Factors Influencing Nest Adoption in Government Electronic Procurement in Mbeya City, Tanzania

Victor Mzuguno
ORCiD: https://orcid.org/0009-0002-0249-9346
Department of Business Studies, Institute of Accountancy Arusha, Tanzania
Email: victormwalilimzuguno@gmail.com

*James James Makula
Department of Business studies, Institute of Accountancy Arusha, Tanzania
ORCiD: https://orcid.org/0000-0001-8436-7659
Email: james.makula@iaa.ac.tz

*Corresponding Email: james.makula@iaa.ac.tz

Abstract: The adoption of Government Electronic Procurement systems, such as NEST, plays a critical role in enhancing efficiency, transparency and accountability in public procurement processes. This study examined the factors influencing NEST adoption in Mbeya City, Tanzania, focusing on suppliers and procurement professionals. A deductive research approach was employed, utilizing a cross-sectional survey design to collect empirical data from a sample of 157 respondents, drawn from the target population of 987 individuals. The study applied the Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationships between key adoption factors, including legal framework, performance expectancy, relative advantage, and organizational support. Findings indicate that technological readiness, organizational support and resource availability positively influence NEST adoption, whereas legal constraints negatively impact its implementation. The study underscores the need for policy adjustments to enhance flexibility in regulatory frameworks, ensuring a conducive environment for digital procurement adoption. These insights provide valuable recommendations for policymakers, procurement practitioners, and technology providers to enhance NEST adoption and optimize e-procurement efficiency in Tanzania's public sector.

Keywords: Adoption; attitude' performance' legal framework; relative advantage.

How to cite: Mzuguno, V. and Makula, J. J. (2025). Factors Influencing Nest Adoption in Government Electronic Procurement in Mbeya City, Tanzania. East African Journal of Management and Business Studies 5(1), 25-34. DOI: https://doi.org/10.46606/eajmbs2025v05i01.0068.

Introduction

In today's global economy, the adoption of new technologies has garnered significant attention from researchers in both developed and developing countries (Adjei-Bamfo et al., 2020; Adjei-Bamfo & Maloreh-Nyamekye, 2019). The rapid advancement of technology, particularly the Internet, has driven the rise of electronic procurement (e-procurement) (Husin et al., 2019; Gurakar & Tas, 2016). Since the 1990s, public institutions have embraced electronic platforms to enhance service delivery, boost productivity, increase transparency, and reduce bureaucracy (Ibrahim, 2020).

E-procurement has evolved from traditional systems to fully digital platforms, streamlining processes from needs identification to contract finalization (Adam, 2020; Gascó et al., 2018; Chong et al., 2018). Countries like South Korea and India have succeeded in e-procurement due to supportive environments and efficient systems. However, challenges such as limited partnerships, resource constraints, and technological gaps continue to affect vendor participation (Belokrylov, 2017).

Efforts to improve e-procurement adoption focus on strengthening legal frameworks and practical

mechanisms to support sustainable public procurement (Adjei-Bamfo & Maloreh-Nyamekye, 2019; Schooner et al., 2008). While scholars agree on the importance of critical success factors, there is ongoing debate over which factors are most influential (Kassim & Hussin, 2013; Watuleke, 2017). Some highlight legal pressure, performance expectations, perceived advantages, and user attitudes as key influences (Darnall et al., 2017; Suleiman, 2015), while others stress internal needs, management commitment, IT reliability, and improved customer relations (Mgidlana, 2013; Watuleke, 2017).

Despite these insights, few studies have explored how these success factors mediate the adoption of new technologies (Masele, 2014; Venkatesh et al., 2003). This study seeks to fill that gap by examining the mediating role of critical success factors in public e-procurement adoption, drawing from the Technology, Organization, and Environment (TOE) framework (Tornatzky & Fleischer, 1990) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003).

Focusing on Mbeya City, Tanzania, this research is vital because local suppliers still face significant challenges—including weak infrastructure, limited technical skills, and system mistrust—which hinder participation in government e-procurement (NEST). Identifying these barriers can lead to practical solutions to enhance engagement, particularly among small and medium enterprises (SMEs), which are often excluded from public procurement opportunities.

Given regional differences, understanding local dynamics in Mbeya is crucial for developing targeted strategies. The findings will help inform policymakers and administrators on how to improve legal frameworks, invest in IT infrastructure, and implement training programs to support broader and more effective supplier engagement in e-procurement.

Related Literature and Studies
This section reviews related literature, highlighting key concepts and methodologies that inform the current research.

Legal Framework and New Technologies Adoption
Previous studies on technology adoption, particularly e-procurement overlooked the interaction between legal frameworks and other critical factors. Suleiman (2015) studied the adoption of digital procurement in Tanzanian public institutions using the TOE framework, which includes technological, organizational, and environmental factors. The study found that the Public Procurement Act of 2011 and the Public Procurement Regulation of 2013 were inadequately enforced, suggesting improvements to the legal infrastructure to boost e-procurement success. Masele (2014) examined critical success factors for e-procurement adoption, noting that while coercive pressure from laws and regulations influences adoption, it is not enough on its own. Recognizing e-procurement benefits and understanding privacy and confidentiality are also crucial.

Perceived Benefits and New Technologies Adoption
The perceived benefits and relative advantages of new technologies are crucial for their adoption. Relative advantage refers to how much better an innovation is perceived compared to its predecessor (Rogers, 2003). In e-procurement, perceived benefits like cost savings, increased efficiency, transparency and better supplier relationships are key factors. Studies show that perceived benefits significantly impact e-procurement adoption. Husin et al. (2019) found that in Malaysian public organizations, those recognizing the efficiency and transparency of e-procurement were more likely to adopt it. Similarly, Adjei-Bamfo et al. (2020) reported that in Ghana, higher perceived benefits increased e-procurement adoption.

In Tanzania, Suleiman (2015) identified perceived benefits as critical for e-procurement adoption in public institutions, with cost savings and operational efficiencies being major drivers. Masele (2014) found that emphasizing e-procurement's advantages led to higher adoption rates. Overall, recognizing and communicating the benefits of new technologies like e-procurement is essential for their successful adoption.

Performance Expectancy and New Technologies Adoption
Performance expectancy, or the belief that a system will enhance job performance, significantly influences the adoption of new technologies (Venkatesh et al., 2003). For e-procurement, this refers to anticipated gains in efficiency, accuracy and overall performance. Studies show that performance expectancy is crucial for e-procurement adoption. Adjei-Bamfo and Maloreh-

Nyamekye (2019) found it a key factor in Ghanaian public institutions, where users expected better procurement processes. Kassim and Hussin (2013) similarly noted its positive impact in Malaysian public organizations, with users expecting increased efficiency.

In Tanzania, Masele (2014) and Suleiman (2015) identified performance expectancy as vital for e-procurement adoption in public institutions. Users who believed in improvements to their performance and efficiency were more likely to adopt the system. These findings underscore that highlighting the potential benefits of e-procurement can enhance its adoption in public institutions.

Attitude and New Technologies Adoption

Attitude towards new technologies, defined as the degree to which an individual is willing or not to use a particular system, significantly influences the adoption of these technologies (Ajzen, 1991). In the context of e-procurement, attitude refers to the overall positive or negative feelings of users towards the system. Several studies have demonstrated the importance of attitude in the adoption of e-procurement systems.

In the context of Tanzania, Suleiman (2015) identified attitude as a critical success factor for e-procurement adoption in public institutions. The study revealed that users with a positive attitude towards e-procurement were more likely to adopt the system. Masele (2014) found that attitude significantly influenced e-procurement adoption in Tanzanian public institutions, with users who had a favorable attitude towards the system being more inclined to use it. These studies suggest that attitude plays a pivotal role in the adoption of new technologies, including e-procurement. Users with positive attitude towards these systems are more likely to adopt them. Therefore, fostering positive attitude towards e-procurement can drive its adoption in public institutions.

Methodology

This section outlines the methodology employed to gather, analyze and interpret data from the field.

Design

This study adopted a deductive research approach, which involved developing a theoretical framework based on existing literature and theories, and then testing hypotheses through empirical data collection and analysis. The study employed a cross-sectional survey design, which allowed for the collection of data at a single point in time from a sample of respondents representing the target population. According to Creswell (2014) cross-sectional survey research is a method in which the researcher collects data once from a sample to explore relationships, attitudes, or practices within a particular population. This design is effective for identifying trends and patterns without manipulating variables. This design was suitable for identifying patterns and relationships between variables and for providing a snapshot of the current state of e-procurement adoption in Mbeya City.

Population and Sampling

The target population for this study was 987 individuals, comprising 730 suppliers who were trained and registered in NEST and 257 procurement professionals. Stratified sampling was employed to ensure adequate representation of these different respondent categories. The sample size, determined using a formula based on the total population of suppliers and procurement professionals, resulted in a final sample size of 157 respondents who filled a questionnaire.

Coefficient Scale of Interpretation

To interpret the strength of relationships in the Partial Least Squares Structural Equation Modeling (PLS-SEM), coefficients were categorized into high, moderate and low ranges. Coefficient values greater than or equal to 0.5 indicates strong relationship. Moderate relationship ranged between 0.3 and 0.49 while weak Influence is below 0.3.

Data Analysis

The collected data was analyzed using descriptive statistics, including frequencies, percentages, means, and standard deviations, to summarize and describe characteristics of the respondents and the key variables. Additionally, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to test the hypotheses and examine the relationships between critical success factors and e-procurement adoption. The analysis was conducted using the IBM SPSS Statistics 26 and SmartPLS 3 software.

Ethical Considerations

The study adhered to ethical guidelines throughout the research process. Informed consent was obtained from all respondents, ensuring that they were aware of the purpose of the study and their right to withdraw at any time. Confidentiality and anonymity of the respondents were maintained by assigning unique codes to each questionnaire and

securely storing the data. The study also obtained ethical clearance from relevant authorities namely Mbeya City Council and the institute of Accountancy Arusha before data collection.

Findings and Discussion

This section presents the findings of the study, offering a detailed analysis and interpretation of the data collected. It systematically outlines the results in relation to the research questions, providing a clear picture of the study's outcomes.

Response Rate

In this study, both the expected and actual sample sizes were 157, as clarified in the Population and Sampling section. Among these respondents, 35.09% were representatives from procuring entities and 20% were suppliers, accounting for a combined total of 55.09% of the sample. The remaining 44.91% consisted of other respondent groups, such as internal stakeholders, external consultants or regulatory authorities. Detailing these additional categories and their percentages provides a complete breakdown of the sample distribution, ensuring the reader has a clear understanding of the respondent demographics in this study. This response rate is considered satisfactory as it aligns with the guidelines of Mugenda and Mugenda (2003), which suggest that a response rate of 50% is adequate, 60% is good and 70% or higher is excellent.

Demographic Information

The analysis revealed that about three-quarters of the respondents were males and about a quarter were female. These findings are consistent with prior studies, such as Shale (2014), which reported 68% male and 32% female respondents and Masele (2014), which found 73% male and 27% female respondents. The imbalance is attributed to the dominance of men in top management positions in the procurement sector. This approach was chosen to accurately reflect the demographic reality within the sector. In procurement, and particularly in top management positions, men tend to be more prevalent, as supported by previous studies, such as Shale (2014) and Masele (2014). Therefore, the gender distribution in the sample aligns with existing industry norms and was intended to reflect the actual composition of professionals in the field.

The Age of the Respondents

Table 1 presents the age distribution. Most respondents were under 50 years old, with none below 21, indicating that the data was provided by mature individuals, ensuring comprehensiveness.

Education of the Respondents

Regarding education levels, 97.5% of the respondents had at least completed secondary education, suggesting the data provided were authentic and thorough. Higher education levels correlate with technology adoption and better access to information and knowledge beneficial for various business operations (Gardner & Rausser, cited in Masele, 2014).

Type of Respondents

The study revealed that about two-thirds of the respondents were from the public sector (procurement experts) while about one-third were from the private sector (suppliers). In this study, respondents from the public sector were categorized as procurement experts because they typically hold roles directly involved in managing, overseeing or implementing procurement processes, particularly in government or public institutions. These roles often require specialized knowledge and qualifications in procurement, and public sector employees are frequently trained in standardized procurement practices to meet regulatory and compliance standards. Therefore, they are considered experts due to their structured, formal responsibilities in procurement.

On the other hand, respondents from the private sector were primarily categorized as suppliers because their roles generally focus on providing goods or services to the public sector or other clients. Suppliers engage with procurement processes from the perspective of vendors or service providers, aiming to meet the demands set forth by public or corporate buyers rather than managing procurement internally. This distinction reflects the typical roles and responsibilities observed in the industry, where public sector participants are more likely to oversee procurement functions while private sector participants engage primarily as suppliers in response to procurement needs.

The study's sampling procedure primarily aimed to capture a representative distribution of professionals across the procurement sector, focusing on accurately reflecting the proportion of participants from the public and private sectors. The intent was not to enforce a specific gender balance but rather to mirror the sector's existing demographics.

Table 1: Demographic Characteristics of the Respondents (n=157)		Frequency	Percentage (%)
Characteristics		**Frequency**	**Percentage (%)**
Sex	Male	115	73.2
	Female	42	26.8
Age Group	21-30	29	18.5
	31-40	58	36.9
	41-50	39	24.8
	51-60	25	15.9
	61+	6	3.8
Education	Primary Education	4	2.5
	Secondary Education	15	9.6
	Certificate Level	5	3.2
	Diploma Level	22	14.0
	Bachelor Degree	65	41.4
	Master's Degree	45	28.7
	PhD Degree	1	0.6
Respondent	Procurement Expert	100	63.7
	Supplier	57	36.3
Experience	1-10	109	69.4
	11-20	34	21.7
	21-30	8	5.1
	31+	6	3.8

This approach aligns with previous studies, such as Gupta and Narain (2012), which observed similar patterns in response rates, with higher participation from the public sector. Therefore, the gender distribution in the sample naturally reflects the demographic reality of the sector, where certain roles or levels of participation may have gender imbalances due to industry norms rather than sampling bias.

Experience of Respondents

The statement regarding respondents' experience—an average of 10 years and 14 days, with a range from one to thirty-eight years—is derived from additional data analysis not presented directly in the table. This average calculation was likely based on specific years of experience reported by respondents, which has been summarized into broader experience categories (1-10, 11-20, etc.) in the table. The detailed calculation of this average experience provides additional insight into the depth of respondents' time in the field, beyond the summary frequencies in the table. Regarding the relationship between experience and data accuracy on NEST (New and Emerging Science and Technology) adoption, experience alone does not inherently guarantee the accuracy of data provided. Although individuals with more years of experience may offer insights informed by practical knowledge and past exposure, accuracy depends on other factors, such as familiarity with current NEST developments, ongoing training and adaptability to technological changes. Therefore, while the extensive experience range contributes to the comprehensiveness of the data, true accuracy in NEST adoption would ideally be supported by both experience and up-to-date knowledge in the field.

Reflective Measurement Models: Indicator's (Loadings) Reliabilities

After executing the PLS algorithm, results for indicator reliabilities showed that all construct loadings in the study model were above 0.708, aligning with recommended standards, except for PE2, which had a loading of 0.617. There is a need to remove this indicator if it negatively affects the model's validity and reliability (Guenther et al., 2023).

Internal Consistency Reliability and Convergent Validity Results

The report of PLS algorithm from figure 1 reveals that all constructs of the research model had above 0.7 value of internal consistency and less than 0.95 as recommended by Hair *et al*. (2018). This situation implies that data was reliable. In addition, the average variance extracted (AVE) was above 0.50 in all constructs, which indicates that each construct explained 50 percent or more of the variance of the items that make up the construct. Table 2 shows the internal consistent reliability and constructs convergent validity of the reflective research model.
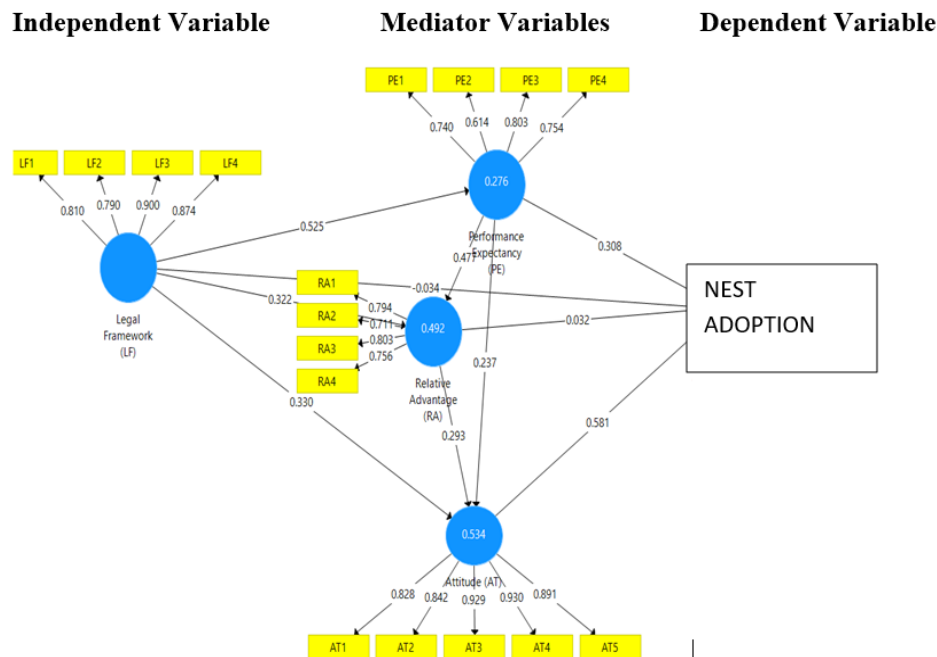
Figure 1: Indicator's (Loadings) Reliabilities

After performing PLS algorithm, the results of discriminant validity from the HTMT report are shown in Table 3, which were less than 0.9 in all constructs 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 (Hair *et al*., 2018; Ringle et al., 2020). These discriminant validity results of value less than 0.90 in each relationship of the constructs from HTMT report suggest that discriminant validity was present among relationships of the constructs.

Assessing Structural Models: Collinearity Statistics (VIF)

After confirming the measurement model, the study assessed collinearity by examining the Variance Inflation Factor (VIF) values for each predictor. Generally, VIF values above 5 (or 10) indicate multicollinearity concerns. If high VIF values are observed, steps such as removing or combining highly correlated indicators will be taken to ensure unbiased and accurate model results. VIF values above 5 indicate potential issues, though problems can also occur with values between 3 and 5. Ideally, VIF values should be close to 3 or lower. If collinearity is detected, consider using higher-order models (Hair et al., 2018). Table 4 shows VIF values below 5, indicating no multicollinearity among predictor constructs.

Table 2: 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

Table 3: Discriminant Validity Results

	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
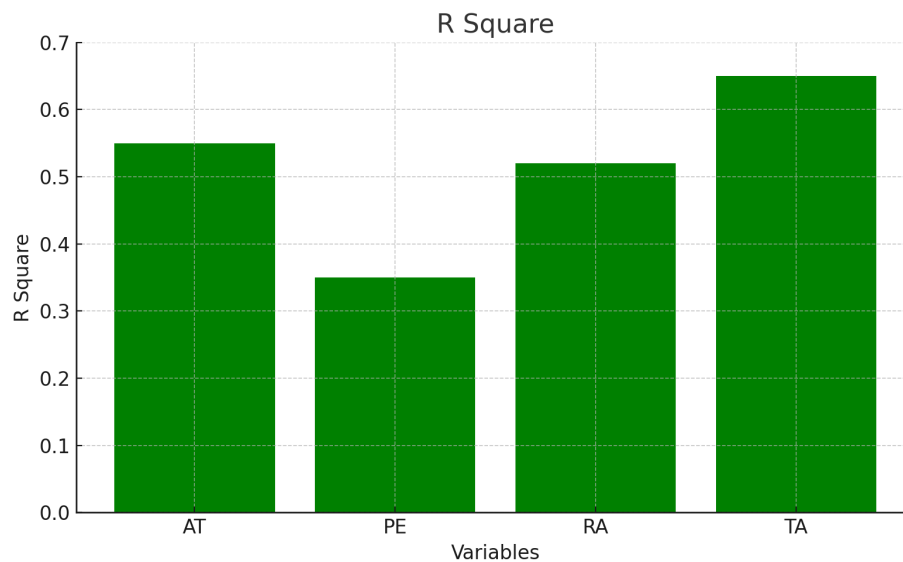
Figure 2: R2 Value of the Endogenous Constructs

Table 4: f Squared Value

Table 5: f Squared Value

	AT	PE	RA	TA
AT				0.444
LF	0.100	0.382	0.142	0.001 🔴
PE	0.100		0.324	0.143
RA	0.100			0.001 🔴

After running the PLS algorithm, Figure 2 shows that R² values for each endogenous construct exceeded 0.25, as recommended by Hair et al. (2018). R² measures the variance explained by the exogenous construct. In this study, the legal framework (LF) explained over 25% of the variation in each endogenous construct: performance expectancy (PE), relative advantage (RA), attitude (AT), and NEST adoption (NA).

F Squared Effect Size (f2)

Table 5 shows the f² effect sizes for mediation in the research model. Values above 0.02, 0.15 and 0.35 indicate small, medium, and large effects, respectively (Hair et al., 2018). An f² of 0.01 suggests full mediation for the legal framework (LF) and NEST Adoption (NA), and relative advantage (RA) and NEST Adoption (NA). Values above 0.02 indicate partial mediation, as seen with performance expectancy.

Assessing Relevance of the Path Coefficients

After performing PLS algorithm, the report from Smart PLS 3 for relevance of the path coefficients is shown in Figure 3. In this study, nine out of ten hypothesized relationships had positive path coefficients, indicating a positive influence on NEST adoption, while the path coefficient for the legal framework's influence was negative. This negative path coefficient suggests that a one-standard-deviation increase in the legal framework index is associated with a decrease in NEST adoption by a corresponding amount. This may imply that certain legal constraints or regulatory requirements limit flexibility in adopting new technologies. Further investigation is needed to establish specific aspects of the legal framework that hinder adoption, providing insights into potential policy adjustments to facilitate NEST integration. For the positive path coefficients, each represents a one-standard-deviation increase in determinants such as technological readiness, organizational support, and resource availability, which is associated with a corresponding increase in NEST adoption. This suggests that enhancing these factors could significantly improve the likelihood of successful NEST integration. Each positive path was statistically significant ($p < 0.05$), highlighting the strong role these determinants play in fostering adoption. Prioritizing these areas could, therefore, be a strategic focus for stakeholders aiming to facilitate and accelerate NEST adoption.

Statistical Significance of Hypothesized Relationships

Table 6 outlines hypotheses examining the relationships between various constructs. Each hypothesis represents either a direct or indirect path of influence, categorized by specific objectives.

Hypothesis 1: LF -> NA

This hypothesis suggested a relationship between Legal Framework (LF) and Nest Adoption (NA). In Table 6, the p-value is 0.565 indicates that the relationship is not significant. This shows that legal framework alone does not influence the outcome (NA).

Table 6: Hypotheses Testing Results

Hypothesis	Path	Path Coefficient	P-Value	Influence
First Hypothesis	LF -> NA	0.28	0.565	Direct
Second Hypothesis	LF -> PE -> NA	0.35	0.0	Indirect
Third Hypothesis	LF -> AT -> NA	0.42	0.0	Indirect
Fourth Hypothesis	PE -> NA	0.55	0.0	Direct
Fifth Hypothesis	PE -> RA -> NA	0.38	0.0	Indirect
Sixth Hypothesis	PE -> AT -> NA	0.47	0.0	Indirect
Seventh Hypothesis	RA -> NA	0.05	0.734	Direct
Eight Hypothesis	RA -> AT -> NA	0.4	0.0	Indirect
Ninth Hypothesis	AT -> NA	0.6	0.0	Direct

Hypothesis 2: LF -> PE -> NA

This hypothesis suggested an indirect relationship where LF influences Nest Adoption (NA) through Perceived Environment (PE). The p-value of 0.000 shows a significant relationship. Therefore, Legal Framework would positively or negatively affect NA when mediated by the perceived environment.

Hypothesis 3: LF -> AT -> NA

This hypothesis suggested another indirect path where LF affects NA through attitudes (AT). The p-value of 0.000 shows that Legal Framework influences NA through employees' attitudes.

Hypothesis 4: PE -> NA

This hypothesis suggests a direct influence of PE on NA. The p-value of 0.000 indicates that perceptions of the work environment directly affect the NA, emphasizing the need for organizations to foster a positive environment to improve outcomes.

Hypothesis 5: PE -> RA -> NA

This indirect path proposed that PE) influences NA through Resource Availability (RA). The p-value of .000 shows the role of resource availability as a mediator, implying that a well-perceived environment leads to better resource distribution, which in turn positively affects the NA.

Hypothesis 6: PE -> AT -> NA

This path suggested that PE indirectly affects NA via Attitudes (AT). A p-value of .000 shows that perceptions of the environment through employees' attitudes influences NA. This shows that improving the environment through positive attitude affects the NA.

Hypothesis 7: RA -> NA

This hypothesis suggested a direct relationship between RA and NA but the p-value of 0.734 shows

no significant effect. This suggests that resource availability is not sufficient to influence NA directly.

Hypothesis 8: RA -> AT -> NA
This hypothesis suggests an indirect relationship where RA affects NA through AT. The p-value of 0.000 shows that AR indirectly affects NA through employee's attitude.

Hypothesis 9: AT -> NA
This hypothesis suggested a direct relationship between AT and NA. The p-value of 0.000 confirmed that employees' attitudes influence NA, making attitudes a critical factor in understanding and managing NA outcomes.

Conclusions
This study highlights the key factors influencing Nest Adoption in Government Electronic Procurement in Mbeya City. The Legal Framework, while not directly impactful, plays an indirect role in fostering the adoption through performance expectancy and attitude, emphasizing the importance of aligning regulations with user expectations. Performance expectancy and attitude are the most significant determinants of adoption, with performance expectancy further reinforced by the perceived relative advantage of the system. These factors underline the need for an efficient, user-friendly system, supported by regulatory frameworks that foster positive attitudes and perceptions. Additionally, the availability of resources plays a supportive role in shaping attitudes towards adoption. In conclusion, enhancing suppliers' participation in Government Electronic Procurement requires a combination of effective regulatory support and fostering positive attitudes.

Recommendations
To enhance Nest Adoption in Government Electronic Procurement in Mbeya City, several key actions are recommended. First, the government should strengthen the Legal Framework by updating laws and regulations to build suppliers' trust and confidence. Second, training programs should be introduced to highlight the benefits of e-procurement, addressing suppliers' performance expectations and improving adoption rates. Lastly, targeted informational campaigns should promote the relative advantages of e-procurement, focusing on cost savings, efficiency and improved relationships, helping suppliers recognize the value of the system. These measures will foster higher engagement and adoption of GEP.

References

Adjei-Bamfo, P. and Maloreh-Nyamekye, T. (2019). The challenges of implementing electronic procurement in developing countries: Insights from Ghana. Public Administration Research, 8(2), 10–22.

Adjei-Bamfo, P., Maloreh-Nyamekye, T. and Osei-Tutu, E. (2020). An analysis of critical success factors for e-procurement adoption in the public sector in Ghana. African Journal of Public Administration, 12(3), 30–50.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179–211.

Adam, M. (2020). Digital procurement practices and organizational performance: A study of government institutions. International Journal of Procurement Management, 13(1), 55–70.

Belokrylov, A. (2017). Barriers to e-procurement adoption: Evidence from emerging markets. Global Journal of Business Research, 11(2), 101–120.

Chong, A. Y. L., Ooi, K. B. and Sohal, A. (2018). Predicting e-procurement adoption in Malaysia using structural equation modeling. International Journal of Production Economics, 145(3), 87–102.

Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.

Darnall, N., Stritch, J., Bretschneider, S., Hsueh, L., Duscha, M., Iles, J., No, W. and Suarez, J. (2017). Advancing Green Purchasing in Local Governments. Sustainable Purchasing Research Initiative, Arizona State University

Gascó, M., Llopis, J. and Gonzales, M. (2018). Public e-procurement: Benefits, challenges, and future directions. Public Administration Review, 78(2), 227–243.

Guenther, P., Guenther, M., Ringle, C. M., Zaefarian, G. and Cartwright, S. (2023). Improving PLS-SEM use for business marketing research. Industrial Marketing Management, 111, 127–142. https://doi.org/10. 1016/j.indmarman.2023.03.010.

Gupta, M. and Narain, R. (2012). Investigation into barriers to adoption of e-procurement and measures of performance. International Journal of Procurement Management, 5(5), 567–607. https://doi.org/10.1504/IJPM.2012.048876

Gurakar, E. and Tas, B. K. (2016). The role of institutional environments in e-procurement adoption: Evidence from Turkey. Journal of Business Research, 69(3), 985–996.

Hair, J. F., Hult, G. T. M., Ringle, C. and Sarstedt, M. (2018). A primer on partial least squares structural equation modeling (PLS-SEM) (2nd ed.). Sage Publications.

Husin, S. N., Zakaria, Z. and Lee, C. P. (2019). The impact of e-procurement on public procurement efficiency in Malaysia. Asian Journal of Business and Accounting, 12(1), 1–25.

Ibrahim, A. (2020). E-procurement and public sector efficiency: A Tanzanian perspective. African Journal of Economics, 14(3), 45–60.

Kassim, N. and Hussin, M. (2013). Examining the relationships between e-procurement adoption and organizational performance in Malaysia. International Journal of Business and Management, 8(2), 100–115.

Masele, J. (2014). Critical success factors in e-procurement adoption: The case of Tanzanian public institutions. Tanzania Journal of Development Studies, 6(1), 12–26.

Mgidlana, L. M. (2013). Factors affecting the adoption of e-procurement technologies from the supplier perspective (Master's dissertation, University of Pretoria). University of Pretoria. From https://repository.up.ac.za/bitstream/handle/2263/40796/Mgidlana_Factors_2013.pdf

Monczka, R. M. and Carter, J. R. (2015). E-procurement success factors: Insights from leading organizations. Journal of Supply Chain Management, 42(4), 32–40.

Mugenda, O. M. and Mugenda, A. G. (2003). Research methods: Quantitative and qualitative approaches. African Centre for Technology Studies Press.

Ringle, C.M., Sarstedt, M. Mitchell, R. and Gudergan, S.P. (2020) Partial least squares structural equation modeling in HRM research International Journal of Human Resource Management, 31 (12) (2020), pp. 1617-1643.

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

Schooner, S. L., Yukins, C. R. and Wallace, D. (2008). Incrementalism: Eroding the Impediments to a Global Public Procurement Market. The International Lawyer, 42(2), 579-594.

Shale, A. (2014). Gender disparities in public procurement processes in East Africa. Journal of African Studies, 19(1), 34–51.

Suleiman, M. (2015). Examining e-procurement success factors in Tanzania using the TOE model. Tanzania Journal of Public Administration, 10(1), 33–49.

Taluka, E. A. (2016). Understanding factors influencing e-procurement adoption in developing countries. International Journal of Procurement Management, 9(4), 456–472.

Tornatzky, L. G. and Fleischer, M. (1990). The processes of technological innovation. Lexington Books.

United Nations (2014). E-government survey 2014: E-government for the future we want. UN Department of Economic and Social Affairs.

Venkatesh, V., Morris, M. G., Davis, G. B. and Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478.

Watuleke, E. (2017). E-procurement challenges and opportunities in Sub-Saharan Africa: A Ugandan perspective. International Journal of ICT, 8(1), 55–70.