another challenge faced by the researcher was some vendors frequently not found in their offices. The researcher, handled this challenge by setting appointments with those vendors at GPSA premises while they are attending to collect tender documents and they agreed to fill questionnaire documents and hence administered by the research.

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