Stakeholders' Perception on Critical Success Factors Influencing Electronic Procurement Adoption in Developing Counties: Experience from Tanzania

Article *in* American Scientific Research Journal for Engineering, Technology, and Sciences · August 2020

CITATIONS
3

READS
448

4 authors, including:

Deus N Shatta
National Institute of Transport
15 PUBLICATIONS **46** CITATIONS
SEE PROFILE

France Shayo
Open University of Tanzania (OUT)
15 PUBLICATIONS **77** CITATIONS
SEE PROFILE

Alban D. Mchopa
Moshi Co-operative University (MoCU)
28 PUBLICATIONS **196** CITATIONS
SEE PROFILE

American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)
ISSN (Print) 2313-4410, ISSN (Online) 2313-4402

http://asrjetsjournal.org/

Stakeholders' Perception on Critical Success Factors Influencing Electronic Procurement Adoption in Developing Counties: Experience from Tanzania

Deus N. Shatta[a*], France A. Shayo[b], John N. Layaa[c], Alban D. Mchopa[d]

[a]*Ph.D candidate at Open University of Tanzania. P. O BOX 705. Dar Es Salaam-Tanzania*
[b]*Lecturer at Open University of Tanzania. P. O BOX 23409 Dar Es Salaam-Tanzania*
[c]*Lecturer at National Institute of Transport. P. O BOX 705. Dar Es Salaam-Tanzania*
[d]*Lecturer at Moshi Co-operative University. P. O BOX 474. Moshi-Tanzania*
[a]*Email: deusshatta@gmail.com,* [b]*Email: france.shayo@out.ac.tz*
[c]*Email: john.layaa@gmail.com,* [d]*Email: albanmchopa@gmail.com*

Abstract

The general objective of this study was to examine the stakeholders' perception on critical success factors influencing Tanzania National electronic Procurement System adoption in public sector. The specific research objectives of the study were to: evaluate the perceived influences of legal framework, performance expectancy, relative advantage and attitude towards Tanzania National Electronic Procurement System implementation. The study adopted positivism philosophy and cross-sectional survey research design. The study also used stratified sampling technique. Sample size was 157 respondents. A questionnaire with closed ended questions and documentary review were used for data collection. The collected data were analyzed using Partial Least Squares Structural Equation Modelling with the help of SmartPLS 3 software. Findings reveal that all critical success factors were perceived the same by stakeholders (procurement experts and suppliers) towards Tanzania National Electronic Procurement System adoption. The study concludes that there is no significant difference with regard to stakeholders' perception on critical success factors influencing Tanzania National electronic Procurement System adoption. The study recommends paying attention to relative advantage, performance expectancy and legal framework to significantly change the mindset of all stakeholders in the country in supporting of Tanzania National Electronic Procurement System implementation.

Keywords: Stakeholder; Success Factors; Electronic Procurement; Adoption.

---

* Corresponding author.

1. Introduction

1.1 Overview and Problem Setting

Globally, countries are increasingly becoming focused on improving their public procurement systems both in terms of their legal frameworks and their practical procedures [19]. In developing countries including Uganda, Ghana, Malaysia, Kenya and Tanzania, there has been a tremendous paradigm shift towards e-procurement adoption in public sector [1,2,7,15,17]. This is due to the fact that e-procurement system has gained a reputation of being one of the most effective way in attaining sustainable procurement, efficiency and transparency in terms of its performance and benefits it brings to the public procurement processes [6,27]. Reference [12] claim that e-procurement practice leads to better payment processes, eliminate administrative errors, increase buyers' productivity, makes information management easy for a given business and serves to reduce procurement cycle time and costs. [9] also revealed that e-procurement relatively removes chances of corruption in the public sector because of being an online based approach with minimal face to face contact between the Government officials and the suppliers. However, [8] revealed that some stakeholders (for example procuring entities' staff and suppliers) do hesitate to use e-procurement system due to their diverse perceptions, hence inspiring further studies on e-procurement adoption in public sector context to understand the reasons for this diversity perceptions. In addition, the diversity views of different authors on studies regarding the relationship between critical success factors and e-procurement adoption have attracted many researchers particularly in developing countries whereby low level of e-procurement adoption is experienced [1,5,7,9,11,13,16, 20, 22,30]. However, there has been a debate in the literature with regard to which critical success factors influencing e-procurement adoption in public sector [6,7,20,21,22,30]. With regard to the paradigm shift towards the adoption of e-procurement in the Tanzanian public sector, it is important to have a framework of analysis with regard to stakeholders' perception on critical success factors influencing Tanzania National e-Procurement System (TANePS) adoption. This argument is supported by [19] who proposed that in experimenting with new procurement system (for example TANePS adoption), Government leaders and policy makers need a framework of analysis for decision making pertaining to critical success factors which influence the adoption of the new procurement system. The framework of analysis should play role in decision making in terms of new public procurement system design, development and reform [19].

1.2 Model Construct and Hypotheses

The study involved four endogenous constructs and one exogenous construct. Endogenous constructs included performance expectancy from UTAUT by [29], relative advantage (perceived benefits), attitude from TOE model by [24] as well as TANePS adoption. UTAUT has been employed in this study because the theory has been criticized that it does not consider the public organizational' perspective. On the other hand, it has been criticized to be used in e-Government adoption while it does not show the interaction of its determinants with legal framework which is the most important determinant for e-Government adoption. Whether these arguments are valid or not valid, this study was excited for testing the validity of both criticisms. Likewise, TOE has been criticized that it does not consider the individuals' perspective and does not show the concrete model in adopting new technology which call upon new integrated theoretical model to accommodate the organizational'

perspective and individuals' perspective and show the direct and indirect interactions of its elements in the actual model in adopting new technology. The existing theories and theoretical models are clarifying inadequately the integrated theoretical model for the combined perspectives hence inspires this study to be conducted and developed an integrative model comprehensively explains the determinants which the existing literature is explaining unclearly. The exogenous construct was legal framework from TOE because this study supports the argument that countries are increasingly improving their public procurement systems first (amending legal frameworks first) and then their practical procedures towards e-procurement adoption in public sector [19]. That means, legal framework is regarded as dominant critical success factor which influences other critical success factors towards e-procurement adoption in public sector. In addition, performance expectancy of the system determines the benefits (relative advantage) of the system because this study supports the argument that e-procurement system has gained a reputation of being one of the most effective way in attaining sustainable procurement, efficiency and transparency in terms of its performance and benefits it brings to the public procurement processes [6,27]. Lastly, change of attitude of buyers and suppliers depends on understanding of the performance and relative advantage of the system because this study supports the argument that despite the performance and benefits of e-procurement, some buyers and suppliers do hesitate to use the system due to diverse perceptions [8,26]. In addition, performance expectancy is defined as a degree to which using technology will provide benefits to consumers in performing certain activities hence benefits (relative advantages) depend on performance expectancy [28]. Whether these assertions are valid or not valid in relation to paradigm shift to e-procurement adoption in public sector, it was something valuable and worth testing their validity in real life and in relation to the concepts from theorical and empirical studies. On the other hand, a number of direct and indirect relationships of determinants were conceptualised as depicted in the conceptual model Figure 1.

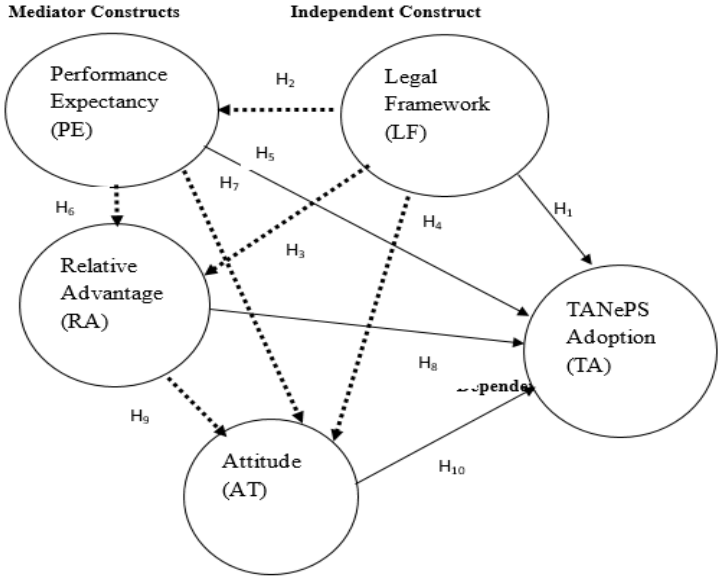


Figure 1: Conceptual Model

Key ——————▶ Direct relationships (Existing Literature)

••••••••▶ Indirect relationships (Theoretical Gaps)

Source: Conceptualized from Literature, 2020. In order to operationalise the concepts in the model, the following hypotheses were tested:

H_{1a}: Legal framework (LFs) positively and directly influences TANePS adoption in the public sector

H_{1b}: In the presence of Performance Expectancy (PE), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H_{1c}: In the presence of Relative Advantages (RA), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H_{1d}: In the presence of Attitude (AT), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H_{2a}: Performance expectancy (PE) positively and directly influences TANePS adoption in the public sector

H_{2b}: In the presence of Relative Advantage (RA), Performance Expectancy (PE) positively and indirectly influences TANePS adoption in the public sector.

H_{2c}: In the presence of Attitude (AT), Performance Expectancy (PE) positively and indirectly influences TANePS adoption in the public sector.

H_{3a}: Relative advantage (RA) positively and directly influences TANePS adoption in the public sector

H_{3b}: In the presence of Attitude (AT) Relative advantage (RA) positively and indirectly influences TANePS adoption in the public sector

H_4: Attitude (AT) positively and directly influences TANePS adoption in the public sector.

Table 1: Summary of Hypotheses Generated from the Theoretical Model

Hypothesis	**Path**		**Influence**
$H1_a$	LF -> TA	-> H_1	Direct
$H1_b$	LF->PE -> TA	-> $H_2.H_5$	Indirect
$H1_c$	LF-> RA -> TA	-> $H_3.H_8$	Indirect
$H1_d$	LF ->AT-> TA	-> $H_4.H_{10}$	Indirect
$H2_a$	PE->TA	-> H_5	Direct
$H2_b$	PE ->RA -> TA	-> $H_6.H_8$	Indirect
$H2_c$	PE -->AT -> TA	->$H_7.H_{10}$	Indirect
$H3_a$	RA -> TA	-> H_8	Direct
$H3_b$	RA ->AT-> TA	-> $H_9.H_{10}$	Indirect
H4	AT-> TA	->H_{10}	Direct

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

2. Methods

2.1 Philosophy, Research Design, Data Collection Methods, Target Population and Sample Size

This study adopted positivism philosophy and cross-sectional survey research design. The study also used stratified sampling technique. Sample size was 157 respondents of whom 100 were trained procurement experts from the selected procuring entities for piloting TANePS adoption and 57 were trained and registered suppliers in TANePS. A questionnaire with closed ended questions and documentary review were used for data collection. The collected data were analysed using descriptive statistics with the help of Statistical Package for Social Sciences software Version 21 and Partial Least Squares Structural Equation Modelling with the help of SmartPLS 3 software. The study was conducted in Tanzania because of the initiatives shown of improving the public procurement systems which led to piloting TANePS adoption in procuring entities based in Arusha, Dar es Salaam, Dodoma, Mbeya and Mwanza [26]. Therefore, the study was conducted in those five cities of Tanzania because suppliers and procurement experts working with selected procuring entities were trained on how to use and interact with TANePS. The unit of analysis were registered suppliers in TANePS and procurement experts from each selected procuring entity who attended training for piloting TANePS adoption [26]. The registered suppliers in TANePS and procurement experts were used because they were the ones who were trained on how to interact with the system in the course of acquiring goods and were regarded to have the required knowledge and skills pertaining operationalization of TANePS in the country. Therefore, the targeted population was 987 of whom 730 were suppliers who were trained and registered in TANePS and 257 were procurement experts who were trained with regard to TANePS application [25,26]. The sample size was obtained using Yamane formula given by: $n = N / (1 + N (e)^{2})$ Where n=the required sample, N= Target Population, e=Level of Precision assuming a 95% confidence level and precision of ±5%, Given N=987 [26], then expected sample size was 285 (approximated). However, the total actual sample size obtained in data collection for this study was 157 (55.09% of expected sample size) from which 35.09 per cent of the respondents were from procuring entities and 20 per cent of the respondents were suppliers. Generally, this response rate was good and representable and conforms to [14] who stipulated that a response rate of 50% is adequate for analysis, a response rate of 60% is good and a response rate of 70% and over is excellent. In addition, this study was able to achieve higher statistical powers with unexpected sample size because the actual sample size collected was more than the minimum number of sample size required for this study under the rule of thumb suggested by [3] which requires number of indicators of the exogenous latent construct (with maximum indicators) times ten equals to be the minimum number of the sample size for the research model to be tested its hypotheses. Taking into consideration the number of indicators of legal framework as exogenous latent construct of the research model times ten equals to forty (40).

2.2 Data Processing and Analysis

Questionnaire with closed ended questions were assigned numbers to enable the process of quantitative data analysis be more accurate and simpler. All missing values were assigned 99 as special number before running the PLS algorithm and bootstrapping. In data analysis for this study, the PLS-SEM evaluation procedures were used for reflective models suggested by [18]. Basing on PLS-SEM evaluation procedures for reflective model suggested by [18], the analysis was performed by assessing reflective measurement models and structural models. This study adopted PLS-SEM evaluation procedures for reflective models due to the nature of the constructs and their indicators in the theoritical model. All indicators depended on their constructs hence, reflective model was an appropriate for this study.

3. Results

3.1 Education Level of Respondents against Type of Respondent

Table 2 shows the education level of respondents against type of respondents. The findings revealed that the majority of the respondents from procuring entities had higher level of education than suppliers. For procurement experts from procuring entities who responded in this study the findings revealed that; 8 per cent of the respondents were holding diploma in procurement, 50 per cent of the respondents were holding bachelor degree in procurement and 42 percent of the respondents were holding post graduate degrees related to procurement. For suppliers who responded in this study the finding reveals that; 66.7 per cent of the respondents were holding diploma of different fields, certificates of various fields, certificates of secondary and primary schools, 26.3 per cent of the respondents were holding bachelor degree of different fields and 7.0 per cent of the respondents were holding post graduate degrees of different fields. These findings had implications to the quality of information and data provided by the respondents for this study.

Table 2: Education Level of Respondents * Type of Respondent Cross Tabulation

		Type of Respondent		**Total**
		Procurement Experts	**Suppliers**	
Education Level of Respondents	Primary Educ.	0	4	4
	Secondary Educ.	0	15	15
	Certificate Level	0	5	5
	Diploma Level	8	14	22
	Bachelor Degree	50	15	65
	Master's Degree	41	4	45
	Ph.D Degree	1	0	1
Total		**100**	**57**	**157**

3.2 Indicator's Reliabilities, R^2 Value of the Endogenous Constructs and Relevance of the Path Coefficients

After executing PLS algorithm, Figure 2 shows all indicators loadings of the constructs of the research model are above 0.708 as recommended except PE2 which is 0.617. Therefore, each construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability [4]. In addition, Figure 2 also indicates R^2 values that was more than 0.25 as recommended by [4] in each endogenous construct for this research model. R^2 values measured the variance which explained by the exogeneous construct in each of the endogenous construct. In this study, over 25 percent of the variation of each endogenous construct (performance expectancy (PE), relative advantage (RA), attitude (AT) and TANePS adoption (TA)) was influenced by the exogeneous construct legal framework (LF). Above all, Figure 2 shows the relevance of the path coefficients of the research model. In this study, the path coefficients of the majority of hypothesized relationships were positive and only one path coefficient of hypothesized relationship was negative. For the negative path coefficient meant that an increase in one standard deviation of the critical success factor translated into decrease the rate of TANePS adoption. For the positive path coefficients meant that an increase in one standard deviation of the critical success factors translated into increase of the rate of TANePS adoption.

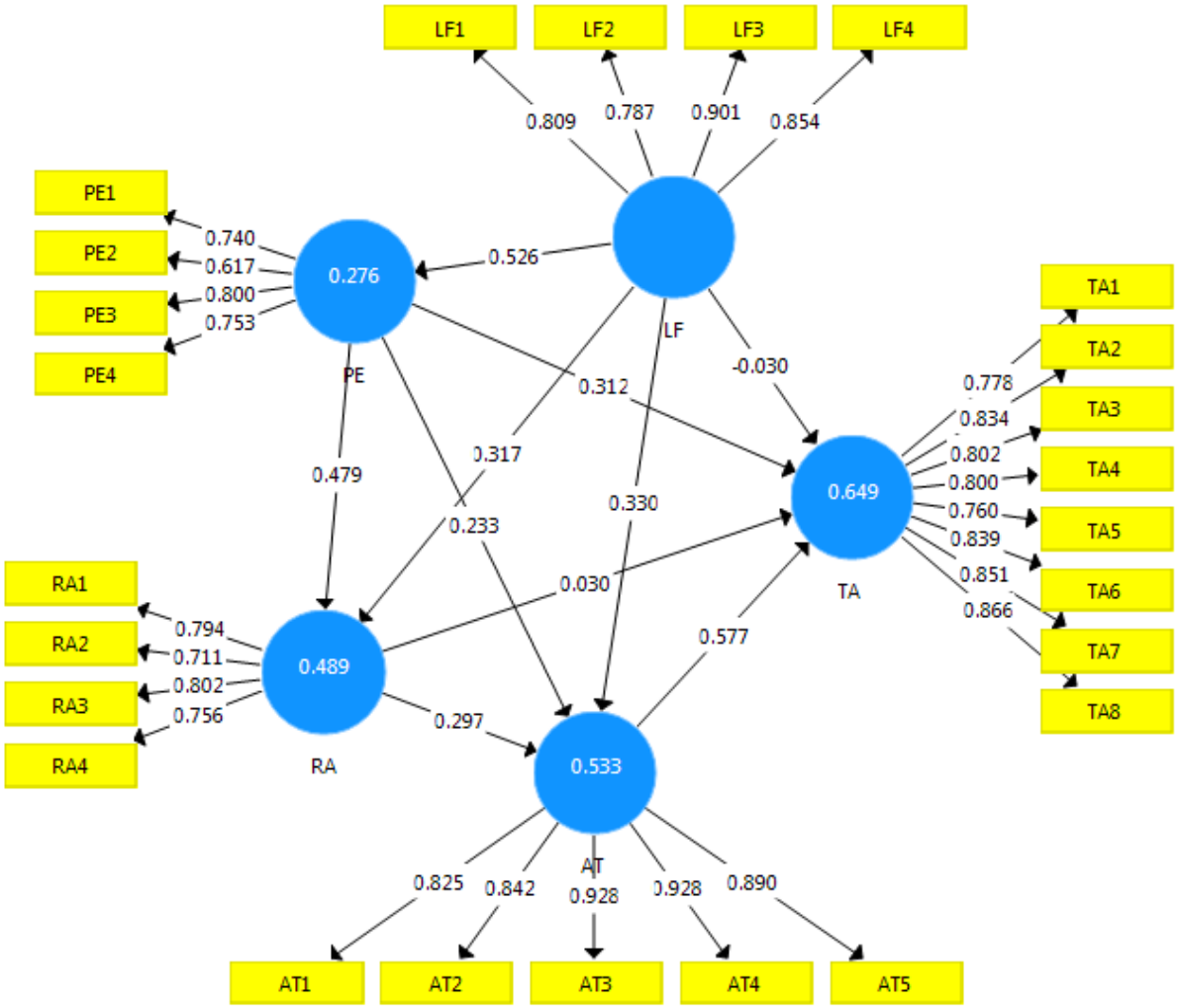


Figure 2: Indicator's Reliabilities, R^2 Value of the Endogenous Constructs and Relevance of the Path Coefficients

Key:

LF=Legal Framework; **PE**= Performance Expectancy; **RA**=Relative Advantage

AT= Attitude and **TA**= TANePS Adoption

3.3 Internal Consistency Reliability and Convergent Validity Results

After executing PLS algorithm the report revealed that all constructs of the research model were above 0.7 value of internal consistent reliability and less than 0.95 as recommended by [4] which implied the data collected were reliable. In addition, the AVE was above 0.50 in all constructs which indicated that each construct of the research model explained 50 percent or more of the variance of the items that make up the construct. Table 3 shows the internal consistent reliability and constructs convergent validity of the reflective research model.

Table 3: Internal Consistency Reliability and Convergent Validity Results

Variable	Composite Reliability>0.7	Average Variance Extracted (AVE)>0.5
AT	0.947	0.781
LF	0.904	0.704
PE	0.82	0.534
RA	0.851	0.588
TA	0.941	0.667

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

3.4 Discriminant Validity Results by using HTMT

Table 4 shows the HTMT less than 0.9 as recommended for structural models with constructs that are conceptually very similar, such as cognitive satisfaction, affective satisfaction and loyalty, performance expectancy and relative advantage. The discriminant validity results by using HTMT of value less than 0.90 in this study would suggest that discriminant validity was present among relationships of the constructs.

Table 4: Discriminant Validity Results by using HTMT

AT	LF	PE	RA
LF	0.692		
PE	0.727	0.658	
RA	0.745	0.69	0.854
TA	0.82	0.565	0.79	0.675

Key:
LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage AT= Attitude and TA= TANePS Adoption

3.5 Statistical Significance Testing of the Hypothesized Relationships

The results in figure 3 show that two direct hypothesized relationships were rejected and eight hypothesized relationships were accepted indicating that the theoretical research model of this study can be used in decision making due to the fact that eighty (80) percent of the hypothesized relationships appeared to exist in real life.

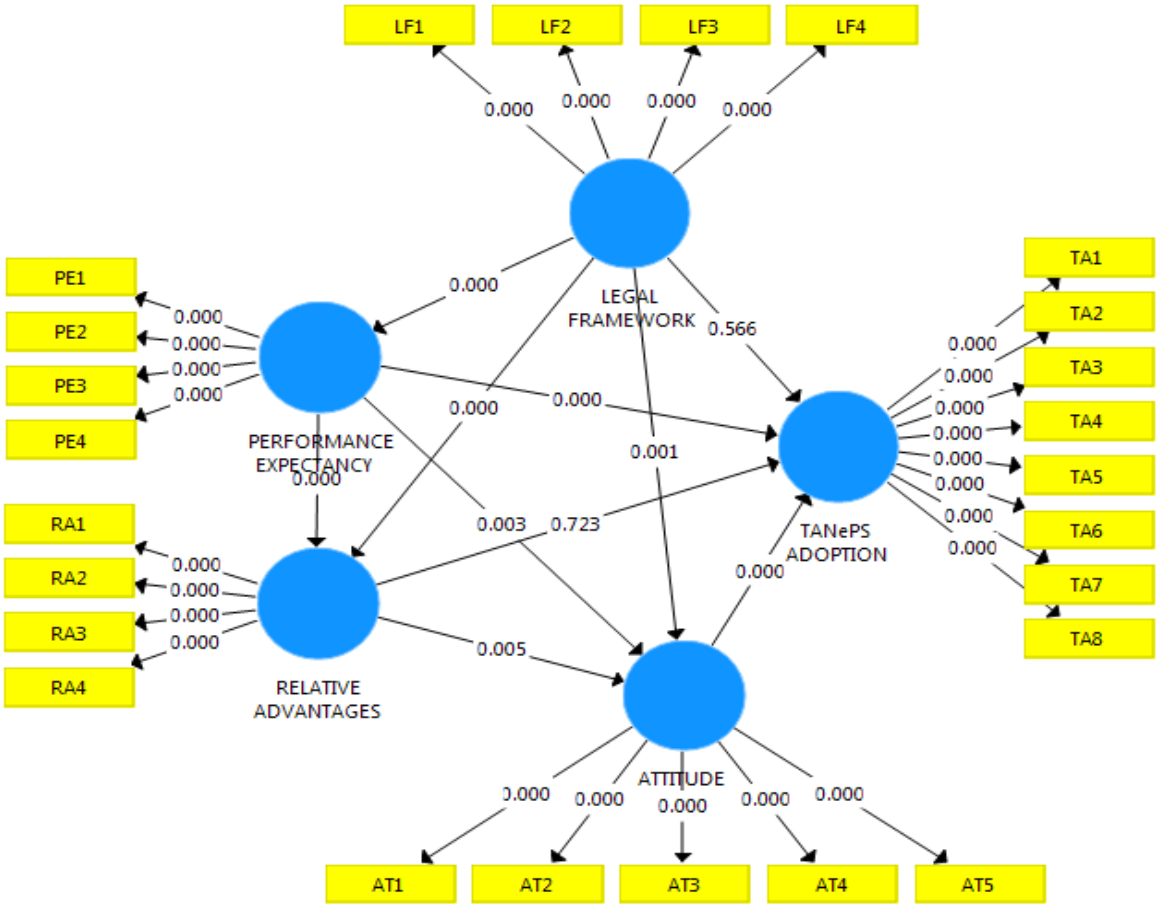


Figure 3: Statistical Significance of the Hypothesized Relationships

Table 5: Findings of Hypotheses Tested from the Theoretical Model

Hypothesis	Path	Influence	P-value	Remark
$H1_a$	LF -> TA	Direct	0.566	Rejected
H1b	LF->PE -> TA	Indirect	0.000	Accepted
H1c	LF-> RA -> TA	Indirect	0.000	Accepted
H1d	LF ->AT-> TA	Indirect	0.000	Accepted
$H2_a$	PE->TA	Direct	0.000	Accepted
$H2_b$	PE ->RA -> TA	Indirect	0.000	Accepted
$H2_c$	PE ->AT -> TA	Indirect	0.000	Accepted
$H3_a$	RA -> TA	Direct	0.723	Rejected
$H3_b$	RA ->AT-> TA	Indirect	0.000	Accepted
H4	AT-> TA	Direct	0.000	Accepted

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

3.6 Stakeholders' Perception on Critical Success Factors Influencing Tanzania National Electronic Procurement System Adoption in Public Sector

Multi-group analysis in PLS SEM is used to compare parameters, typically structural path coefficients, between two or more groups [4. In this study, two groups (procurement experts and suppliers) were compared with regard to their perceptions on critical success factors influencing TANePS adoption. The study wanted to know if the perceptions of procurement experts and suppliers on critical success factors influencing TANePS adoption differ significantly.

3.6.1 PLS-Multi-Group Analysis for Outer Loadings of the Indicators

Table 6 shows the PLS-multi-group analysis for outer loadings of which two relationships of two indicators from attitude (AT) construct (**AT2 <- AT** and **AT3 <- AT**) out of twenty-five (25) indicators' relationships of the constructs of the research model had significant differences (both had p-values < 0.05) between the two groups (procurement experts and suppliers). The two indicators (AT2 and AT3) were related to the mindset of continue learning and using TANePS in public procurement process. These significant differences between the two groups implied that some group members for one group were not interested in learning and using TANePS in public procurement process. However, twenty-three (23) out of twenty-five (25) of the indicators of the constructs had no significant differences between the two groups because they had p-values > 0.05 which implied that ninety two (92) per cent of the indicators of the constructs of the theoretical model for this study were perceived the same by the two groups (procurement experts and suppliers).

Table 6: PLS-Multi-Group Analysis for Outer Loadings of the Indicators

Indicators	Outer Loadings-diff (| Procurement Experts - Suppliers |)	p-Value (Procurement Experts vs Suppliers)
AT1 <- AT	0.042	**0.280**
AT2 <- AT	0.272	**0.021**
AT3 <- AT	0.093	**0.015**
AT4 <- AT	0.052	**0.080**
AT5 <- AT	0.074	**0.161**
LF1 <- LF	0.188	**0.285**
LF2 <- LF	0.371	**0.115**
LF3 <- LF	0.009	**0.575**
LF4 <- LF	0.026	**0.689**
PE1 <- PE	0.012	**0.569**
PE2 <- PE	0.031	**0.610**
PE3 <- PE	0.045	**0.295**
PE4 <- PE	0.013	**0.467**
RA1 <- RA	0.057	**0.348**
RA2 <- RA	0.221	**0.917**
RA3 <- RA	0.140	**0.181**
RA4 <- RA	0.130	**0.911**
TA1 <- TA	0.003	**0.509**
TA2 <- TA	0.078	**0.177**
TA3 <- TA	0.104	**0.159**
TA4 <- TA	0.051	**0.294**
TA5 <- TA	0.074	**0.796**
TA6 <- TA	0.092	**0.183**
TA7 <- TA	0.010	**0.567**
TA8 <- TA	0.022	**0.640**

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

3.6.2 PLS-Multi-Group Analysis for Indirect Effects Constructs

Table 7 shows the PLS-multi-group analysis for indirect effects of which no significant differences between the two groups were observed for the indirect relationships between legal framework (LF) and attitude (AT) had p-value > 0.05, legal framework (LF) and relative advantage (RA) had p-value > 0.05, legal framework (LF) and TANePS adoption (TA) had p-value > 0.05, performance expectancy (PE) and attitude (AT) had p-value > 0.05, performance expectancy (PE) and TANePS adoption (TA) had p-value > 0.05, relative advantage (RA) and TANePS adoption (TA) had p-value > 0.05 which implied that all indirect relationships of the theoretical model of this study were perceived the same by the two groups (procurement experts and suppliers).

Table 7: PLS-Multi-Group Analysis for Indirect Effects of the Constructs

Variable	Indirect Effects-diff (| Procurement Experts - Suppliers |)	p-Value (Procurement Experts vs Suppliers)
LF -> AT	0.033	**0.422**
LF -> RA	0.136	**0.098**
LF -> TA	0.146	**0.208**
PE -> AT	0.027	**0.387**
PE -> TA	0.063	**0.698**
RA -> TA	0.025	**0.394**

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

3.6.3 PLS-Multi-Group Analysis for Total Effects of the Constructs

Table 8 shows the PLS-multi-group analysis results for total effects for the constructs of the theoretical model of this study. The results of the analysis revealed significant difference between the two groups for the direct relationship between the perceptions of procurement experts and suppliers on legal framework (LF) and TANePS adoption (TA) (p-value< 0.05). However, 90 percent of the total effects had no significant differences between the two groups due to the fact that 90 percent of the total effects had p-values > 0.05. These findings implied that the constructs and the theoretical model of this study were valid to the buyer perspective or supplier perspective or both buyer and supplier perspectives in conducting studies related to evolution of the public procurement systems from traditional procurement to e-procurement context.

Table 8: PLS-Multi-Group Analysis for Total Effects

Variable	Total Effects-diff (| Procurement Experts - Suppliers |)	p-Value (Procurement Experts vs Suppliers)
AT -> TA	0.076	**0.338**
LF -> AT	0.220	**0.134**
LF -> PE	0.209	**0.140**
LF -> RA	0.134	**0.253**
LF -> TA	0.334	**0.010**
PE -> AT	0.220	**0.908**
PE -> RA	0.085	**0.263**
PE -> TA	0.259	**0.948**
RA -> AT	0.006	**0.489**
RA -> TA	0.018	**0.470**

Key:

LF=Legal Framework; PE= Performance Expectancy; RA=Relative Advantage

AT= Attitude and TA= TANePS Adoption

5. Discussion

In comparing direct path coefficients of the hypothesized relationships for intention to use TANePS from Figure 2 and Figure 3, attitude construct emerged as the most powerful predictor (β-value=0.577, p-value=0.000) of the intention to use TANePS relative to the other factors. This finding records out the importance of changing the attitude of procurement experts and suppliers to ensure successful implementation of TANePS. This study indicates that attitude is a determinant of intention of procurement experts and suppliers to use TANePS. The second construct in comparing the direct path coefficients of the hypothesized relationships for intention to use TANePS was performance expectancy (β-value=0.312, p-value=0.000) of the intention to use TANePS. This result is not similar to the findings reported in [10] and [23], which indicated that performance expectancy has insignificant direct influence on behavioural intention toward new technologies adoption. The third construct in comparing the direct path coefficients of the hypothesized relationships for intention to use TANePS was relative advantage (β-value=0.030, p-value=0.723) of the intention to use TANePS. This result is not similar to

the finding reported by [31] which indicated that relative advantage has direct influence on behavioural intention toward green innovation. The fourth construct in comparing the direct path coefficients of the hypothesized relationships for intention to use TANePS was legal framework (β-value= -0.030, p-value=0.566) of the intention to use TANePS. This finding does not reflect the finding reported by Masele (2014) which specified that legal framework has direct influence on behavioural intention toward green e-business adoption. The first construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was legal framework (β-value=0.526, p-value=0.000) of the intention to use TANePS through performance expectancy. This finding is similar to the finding reported by [10] which specified that legal framework has direct influence on behavioural intention toward green e-business adoption. The second construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was performance expectancy (β-value=0.479, p-value=0.000) of the intention to use TANePS through relative advantage. This finding does not reflect the findings reported in [10] and [23] which specified that performance expectancy has insignificant influence on behavioural intention toward new technologies adoption. The third construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was legal framework (β-value=0.330, p-value=0.001) of the intention to use TANePS through attitude. This finding reflects the finding reported by [10] which specified that legal framework has significant influence on behavioural intention toward new technologies adoption. The fourth construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was legal framework (β-value=0.317, p-value=0.000) of the intention to use TANePS through relative advantage. This finding is similar to the finding stated by Masele [10] which detailed that legal framework has significant influence on behavioural intention toward new technologies adoption. The fifth construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was relative advantage (β-value=0.297, p-value=0.005) of the intention to use TANePS through attitude. This result is similar to the finding testified in [31], which showed that relative advantage has significant direct influence on behavioural intention toward new technologies adoption. The sixth construct in comparing the indirect path coefficients of the hypothesized relationships for intention to use TANePS was performance expectancy (β-value=0.233, p-value=0.003) of the intention to use TANePS through attitude. This result is not similar to the findings reported in [10] and [23], which indicated that performance expectancy has insignificant direct influence on behavioural intention toward new technologies adoption.

6. Conclusion, Implications and Recommendations

6.1 Conclusion

Basing on the hypothesized relations of the research model of the study and the findings in PLS-Multi-Group Analysis, it is concluded that the stakeholders' perceptions on critical success factors influencing Tanzania National Electronic Procurement System adoption in Public Sector has no significant difference.

6.2 Implications for Theory, Model and Practice

This study has contribution in terms of filling the theoretical and empirical knowledge gaps. This would have

practical implications in terms of public procurement policy implementation and applicability of TANePS in the public sector. Therefore, this model can be used by the Government leaders and policy makers as a framework of analysis for decision making with regard to stakeholders' (procurement experts from procuring entities and suppliers') interests on TANePS adoption in the public sector. However, this study would help other future researchers to use the final integrated model in the process of adding new knowledge to the existing literature when conducting researches related to buyer-supplier perspectives. In addition, the final integrated model has practical implications in terms of applicability of TANePS in the public sector. Basing on the relationships of the legal framework with other critical success factors influencing TANePS adoption, the final integrated model of this study suggests that, legal framework should not be used directly in the process of adopting new technology (TANePS) particularly when suppliers (private sector) are involved in Government business. Instead the legal framework should be used indirectly after significant change of the mindset of the traditional suppliers and the procurement experts working with procuring entities. The significant change of the mindset can be done through training with regard to the performance expectancy and the benefits of TANePS it brings to the supplier community, and also to the Government at large. Figure 4 shows the final integrated model for buyer-supplier perspectives with regard to critical success factors influencing TANePS adoption in public sector.

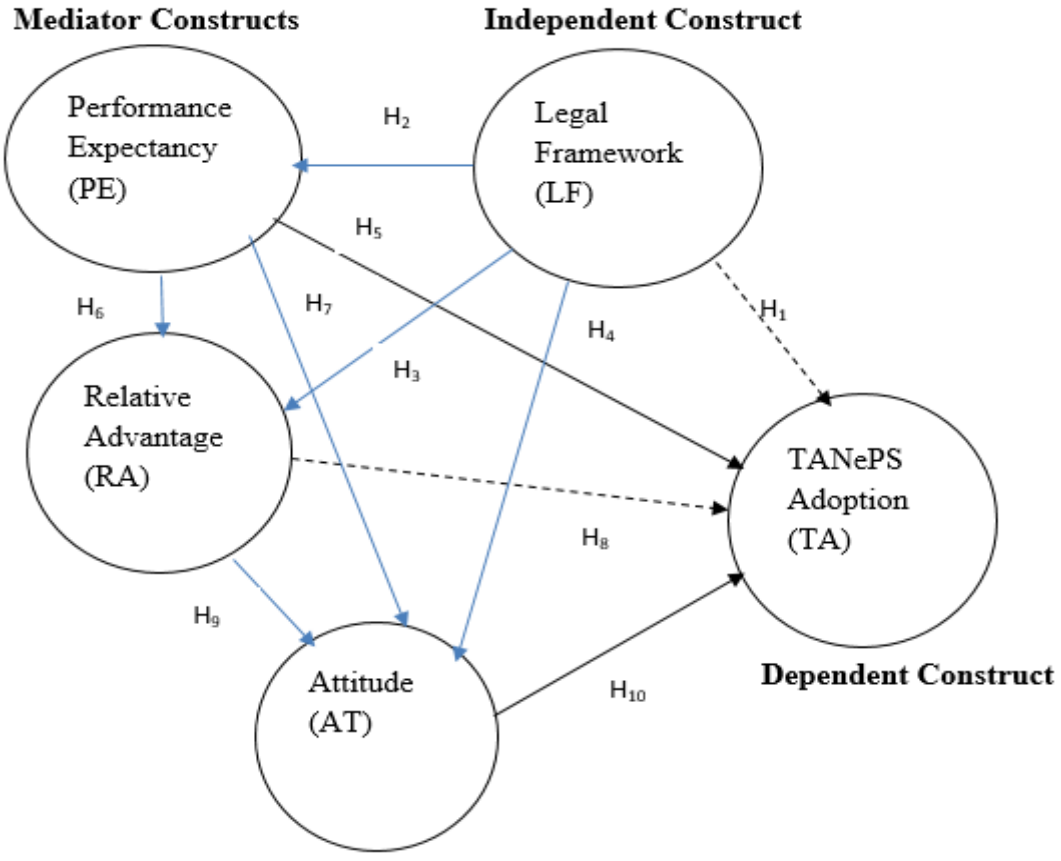
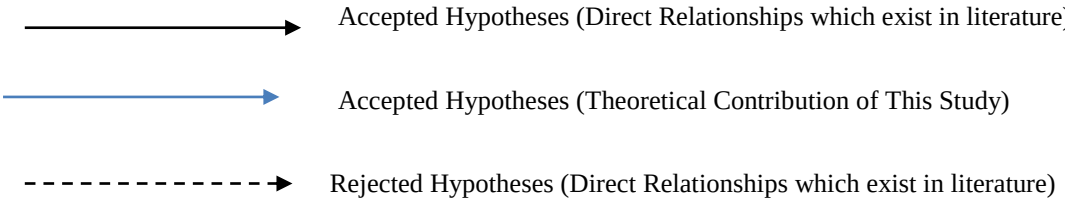


Figure 4: Final Theoretical Model for Buyer-Supplier Perspectives

Key:



Source: Validated Theoretical Model for Buyer-Supplier Perspectives, 2020

6.3 Recommendations

Basing on PLS Multi-Group Analysis results, which indicated that 90 percent of the total effects had no significant differences between the two groups in their perceptions on legal framework, performance expectancy, relative advantage and attitude towards TANePS adoption in the country. The Government of Tanzania should include the suppliers, in massive training pertaining the legal framework that govern TANePS adoption, expansion and reform. In addition, training should be relating TANePS performance and its benefits it brings to suppliers in order to avoid diverse insights on adopt and use TANePS in the process of tendering opportunities of tenders offered by procuring entities in the country.

Lastly, the model of this study is recommended to be tested to other developing countries to see its applicability and if it can be generalized for e-procurement adoption in public sector.

7. Limitations of the Study

One of the problems the researchers faced during the research undertaking was the issue of getting data on time. It was difficult to get data on time from the expected respondents since some of the respondents used to work with public sector (where there is formal procedure of getting data) and some used to work with private sector (where there is both formal and informal procedures of getting data). Furthermore, some respondents thought that the answers they provided could be used against them. This problem was mitigated by submitting to them the research clearance letter provided by the Open University of Tanzania, the list of procuring entities selected for piloting the TANePS and the list of registered suppliers in TANePS. Moreover, the questionnaire had an introduction part which assured the respondents that their answers would be treated as confidential and could be used only for the academic purposes. Another problem the researchers faced during the study was the issue of getting the expected sample size of 285. The researcher managed to collect only 157 total sample size of whom 100 were procurement experts from selected procuring entities and 57 were suppliers. In order to ensure high quality of findings in data analysis, the researcher opted to use PLS-SEM with the help of SmartPLS 3 software which mitigated the problem of poor quality of findings in data analysis because it uses small sample when compared with other SEM methods which are co-variance based. Above all, the data of this study were limited to procurement experts and suppliers from one country who were trained on how to interact with the new public procurement system.

Acknowledgments

The researchers wish to acknowledge Prof. Joseph Hair and Prof. Christian Ringle for their facilitations on quantitative data analysis workshop conducted at University of Dar es Salaam Business School in Tanzania. All facilitators enabled the researchers to acquire knowledge and skills of which they have used to analyze the data and write this paper.

References

[1]. J.A. Azanlerigu, & E. Akay. "Prospects and challenges of e-procurement in some selected public institutions in Ghana" European Journal of Business and Management, vol. 7, 29, 2015

[2]. C. B., Basheka, N. P. Oluka, & G. Mugurusi. "Adopting new approaches for public procurement efficiency: critical success factors (CSFS) for the implementation of e-procurement in Uganda's public sector" International Journal of Procurement Management, vol.5, 6, 2012

[3]. J. F., Hair, C. M. Ringle, & M. Sarstedt. "PLS-SEM: Indeed, a silver bullet" The Journal of Marketing Theory and Practice, vol.19, 2, pp. 139–152, 2014

[4]. J.F., Hair, J.J., Risher, M. Sarstedt, & C.M. Ringle, (2018). "When to use and how to report the results of PLS-SEM" European Business Review, Permanent link to this document: available at: https://doi.org/10.1108/EBR-11-2018-0203 (May, 20,2020)

[5]. E.O. Ibem, E.B. Aduwo, P., Tunji-Olayeni, E.K. Ayo-Vaughan, & O.U. Uwakonye. "Factors influencing e-procurement adoption in the Nigerian building industry" Journal of Construction Economics and Building, vol.16, 4, pp.54-67, 2016

[6]. J. Iles. "How is e-procurement related to the success of U.S. cities' sustainable purchasing policies?" Arizona State University, ASU School of Sustainability, 2017,

[7]. E. S. Kassim, & H. Hussin. "A success model for the Malaysian Government e-procurement system: the buyer perspective" International Journal of Electronic Government Research (IJEGR), vol.9,1, 2013

[8]. F. B Latif. "The Adoption of Electronic Procurement in Turkey" Advances in Economics and Business, vol. 2,2, 85-91, 2014

[9]. D**.** Malekia. "E-Procurement as anti-corruption tool in public procurement in Tanzania" European Journal of Business and Management, vol.7, 14, 2018

[10]. J. J. Masele. "Adoption of green e-business applications for sustainable tourism development in developing countries the case of Tanzania" (PhD Thesis), Department of Business Informatics I, VLBA-University of Oldenburg, 2014

[11]. L.M. Mgidlana. "Factors affecting the adoption of e-procurement technologies from the supplier perspective" (Master's Research Project) Gordon Institute of Business Science, University of Pretoria, 2013

[12]. R. M. Monczka., & Carter, P. L. Strategic Performance Measurement for Purchasing and Supply, Tempe AZ, CAPS: Center for Strategic Supply Research, 2015

[13]. J. M. Mose, J. M. Njihia, & P. O. Magutu. "The critical success factors and challenges in e-procurement adoption among large scale manufacturing firms in Nairobi, Kenya" European Scientific

Journal, vol. 9, 13, pp.1857- 7431, 2013

[14]. O. M. Mugenda. Research methods: Quantitative and Qualitative approaches: African Center for Technology Studies Press, Nairobi: 2003

[15]. G.P., Mwangi, D. Kiarie, & R. Kiai, "Integrated financial management information system, procurement performance and customer satisfaction in the county Government of Nyeri", International Journal of Supply Chain Management, vol. 3, 1, pp.127-45, 2018.

[16]. K. O. Ombat. "Relationship between e-procurement systems and performance of procurement function in commercial banks in Kenya" International Journal of Economics, Commerce and Management, United Kingdom, vol. 3, 12, 2015

[17]. G.K. Rotich, & B. Okello. "Analysis of Use of E-Procurement on Performance of the Procurement Functions of County Governments in Kenya" International Journal of Economics, Commerce and Management United Kingdom, vol. 3, 6, 2015.

[18]. M. Sarstedt, C. M. Ringle, & J. F. Hair, (2017). "Partial Least Squares Structural Equation Modeling" [On-line]. available at: DOI: 10.1007/978-3-319-05542-8_15-1 (May,21, 2020)

[19]. L. S., Schooner, I. D. Gordon, & L. J. Clark, "Public Procurement Systems": Unpacking Stakeholder Aspirations and Expectations". GW Law Faculty Publications and Other Works, 111, 2008

[20]. N. I. Shale. "Role of e-procurement strategy on the performance of state corporations in Kenya" (PhD Thesis) School of Entrepreneurship and Procurement Management in the College of Human Resource Development, Jomo Kenyatta University of Agriculture and Technology, 2014

[21]. D. N., Shatta, F. A. Shayo, & J. N. Layaa (2020a). "Determinants of e-procurement adoption model for green procurement in developing countries: Experience from Tanzania". International Academic Journal of Procurement and Supply Chain Management, Vol.3, 2, pp.1-18, [On-line]. Available at: http://www.iajournals.org/articles/iajpscm_v3_i2_1_18.pdf

[22]. M. Suleiman. "Adoption of e-procurement and value addition: Tanzanian context" European Journal of Business and Management, vol. 7, 14, 2015

[23]. E.A. Taluka. "Understanding factors influencing consumer behavioral intention to use mobile payment services in rural Tanzania: A Case of Pwani Region" (Master's Dissertation) University of Dar es Salaam, 2016

[24]. L. Tornatzky, & M. Fleischer, The Process of Technology Innovation, Lexington, MA, Lexington Books, 1990

[25]. United Republic of Tanzania (2019). Public Procurement Regulatory Authority Annual performance evaluation report for 2018/2019 financial year

[26]. United Republic of Tanzania (2018). Public Procurement Regulatory Authority Annual performance evaluation report for 2017/2018 financial year

[27]. United Republic of Tanzania (2016). National Information and Communications Technology Policy, Government Printers, Dar es Salaam.

[28]. V., Venkatesh, J. Y. L., & Xu, X. Thong. "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory" MIS Quarterly, vol. 36, 1, pp. 157–178, 2012

[29]. V. Venkatesh, M. G., Morris, G. B. Davis, & F. D. Davis. "User acceptance of information technology: Toward a Unified View", MIS Quarterly, vol. 27, 3, pp. 425-478, 2003

[30]. J. Watuleke, "E-procurement: evolution and adoption. a review of literature" IJRDO-Journal of Educational Research: pp. 2456-2947, 2017

[31]. Y., Zhang, J.,Sun, Z. Yang, & Y. Wang, (2020). "Critical success factors of green innovation: Technology, organization and environment readiness" [On-line]. Available at: https://doi.org/10.1016/j.jclepro.2020.121701

APPENDIX

Education Level of Respondents against Type of Respondent Cross Tabulation

Table 9

		Type of respondent		Total
		Procuring Entity' Staff (Procurement Experts)	**Supplier**	
Education Level of Respondents	Standard Seven	0	4	4
	Secondary level	0	15	15
	Certificate Level	0	5	5
	Diploma Level	8	14	22
	Degree Level	50	15	65
	Master's Degree	41	4	45
	Ph.D Level	1	0	1
Total		**100**	**57**	**157**

Outer Loadings

Table 10

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AT1 <- AT	0.828	0.826	0.034	24.138	0.000
AT2 <- AT	0.842	0.838	0.047	17.764	0.000
AT3 <- AT	0.929	0.929	0.018	51.041	0.000
AT4 <- AT	0.93	0.93	0.014	68.325	0.000
AT5 <- AT	0.891	0.889	0.025	35.765	0.000
LF1 <- LF	0.81	0.811	0.064	12.746	0.000
LF2 <- LF	0.79	0.787	0.056	14.047	0.000
LF3 <- LF	0.9	0.9	0.021	43.618	0.000
LF4 <- LF	0.874	0.872	0.034	25.478	0.000
PE1 <- PE	0.74	0.741	0.049	15.227	0.000
PE2 <- PE	0.614	0.605	0.079	7.793	0.000
PE3 <- PE	0.803	0.807	0.027	29.768	0.000
PE4 <- PE	0.754	0.749	0.053	14.242	0.000
RA1 <- RA	0.794	0.795	0.038	20.634	0.000
RA2 <- RA	0.711	0.706	0.097	7.3	0.000
RA3 <- RA	0.803	0.803	0.045	17.975	0.000
RA4 <- RA	0.756	0.756	0.053	14.394	0.000
TA1 <- TA	0.778	0.777	0.042	18.493	0.000
TA2 <- TA	0.834	0.834	0.033	25.368	0.000
TA3 <- TA	0.803	0.804	0.038	20.975	0.000
TA4 <- TA	0.8	0.801	0.039	20.323	0.000
TA5 <- TA	0.76	0.759	0.048	15.859	0.000
TA6 <- TA	0.839	0.835	0.043	19.435	0.000
TA7 <- TA	0.852	0.852	0.03	28.513	0.000
TA8 <- TA	0.866	0.867	0.029	30.298	0.000

Total Indirect Effects

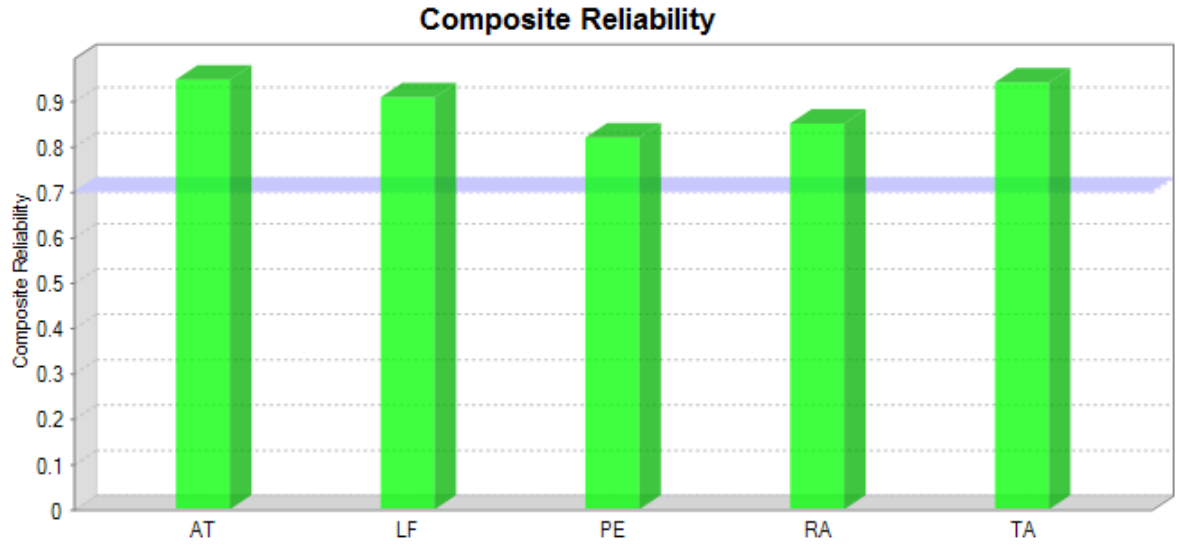
Table 11

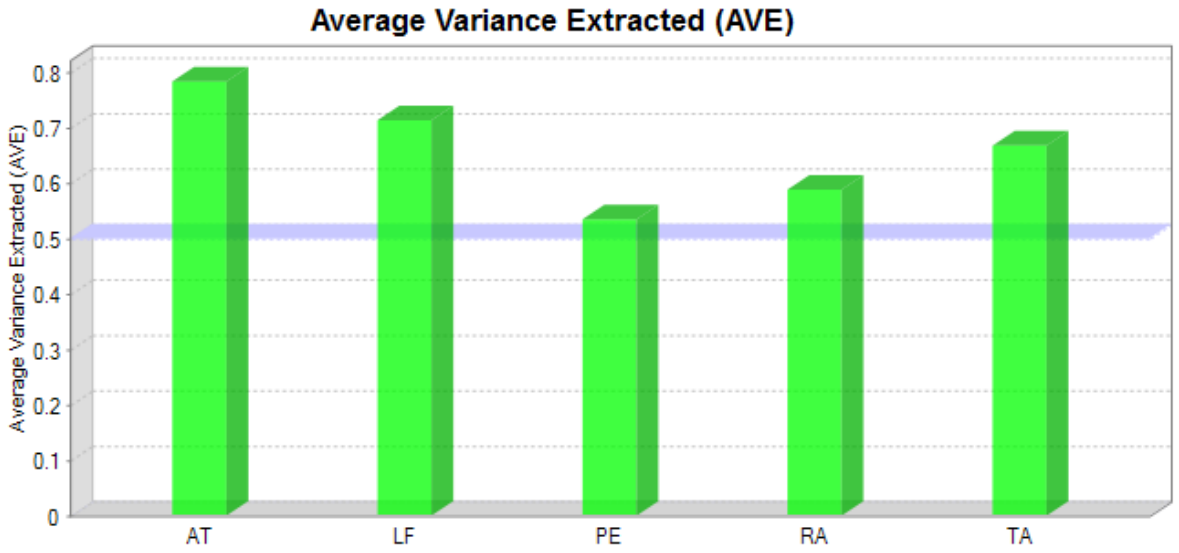
	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
LF -> AT	0.292	0.29	0.068	4.27	0.000
LF -> RA	0.25	0.255	0.046	5.403	0.000
LF -> TA	0.542	0.543	0.081	6.687	0.000
PE -> AT	0.14	0.142	0.055	2.528	0.012
PE -> TA	0.234	0.238	0.063	3.724	0.000
RA -> TA	0.17	0.163	0.053	3.186	0.002

Total Effects

Table 12

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AT -> TA	0.581	0.571	0.093	6.264	0.000
LF -> AT	0.622	0.619	0.078	8.002	0.000
LF -> PE	0.525	0.529	0.08	6.564	0.000
LF -> RA	0.572	0.568	0.084	6.815	0.000
LF -> TA	0.508	0.507	0.082	6.212	0.000
PE -> AT	0.377	0.378	0.081	4.664	0.000
PE -> RA	0.477	0.484	0.064	7.511	0.000
PE -> TA	0.543	0.542	0.077	7.069	0.000
RA -> AT	0.293	0.294	0.104	2.819	0.005
RA -> TA	0.203	0.212	0.11	1.841	0.066


Composite Reliability
Composite Reliability
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
AT
LF
PE
RA
TA


Average Variance Extracted (AVE)
Average Variance Extracted (AVE)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
AT
LF
PE
RA
TA

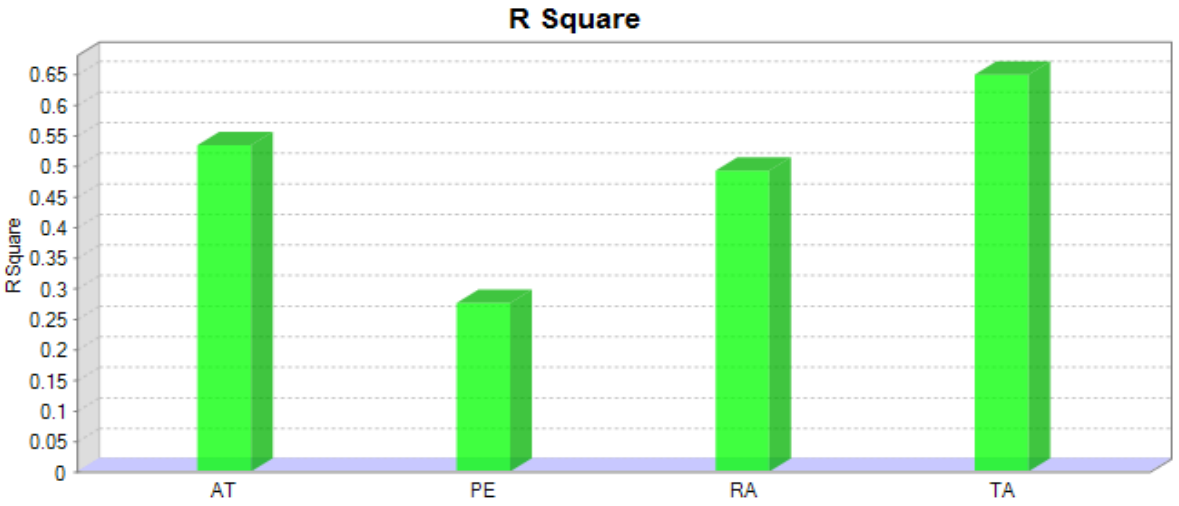

R Square
R Square
0.65
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
AT
PE
RA
TA

Figure 5

Table 13

PLS-MGA

Indicators	Outer Loadings-diff (| Procurement Experts - Suppliers |)	p-Value(Procurement Experts vs Suppliers)
AT1 <- AT	0.042	0.280
AT2 <- AT	0.272	0.021
AT3 <- AT	0.093	0.015
AT4 <- AT	0.052	0.080
AT5 <- AT	0.074	0.161
LF1 <- LF	0.188	0.285
LF2 <- LF	0.371	0.115
LF3 <- LF	0.009	0.575
LF4 <- LF	0.026	0.689
PE1 <- PE	0.012	0.569
PE2 <- PE	0.031	0.610
PE3 <- PE	0.045	0.295
PE4 <- PE	0.013	0.467
RA1 <- RA	0.057	0.348
RA2 <- RA	0.221	0.917
RA3 <- RA	0.140	0.181
RA4 <- RA	0.130	0.911
TA1 <- TA	0.003	0.509
TA2 <- TA	0.078	0.177
TA3 <- TA	0.104	0.159
TA4 <- TA	0.051	0.294
TA5 <- TA	0.074	0.796
TA6 <- TA	0.092	0.183
TA7 <- TA	0.010	0.567
TA8 <- TA	0.022	0.640

PLS-MGA

Construct	Indirect Effects-diff (| Procurement Experts - Suppliers |)	p-Value(Procurement Experts vs Suppliers)
AT -> TA		
LF -> AT	0.033	0.422
LF -> PE		
LF -> RA	0.136	0.098
LF -> TA	0.146	0.208
PE -> AT	0.027	0.387
PE -> RA		
PE -> TA	0.063	0.698
RA -> AT		
RA -> TA	0.025	0.394

PLS-MGA

Construct	Path Coefficients-diff (| Procurement Experts (1.0) - Suppliers (2.0) |)	p-Value(Procurement Experts (1.0) vs Suppliers (2.0))

AT -> TA	0.076	**0.338**
LF -> AT	0.220	**0.134**
LF -> PE	0.209	**0.140**
LF -> RA	0.134	**0.253**
LF -> TA	0.334	**0.010**
PE -> AT	0.220	**0.908**
PE -> RA	0.085	**0.263**
PE -> TA	0.259	**0.948**
RA -> AT	0.006	**0.489**
RA -> TA	0.018	**0.470**

Bootstrapping Results in PLS-MGA

Table 14

Construct	TEOPE	TEOS	TEMPE	TEMS	STDEV PE	STDEV S	t-Values PE	t-Values S	p-Values PE	p-Values S
AT -> TA	0.576	0.500	0.551	0.478	0.115	0.144	5.028	3.485	0.000	0.001
LF -> AT	0.668	0.415	0.648	0.417	0.126	0.164	5.310	2.522	0.000	0.012
LF -> PE	0.558	0.349	0.559	0.377	0.119	0.167	4.681	2.089	0.000	0.037
LF -> RA	0.604	0.335	0.590	0.341	0.138	0.153	4.395	2.188	0.000	0.029
LF -> TA	0.615	0.134	0.607	0.158	0.100	0.169	6.172	0.797	0.000	0.426
PE -> AT	0.293	0.487	0.292	0.493	0.101	0.115	2.913	4.216	0.004	0.000
PE -> RA	0.508	0.423	0.511	0.454	0.072	0.111	7.083	3.797	0.000	0.000
PE -> TA	0.386	0.708	0.386	0.713	0.107	0.080	3.598	8.837	0.000	0.000
RA -> AT	0.289	0.284	0.313	0.295	0.143	0.133	2.017	2.131	0.044	0.034
RA -> TA	0.217	0.175	0.261	0.183	0.144	0.173	1.502	1.008	0.134	0.314

Bootstrapping Results in PLS-MGA for Outer Loadings

Table 15

Indicator	OLOPE	OLOS	OLMPE	OLMS	STDEV PE	STDEV S	t-Values PE	t-Values S	p-Values PE	p-Values S
AT1 <- AT	0.853	0.811	0.842	0.809	0.059	0.052	14.451	15.451	0.000	0.000
AT2 <- AT	0.899	0.627	0.888	0.626	0.057	0.137	15.643	4.588	0.000	0.000
AT3 <- AT	0.953	0.860	0.950	0.863	0.020	0.040	47.252	21.754	0.000	0.000
AT4 <- AT	0.938	0.886	0.939	0.882	0.017	0.037	56.623	24.131	0.000	0.000
AT5 <- AT	0.905	0.831	0.906	0.832	0.023	0.073	39.438	11.375	0.000	0.000
LF1 <- LF	0.848	0.660	0.840	0.609	0.075	0.271	11.279	2.436	0.000	0.015
LF2 <- LF	0.824	0.453	0.814	0.457	0.071	0.295	11.676	1.536	0.000	0.125
LF3 <- LF	0.901	0.892	0.900	0.863	0.037	0.121	24.190	7.355	0.000	0.000
LF4 <- LF	0.841	0.868	0.833	0.845	0.070	0.121	12.081	7.163	0.000	0.000
PE1 <- PE	0.747	0.759	0.750	0.754	0.056	0.089	13.284	8.528	0.000	0.000
PE2 <- PE	0.624	0.656	0.618	0.638	0.087	0.141	7.149	4.663	0.000	0.000
PE3 <- PE	0.810	0.765	0.807	0.763	0.050	0.071	16.132	10.824	0.000	0.000
PE4 <- PE	0.738	0.725	0.726	0.717	0.080	0.101	9.281	7.180	0.000	0.000
RA1 <- RA	0.803	0.747	0.807	0.727	0.040	0.117	20.077	6.401	0.000	0.000
RA2 <- RA	0.629	0.850	0.612	0.825	0.147	0.100	4.284	8.473	0.000	0.000
RA3 <- RA	0.822	0.682	0.819	0.645	0.054	0.167	15.120	4.080	0.000	0.000
RA4 <- RA	0.704	0.834	0.703	0.825	0.083	0.055	8.486	15.111	0.000	0.000
TA1 <- TA	0.775	0.772	0.772	0.773	0.054	0.077	14.285	10.004	0.000	0.000
TA2 <- TA	0.850	0.773	0.846	0.763	0.039	0.076	21.767	10.158	0.000	0.000
TA3 <- TA	0.827	0.723	0.822	0.717	0.052	0.091	15.999	7.934	0.000	0.000
TA4 <- TA	0.804	0.753	0.801	0.753	0.050	0.081	15.951	9.357	0.000	0.000
TA5 <- TA	0.721	0.795	0.721	0.793	0.069	0.063	10.416	12.692	0.000	0.000
TA6 <- TA	0.872	0.779	0.871	0.776	0.031	0.099	28.131	7.912	0.000	0.000
TA7 <- TA	0.844	0.853	0.841	0.853	0.044	0.044	19.374	19.342	0.000	0.000
TA8 <- TA	0.853	0.874	0.848	0.872	0.049	0.043	17.444	20.221	0.000	0.000

Bootstrapping Results in PLS-MGA for Outer Weights

Table 16

Indicator	OWOPE	OWOS	OWMPE	OWMS	STDEV PE	STDEV S	t-Values PE	t-Values S	p-Values PE	p-Values S
AT1 <- AT	0.195	0.277	0.192	0.273	0.016	0.035	12.084	8.031	0.000	0.000
AT2 <- AT	0.216	0.216	0.212	0.213	0.014	0.031	15.075	6.871	0.000	0.000
AT3 <- AT	0.230	0.247	0.230	0.251	0.010	0.021	22.376	11.611	0.000	0.000
AT4 <- AT	0.235	0.247	0.240	0.246	0.019	0.025	12.069	9.764	0.000	0.000
AT5 <- AT	0.222	0.250	0.228	0.252	0.021	0.032	10.544	7.698	0.000	0.000
LF1 <- LF	0.272	0.349	0.271	0.321	0.025	0.169	10.845	2.067	0.000	0.039
LF2 <- LF	0.294	0.030	0.295	0.048	0.044	0.212	6.610	0.139	0.000	0.889
LF3 <- LF	0.308	0.478	0.313	0.435	0.031	0.118	9.934	4.058	0.000	0.000
LF4 <- LF	0.296	0.380	0.299	0.355	0.047	0.082	6.291	4.654	0.000	0.000
PE1 <- PE	0.373	0.420	0.380	0.412	0.053	0.078	7.027	5.398	0.000	0.000
PE2 <- PE	0.242	0.248	0.243	0.239	0.042	0.085	5.814	2.911	0.000	0.004
PE3 <- PE	0.378	0.385	0.378	0.385	0.038	0.062	10.030	6.250	0.000	0.000
PE4 <- PE	0.358	0.308	0.350	0.310	0.041	0.057	8.788	5.416	0.000	0.000
RA1 <- RA	0.348	0.297	0.356	0.299	0.051	0.070	6.861	4.266	0.000	0.000
RA2 <- RA	0.264	0.302	0.256	0.303	0.052	0.078	5.116	3.885	0.000	0.000
RA3 <- RA	0.396	0.265	0.393	0.273	0.044	0.091	9.080	2.898	0.000	0.004
RA4 <- RA	0.325	0.409	0.324	0.415	0.042	0.085	7.832	4.838	0.000	0.000
TA1 <- TA	0.158	0.182	0.158	0.178	0.014	0.025	11.311	7.216	0.000	0.000
TA2 <- TA	0.158	0.162	0.158	0.159	0.012	0.021	13.286	7.839	0.000	0.000
TA3 <- TA	0.154	0.155	0.153	0.151	0.012	0.026	12.821	6.014	0.000	0.000
TA4 <- TA	0.148	0.146	0.149	0.147	0.013	0.024	11.533	6.188	0.000	0.000
TA5 <- TA	0.133	0.136	0.134	0.140	0.013	0.019	10.344	7.368	0.000	0.000
TA6 <- TA	0.158	0.137	0.160	0.135	0.013	0.024	11.846	5.824	0.000	0.000
TA7 <- TA	0.152	0.161	0.154	0.163	0.014	0.017	11.034	9.272	0.000	0.000
TA8 <- TA	0.160	0.183	0.158	0.184	0.012	0.017	12.958	11.006	0.000	0.000

Bootstrapping Results in PLS-MGA

Table 17

Construct	PCOPE	PCOS	PCMPE	PC MS	STDEV PE	STDEV S	t-Values PE	t-Values S	p-Values PE	p-Values (S)
AT -> TA	0.576	0.500	0.551	0.478	0.115	0.144	5.028	3.485	0.000	0.001
LF -> AT	0.412	0.192	0.391	0.187	0.144	0.141	2.863	1.361	0.004	0.174
LF -> PE	0.558	0.349	0.559	0.377	0.119	0.167	4.681	2.089	0.000	0.037
LF -> RA	0.321	0.187	0.305	0.172	0.108	0.166	2.959	1.124	0.003	0.262
LF -> TA	0.093	-0.241	0.091	-0.229	0.085	0.100	1.087	2.407	0.278	0.016
PE -> AT	0.146	0.367	0.134	0.358	0.104	0.129	1.410	2.851	0.159	0.005
PE -> RA	0.508	0.423	0.511	0.454	0.072	0.111	7.083	3.797	0.000	0.000
PE -> TA	0.191	0.450	0.177	0.463	0.102	0.120	1.877	3.767	0.061	0.000
RA -> AT	0.289	0.284	0.313	0.295	0.143	0.133	2.017	2.131	0.044	0.034
RA -> TA	0.050	0.033	0.096	0.043	0.132	0.161	0.382	0.204	0.702	0.839

Table 18

Indicators	Outer Loadings-diff (| Procurement Experts - Suppliers |)	p-Value (Procurement Experts vs Suppliers)
AT1 <- AT	0.042	0.280
AT2 <- AT	0.272	0.021
AT3 <- AT	0.093	0.015
AT4 <- AT	0.052	0.080
AT5 <- AT	0.074	0.161
LF1 <- LF	0.188	0.285
LF2 <- LF	0.371	0.115
LF3 <- LF	0.009	0.575
LF4 <- LF	0.026	0.689
PE1 <- PE	0.012	0.569
PE2 <- PE	0.031	0.610
PE3 <- PE	0.045	0.295
PE4 <- PE	0.013	0.467
RA1 <- RA	0.057	0.348
RA2 <- RA	0.221	0.917
RA3 <- RA	0.140	0.181
RA4 <- RA	0.130	0.911
TA1 <- TA	0.003	0.509
TA2 <- TA	0.078	0.177
TA3 <- TA	0.104	0.159
TA4 <- TA	0.051	0.294
TA5 <- TA	0.074	0.796
TA6 <- TA	0.092	0.183
TA7 <- TA	0.010	0.567
TA8 <- TA	0.022	0.640

PLS-MGA

Construct	Indirect Effects-diff (| Procurement Experts - Suppliers |)	p-Value(Procurement Experts vs Suppliers)
AT -> TA		
LF -> AT	0.033	0.422
LF -> PE		
LF -> RA	0.136	0.098
LF -> TA	0.146	0.208
PE -> AT	0.027	0.387
PE -> RA		
PE -> TA	0.063	0.698
RA -> AT		
RA -> TA	0.025	0.394