DETERMINANTS OF E-PROCUREMENT ADOPTION MODEL FOR GREEN PROCUREMENT IN DEVELOPING COUNTRIES: EXPERIENCE FROM TANZANIA

Deus N. Shatta

PhD Candidate, Open University of Tanzania, Tanzania

France A. Shayo

Open University of Tanzania, Tanzania

John N. Layaa

Open University of Tanzania, Tanzania

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ABSTRACT

This study aimed at filling the theoretical and empirical knowledge gaps regarding the debate on determinants of e-Procurement adoption model for green procurement using UTAUT and TOE model. Positivism philosophy and cross-sectional survey research design were adopted. The study also used purposive and stratified sampling techniques. Sample size was 157 respondents. Questionnaires and documentary review were used for data collection. The collected data were analysed by using Partial Least Squares Structural Equation Modelling with the help of SmartPLS 3 software. Finally, an integrated e-Procurement adoption model for green procurement was validated of which legal framework and relative advantage seem to have indirect influences towards e-Procurement adoption system. However, performance expectancy has direct and indirect influences towards e-Procurement adoption system. Above all, attitude has direct influence towards e-Procurement adoption system. The study has significant 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 e-procurement in the public sector for developing countries, Tanzania in particular. The model can be used by the Government leaders and policy makers as a framework of analysis for decision making. 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.

Key Words: *determinants, e-procurement, adoption, model, green procurement, developing country*

INTRODUCTION

Worldwide, buyers and suppliers are increasingly becoming aware about environmentally friendly products (Islam et al., 2017). However, the impacts and benefits of green procurement practices have been an important research agenda as it has been considered as a vehicle for value creation of an organization through increasing competitiveness of eco-industries, saving money, protecting natural resources, and fostering job creation, which in turn, to sustainable development (Islam et al.,2017).

Unlike traditional procurement models, e-procurement adoption model for green procurement considers the environmental impacts of the production process as goods are procured and flow through the chain and can be considered as an innovation that extends the traditional supply chain to include activities that aim at minimizing the environmental impacts of a product throughout its life cycle; such activities include green design, resource saving, harmful material reduction, and product recycling (Bang-Ning et al.,2016).

The business community in Tanzania has its own views regarding the environmental problems observed and is suggesting that environmental measurers tend to increase up-front investment costs and meeting compliance requirement can increase economic burden (Baya

&Jangu, 2017). However, the National Environment Management Council (NEMC) has revealed that adoption of Environmental Management System (EMS), Life Cycle Assessment (LCA) and Cleaner Environmental technologies will improve environmental conditions. This is based on EMS systematically manage the interaction of industrial activities with the physical environment, while LCA supports decision making and offers way of approaching problems from the "product chain" perspective. Systems such as cleaner technologies ensure optimum use of resources and minimization of wastes (Baya and Jangu, 2017).

Despite the emphasis of NEMC to ensure industries and firms have environmental profile and they have adopted cleaner environmental technologies; the environmental performances in Tanzanian public procurement process have remained relatively low because of low level of e-procurement adoption for green procurement and unclear critical success factors influencing its adoption. Jeptoo and Karanja (2017) emphasize that the public sector organizations which adopted e-procurement system have been able to increase efficiency, transparency, save operations/administration cost and reduce corruption in public services. However, regardless of the benefits that could be achieved from a successful e-procurement implementation in the public sector and its positive performance, some buyers and suppliers have been waving to adopt e-procurement system due to various insights (Basheka et al., 2012; Mujtaba, 2014; Latif, 2014).

For example, 326 (30.9 %) of the trained suppliers for piloting the Tanzania National e-Procurement System (TANePS) adoption in the country were reluctant to register in that system due to diverse insights on the new public procurement system (URT, 2018). Likewise, 63.4 percent of the selected procuring entities for piloting TANePS were found not implementing the system during the financial year 2018/2019 regardless of the trainings conducted to empower procurement officers from selected entities (URT, 2019). In addition, there was drop out of the registered suppliers in TANePS by 1.2% during the financial year 2018/2019 (URT, 2018;URT, 2019).

Currently, literature on e-procurement adoption in developing countries (Watuleke, 2017;Ibemet al. 2016; Azanlerigu and Akay, 2015;Ombat, 2015; Shale, 2014;Mgidlana, 2013; Kassim and Hussin, 2013), Tanzania in particular (Malekia, 2018; Suleiman, 2015) has focused either on buyers' perspectives or suppliers' perspectives and the focus on both buyers' -suppliers' perspectives combined with the use of PLS SEM for data analysis have been insufficiently considered.

The study of the relationship between determinants and e-procurement adoption has attracted many researchers particularly in developing countries whereby low level of e-procurement adoption is experienced (Watuleke, 2017;Ibem et al. 2016; Azanlerigu & Akay, 2015; Ombat, 2015; Shale, 2014; Mose et al.,2013; Mgidlana, 2013; Kassim &Hussin, 2013; Malekia, 2018; Suleiman, 2015). However, there has been a debate in the literature with regard to which determinants of e-procurement adoption in public sector (Watuleke, 2017; Iles, 2017; Suleiman, 2015; Shale, 2014; Kassim &Hussin, 2013).

Some studies point coercive pressure (legal framework) of the country, perceived performance expectancy of the system, relative advantage (perceived benefits) of the system

and the attitude of top management and users of the new system are determinants of e-procurement adoption (Iles, 2017; Suleiman, 2015; Monczka & Carter, 2015; Kassim & Hussin, 2013). Other studies contend that internal needs, improved customers relation, reduction of labour costs, employees and management commitment to success of adoption; reliability of information technology and supplier performance; monitoring the performance of e-procurement systems; user acceptance of e-procurement systems and top management support, the benefits of e-procurement in enhancing efficiency in delivery; effective communication and eliminating geographic barriers are determinants of e-procurement adoption (Ibem et al., 2016; Mose et al.,2013; Watuleke, 2017 ; Mgidlana, 2013).

Taking into account the diverse perceptions of authors on determinants of e-procurement adoption in public sector, insufficient consideration of the unit of analysis (both buyers' and suppliers' perspectives) in studies related to e-procurement adoption, combined with reluctance of suppliers to register and drop out of the registered ones during piloting TANePS, failure of some selected procuring entities to implement TANePS during the financial year 2018/2019, this study was inspired to be conducted in order to bring fresh views and results on determinants of e-procurement adoption model for green procurement in developing countries, Tanzania in particular whereby the rate of TANePS implementation in all procuring entities is not exciting.

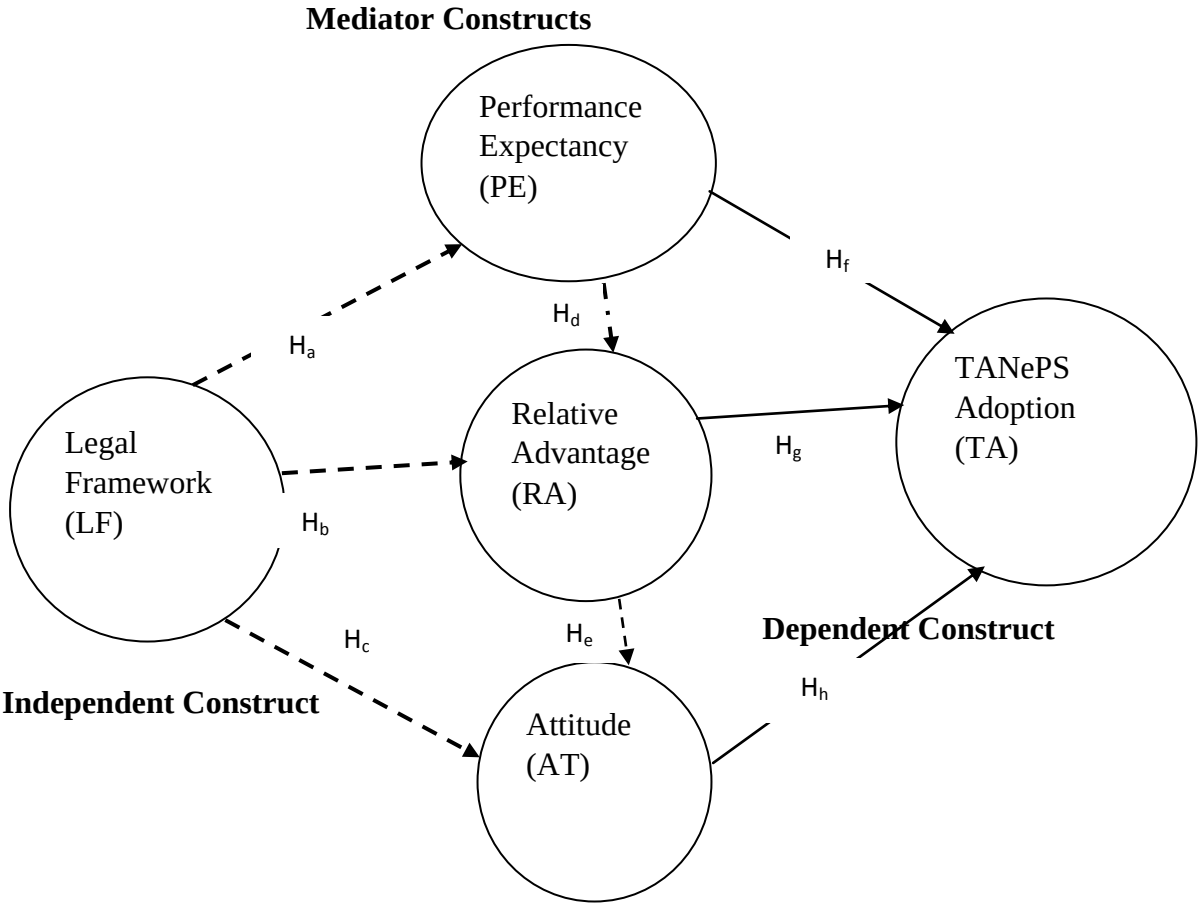
To clear the existing gap in empirical literature and for the purpose of increasing environmental awareness and willingness among stakeholders of the public procurement process in Tanzanian public sector to use e-procurement system for green procurement, this study intended to determine the determinants of TANePS adoption model for green procurement in public sector. This study supports authors who point coercive pressure (legal framework) of the country, perceived performance expectancy of the system, relative advantage (perceived benefits) of the system and the attitude as determinants of e-procurement system for green procurement due to the fact that they reflect to the initiatives shown by the Government of Tanzania in improving her public procurement legal framework (amendment of the public procurement act (PPA) 2004 and its public procurement regulation (PPR) 2005) and other procedures (introduction of TANePS, training of procurement officers and suppliers) (URT, 2016). However, the critical issue of diverse attitude among procurement officers from procuring entities and suppliers towards TANePS adoption in the country was noted, something valuable and worth for researching to come with different views and results of which the existing literature is missing.

MODEL CONSTRUCT AND HYPOTHESES

The study involved four endogenous constructs and one exogenous construct. Endogenous constructs included performance expectancy from UTAUT by Venkatesh et al. (2003), relative advantage (perceived benefits), attitude from TOE model by Tornatzky and Fleischer (1990) 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 inspired 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 (Schooner et al., 2008). That means, legal framework is regarded as dominant critical success factor which influences other critical success factors towards e-procurement adoption in public sector.



Key

Direct relationships (Existing Literature)

Indirect relationships (Theoretical Gaps)

Source: (Conceptualized from Theoretical and Empirical Literature, 2020)

Figure 1: Conceptual Model

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 (URT, 2016; Iles, 2017). 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 (Latif, 2014; URT, 2018). 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 (Venkatesh et al., 2012). 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.

Table 1: Summary of Hypotheses Generated from the Theoretical Model

Hypothesis	**Path**		**Influence**
H_1	LF->PE -> TA $H_a.H_f$	->	Indirect
H_2	LF-> RA -> TA $H_b.H_g$	->	Indirect
H_3	LF ->AT-> TA $H_c.H_h$	->	Indirect
H_4	PE->TA H_f	->	Direct
H_5	PE ->RA -> TA $H_d.H_g$	->	Indirect
H_6	RA -> TA H_8	->	Direct
H_7	RA ->AT-> TA $H_e.H_h$	->	Indirect
H_8	AT-> TA $>H_h$	-	Direct

Key

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

In order to operationalise the concepts in the model, the following hypotheses were tested:

H_1: In the presence of Performance Expectancy (PE), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H_2: In the presence of Relative Advantages (RA), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H $_3$: In the presence of Attitude (AT), Legal framework (LFs) positively and indirectly influences TANePS adoption in the public sector.

H $_4$: Performance expectancy (PE) positively and directly influences TANePS adoption in the public sector

H $_5$: In the presence of Relative Advantage (RA), Performance Expectancy (PE) positively and indirectly influences TANePS adoption in the public sector.

H_6: Relative advantage (RA) positively and directly influences TANePS adoption in the public sector

H $_7$: In the presence of Attitude (AT), Relative advantage (RA) positively and indirectly influences TANePS adoption in the public sector

H $_8$: Attitude (AT) positively and directly influences TANePS adoption in the public sector.

RESEARCH METHODS

This study adopted positivism philosophy and cross-sectional survey research design. The study also used non-probability (purposive) sampling and probability (stratified) sampling techniques. Questionnaires with closed ended questions and documentary review was used for data collection. The collected data were analyzed by using Partial Least Squares Structural Equation Modelling (PLS-SEM) with the help of SmartPLS 3 software. 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 (URT, 2019).

The study used one hundred fifty-seven (157) respondents for data analysis from whom 100 were procurement experts and 57 were suppliers. Justification of the sample size used based on the rule of thumb suggested by Hair et al. (2014) for applying PLS-SEM and SmartPLS 3 software in data analysis 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 relationships of constructs and indicators (Hair et al., 2018).

In this study, only 40 respondents were required to fulfil the minimum requirement for data analysis by using PLS-SEM with the help of Smart PLS 3 software because the exogeneous latent construct of the research model (legal framework) had four indicators. The number of procurement experts and suppliers used in this study exceeds the minimum number of respondents required in each case per rule of thumb suggested by Hair et al. (2014). However, PLS-SEM offers extensive potential for analyzing large datasets, therefore, respondents more than 40 in each case was considered as potential for data analysis in this study.

RESEARCH RESULTS

Figure 2 shows the statistical significance of the research model of this study. The results in this figure show that one direct hypothesized relationship was rejected and seven hypothesized relationships were accepted indicating that the theoretical research model of

this study can be used in decision making due to the fact that 87.5% of the hypothesized relationships appeared to exist in real life.

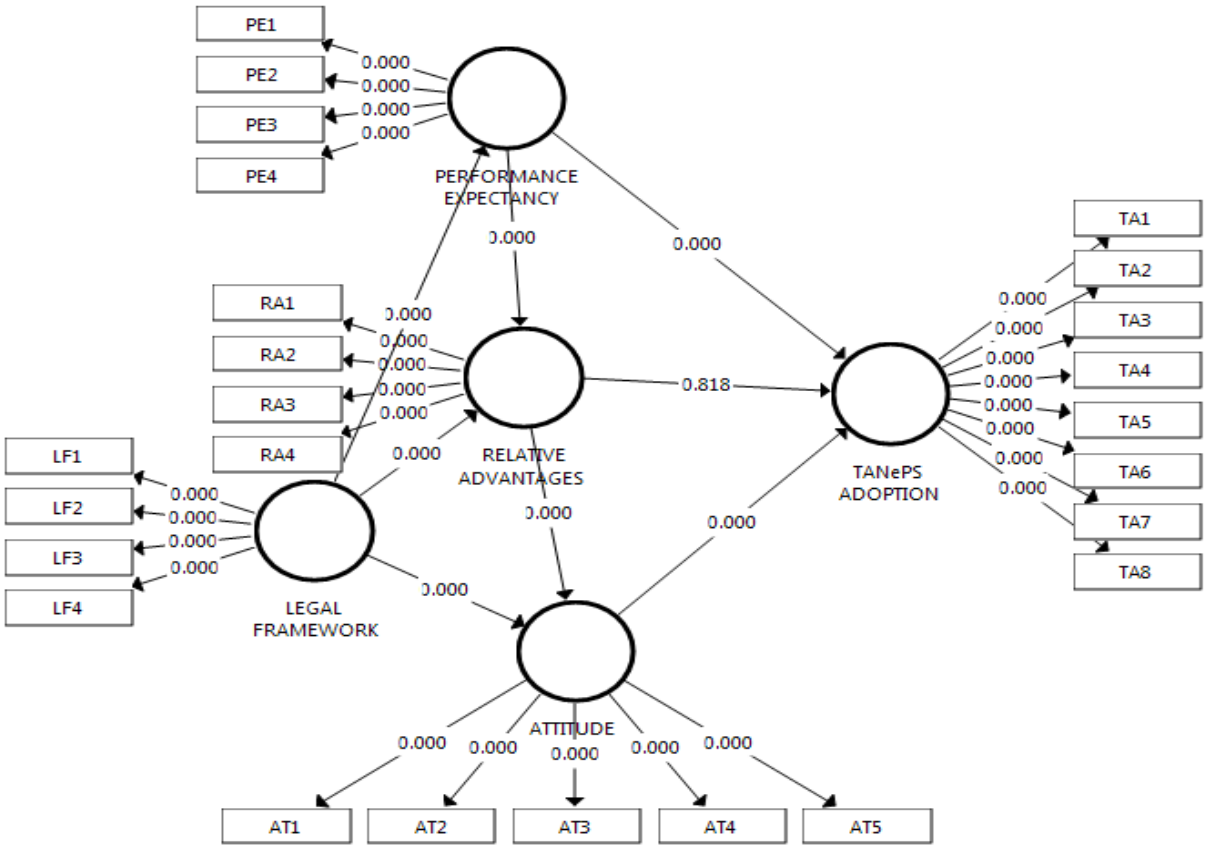


Figure 1: Statistical Significance of the Hypothesized Relationships

Table 2: Summary of Hypotheses Results Generated from the Theoretical Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AT -> TA	0.568	0.549	0.093	6.129	0.000
LF -> AT	0.385	0.376	0.097	3.952	0.000
LF -> PE	0.525	0.526	0.08	6.542	0.000
LF -> RA	0.321	0.317	0.086	3.743	0.000
PE -> RA	0.48	0.484	0.062	7.785	0.000
PE -> TA	0.305	0.303	0.077	3.945	0.000
RA -> AT	0.415	0.426	0.098	4.215	0.000
RA -> TA	0.022	0.044	0.095	0.231	0.818

Table 3: Findings of Hypotheses Tested from the Theoretical Model

Hypothesis	Path		P-Value	Influence	Remark
H_1	LF->PE -> TA $H_a.H_f$	->	0.000	Indirect	Accepted
H_2	LF-> RA -> TA $H_b.H_g$	->	0.000	Indirect	Accepted
H_3	LF ->AT-> TA $H_c.H_h$	->	0.000	Indirect	Accepted
H_4	PE->TA H_f	->	0.000	Direct	Accepted
H_5	PE ->RA -> TA $H_d.H_g$	->	0.000	Indirect	Accepted
H_6	RA -> TA H_8	->	0.818	Direct	Rejected
H_7	RA ->AT-> TA $H_e.H_h$	->	0.000	Indirect	Accepted
H_8	AT-> TA >H_h	-	0.000	Direct	Accepted

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

DISCUSSION

Influences of Hypothesized Critical Success Factors Towards TANePS Adoption

In this paper legal framework was postulated to positively and indirectly influence TANePS adoption in public sector through performance expectancy, relative advantage and attitude. The findings revealed positive path coefficients which meant that an increase in one standard deviation of the legal framework translated into increase of the rate of TANePS adoption and it was found statistically significant (p-value < 0.05) which meant the indirect influence of legal framework exist in real life.

These findings are similar to the previous studies like the study by Azanlerigu and Akay (2015). The study by Azanlerigu and Akay (2015) revealed that legal framework is a basis of any business transaction whether in public sector or private businesses. This is due to the fact that, legal framework defines the obligations and responsibilities of the partners transacting business with the objectives of fulfilling each other's desired goal. However, the weakness of the legal framework may inhibit the adoption and growth of e-procurement initiatives (Azanlerigu and Akay, 2015). In addition, Masele (2014) argued that coercive pressure (legal framework) may include; strict regulations, policies, sanctions and penalties against unfriendly behaviors.

The study by Masele (2014) postulated that coercive pressure has influence on organization's commitment towards Green E-Business adoption. Thus, the higher it is, the more likely the organization dedicates itself towards being "green" in using E-Business. The findings indicated that the relationship was very significant because p-value was less than 0.05. The study by Masele (2014) proved beyond reasonable doubt that coercive pressures (legal frameworks) are inevitable if commitment towards adoption of new technology was to be instructed for serving public benefits. Above all, the TOE model also postulated coercive pressures (legal framework) to influence new technologies adoption in public sector for public gains.

Although these findings are similar with some other previous studies with regard to new technology adoption for public benefits or private gains, this study has added new knowledge with regard to the influence of legal framework on TANePS (new technology) adoption through performance expectancy, relative advantage and attitude in two perspective; public and private sector gains of which the existing theories and empirical studies are revealing vainly.

The critical success factor of legal framework from TOE to influence positively and indirectly the adoption of new technology (TANePS) in public sector after interacting with performance expectancy from UTAUT, relative advantage and attitude from TOE, is a substance which is missing in the current literature.

On the other hand, performance expectancy was postulated to positively, directly and indirectly influence TANePS adoption in public sector. The findings revealed positive path coefficients which meant that an increase in one standard deviation of the performance expectancy translated into increase of the rate of TANePS adoption and it was found statistically significant (p-value < 0.05) which meant that the relationships exist in real life. For performance expectancy being significant in both direct and indirect relationships suggested that procurement experts and suppliers only rely on performance expectancy in order to adopt and use TANePS, hence this factor influences directly and indirectly procurement experts' and suppliers' decisions to adopt and use the new public procurement system.

The findings of this study differ from some previous studies for example the study by Taluka (2016) revealed that performance expectance (PE) was positive but not statistically significant [$\beta = 0.069$, $p = 0.443$] at $\alpha = 0.05$, meaning that an increase in one standard deviation in performance expectance translates into 0.069 increase in Behavioural Intention to use Mobile Payment services (BI) for the complete model. The study by Taluka (2016) concluded that on performance expectance being insignificant could suggest that consumers do not only rely on performance expectance in order to adopt and use mobile payment services, hence factor does not influence consumers' decisions.

In addition, the study by Masele (2014) defined Performance Expectancy or Perceived Usefulness is the extent to which a person believes that using a particular system will enhance his or her job performance. The study by Masele (2014) posited that the higher the performance expectancy among the small and medium tourism enterprises, the higher the

influence on intention to adopt and use green e-business. The findings however, showed insignificant influence of performance expectancy on green e-business adoption due to the fact that the p-value was greater than 0.05, while the path coefficient was less than 0.2, implying that, it was less important for discussion and therefore, it was discarded.

Although these findings differ with some other studies on technology adoption for private benefits, the UTAUT postulated performance expectancy to influence new technologies adoption in private sector. Therefore, this study has added new knowledge with regard to the influence of performance expectancy on new technology (TANePS) adoption in two perspectives; public and private sector of which the existing theories and empirical studies are illuminating ineffectively. The determinant of performance expectancy from UTAUT to influence positively, directly and indirectly the adoption of new technology (TANePS) in public sector after interacting with relative advantage from TOE is a substantial missing in the current theories and models.

However, in this paper relative advantage was postulated to positively, directly and indirectly influence TANePS adoption in public sector. The findings revealed positive path coefficient for the direct influence which meant that an increase in one standard deviation of relative advantage translated into increase of the rate of TANePS adoption but the relationship was found not statistically significant because p-value > 0.05 which implied the relationship does not exist in real life. For relative advantage being insignificant could suggest that procurement experts and suppliers do not only rely on relative advantage of TANePS in order to adopt and use the system, hence factor does not influence directly procurement experts' and suppliers' decisions to adopt the system. This fact also meant that understanding of the advantages of new technology alone without change of mindset (attitude) does not influence stakeholders' decisions to adopt the new technology.

On the other hand, relative advantage was postulated to positively and indirectly influence TANePS adoption in public sector. The findings revealed positive path coefficient which meant that an increase in one standard deviation of relative advantage translated into increase of the rate of TANePS adoption and it was found statistically significant (p-value < 0.05) which meant the relationship exists in real life. These findings correspond to the previous studies' findings for example the study by Ibem et al. (2016) revealed that the perceived benefits of e-procurement were the reason why most organizations in the construction industry use it in Nigeria. The study by Ibem et al. (2016) suggests that the decision to adopt e-procurement by organizations in the Nigerian construction industry was partly influenced by the associated benefits in enhancing efficiency in project delivery, eliminating geographic barrier to participation in procurement activities and improving effective communication among project team member. In addition, the study by Intharaksa (2009) revealed that one of the basic attributes of innovation perceived to speed up web-based instruction rate of adoption was relative advantage.

Although these findings are similar with some other studies on technology adoption for public and private benefits, the TOE postulated relative advantage as part of technological factor which influences new technologies adoption in public sector. Therefore, this study has contributed new knowledge with regard to the influence of relative advantage on new

technology (TANePS) adoption in two perspective; public and private sector of which the existing theories and empirical studies are enlightening ineffectually. The critical success factor of relative advantage from TOE model to influence positively and indirectly the adoption of new technology (TANePS) in public sector after interacting with attitude is considerable missing in current literature because studies on buyer-supplier perspective are currently inadequate.

In this paper attitude was postulated to positively and directly influence TANePS adoption in public sector. The findings revealed positive path coefficient which meant that an increase in one standard deviation of the attitude translated into increase of the rate of TANePS adoption and it was found statistically significant (p-value < 0.05) which meant that the relationship exists in real life.

For attitude being significant in direct relationship and mediates other critical success factors legal framework, performance expectancy and relative advantage suggested that procurement experts and suppliers only rely on change of their attitude in order to adopt and use TANePS, hence this factor influences directly procurement experts' and suppliers' decisions to adopt and use the new procurement system. These findings are similar to the findings of the study by Kassim and Hussin (2013) revealed that user attitude has always been found to have a strong, direct and positive effect with behaviour and there is link between attitude and behavior.

However, user attitude is the fundamental in attitudinal research and has been supported in a wide variety of settings. In addition, Kassim and Hussin (2013) assert that the attitude is still significant in determining the public e-procurement system use among the agencies and this can be clarified by feelings of the top management as one of the users, and the perceptions from other users on the system like suppliers that are accumulated to form a cumulative decision that either accelerate or hold up the use decision (Kassim &Hussin, 2013).

Although these findings are similar with some other studies on technology adoption for public benefits, the TOE postulated top management attitude as part of organizational factor which influences new technologies adoption in public sector. Therefore, this study has contributed new knowledge with regard to the influence of attitude on new technology (TANePS) adoption in two perspective; public and private sector of which the existing theories and empirical studies are informative indecisively. The critical success factor "attitude" from TOE model to link the legal framework, performance expectancy and relative advantage in the process of adopting new technology for public and private gains is considerable missing in the current literature because studies which focus on buyer-supplier perspectives with indirect relationships of the critical success factors influencing e-procurement adoption are currently insufficient.

Final Theoretical Model

The final theoretical model of this study was validated after testing the relationships which were existing in empirical literature and in UTAUT and TOE model. Figure 3 shows the final theoretical model which was developed in this study. From this theoretical model, eight

hypotheses were formulated of which seven (87.5%) of them had positive path coefficients and were statistically significant indicating that the hypothesized relationships exist in real life. However, validity of this theoretical model is not limited to the geographical area in the world hence it can be used in any country to conduct researches related to e-procurement adoption in public sector because of the similarities of the public procurement procedures in the world.

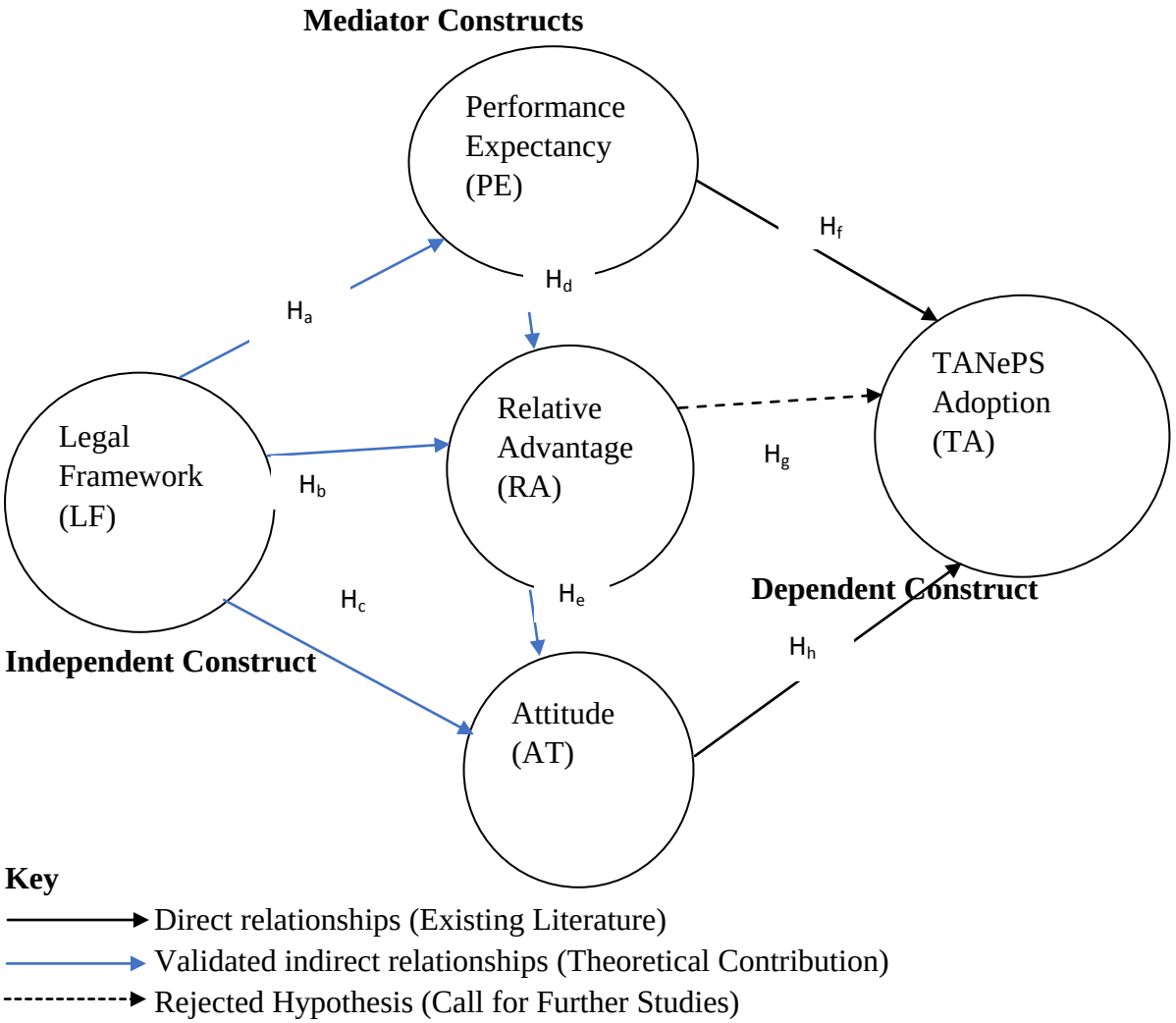


Figure 3: E-Procurement Adoption Model for Green Procurement in Tanzania

Source: (Validated the Conceptualized Model, 2020)

CONCLUSIONS

Basing on the hypothesized relations of the research model of the study and the findings, it is concluded that the study has significant contribution in terms of filling the theoretical and empirical knowledge gaps. In addition, the UTAUT and TOE model have significant contribution to the achievement of the hypothesized relations of the research model of this study. This would have practical implications in terms of public procurement policy implementation and applicability of TANePS in the public sector. The recommendations of this study are anticipated to improve the adoption of TANePS and be implemented successful

in all procuring entities in the country. 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 perspective.

RECOMMENDATIONS

Basing on the findings and final integrated research model of this study, the Government of Tanzania should ensure the true potential and benefits of TANePS adoption are realized by all parties involved. Firstly, significant change to the mindset of the traditional suppliers who have not registered into the system, the top management of all procuring entities and the procurement experts working with procuring entities is required. This can be done through active and continuous training and educating the stakeholders on TANePS performance expectancy, legal framework which governs the system and the benefits it brings to the supplier community, and also to the government. 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 for green procurement.

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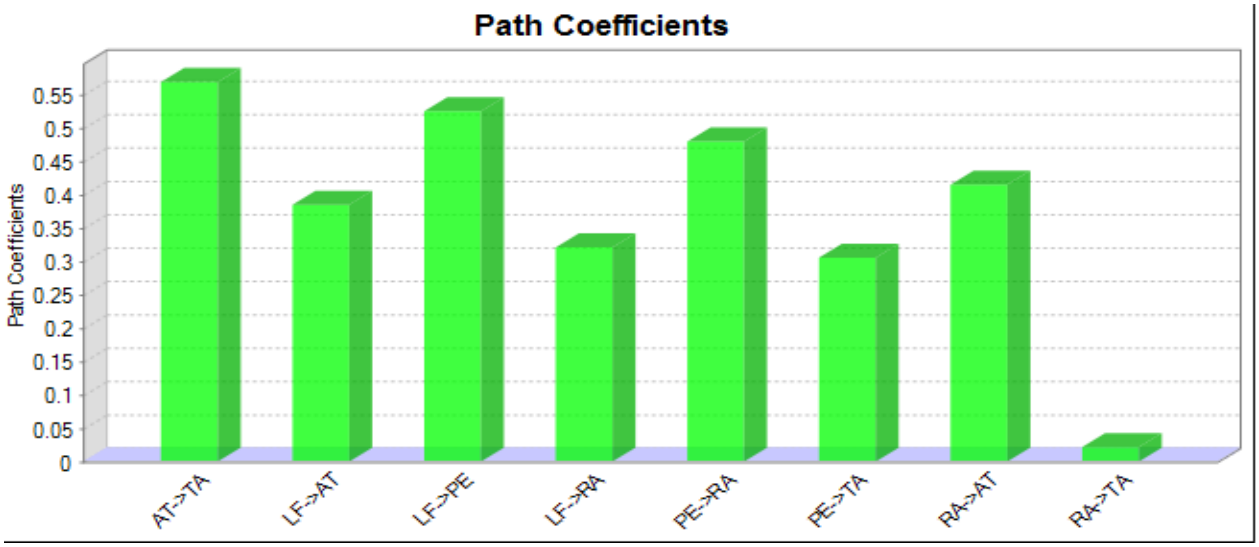
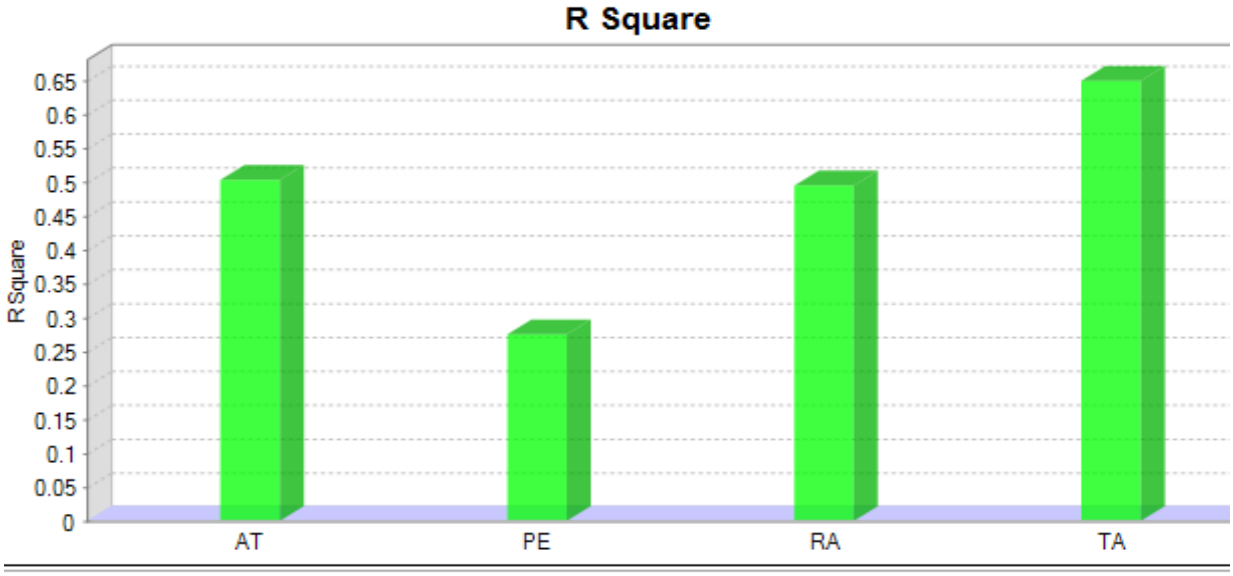
APPENDIX I:





	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
AT	0.93	0.933	0.947	0.783
LF	0.865	0.874	0.908	0.713
PE	0.711	0.732	0.819	0.534
RA	0.767	0.774	0.851	0.588
TA	0.929	0.93	0.941	0.668

HTMT

	AT	LF	PE	RA
AT				
LF	0.692			
PE	0.727	0.658		
RA	0.745	0.697	0.854	
TA	0.82	0.565	0.79	0.675

APPENDIX II:

The Values of Q Squared for Endogenous Constructs

	SSO	SSE	Q^2 (=1-SSE/SSO)
AT	770	488.372	0.366
LF	616	616	
PE	616	534.739	0.132
RA	616	458.506	0.256
TA	1,232.00	738.824	0.4

Indicator's (Loadings) Reliabilities