

Uncertainty Avoidance, Power Distance, and Transformational Government: A Dual-Pathway Analysis of Electronic Government in Tanzania

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Abstract: The rapid expansion of digital government initiatives has transformed public-sector service delivery, yet achieving transformational government outcomes remains uneven, particularly in developing-country contexts. While existing research has predominantly focused on technological and organisational drivers, limited attention has been given to the role of cultural factors in shaping digital transformation. This study examines national culture as a structural determinant of transformational government, focusing on the direct and indirect effects of uncertainty avoidance, mediated through electronic government, alongside the direct effect of power distance on transformational government. Drawing on a contextual perspective of information systems, the study conceptualises culture not as a peripheral moderator but as a foundational force that shapes both digital capability and governance outcomes. A quantitative research design was employed, using survey data collected from 1,370 users of e-government services in Tanzania. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM), enabling the simultaneous assessment of direct and mediating relationships. The findings show that uncertainty avoidance significantly influences electronic government and transformational government, and that power distance and electronic government significantly influence transformational government. Furthermore, electronic government partially mediates the relationship between uncertainty avoidance and transformational government, revealing a dual pathway through which culture shapes transformation. These findings demonstrate that digital transformation is not solely a technological process but is deeply embedded in cultural and institutional contexts. The study contributes to the literature by advancing a contextualised understanding of digital government transformation and by highlighting the importance of culturally aligned policy design and implementation strategies in developing countries.

Keywords: Transformational Government; Electronic Government; Uncertainty Avoidance; Power Distance; National Culture; PLS-SEM; Digital Transformation; Tanzania

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1. Introduction

The rapid increase in the use of digital technologies has brought about major changes to public-sector governance, reshaping how governments design, deliver, and manage public services. Electronic government (e-government) has emerged as a central mechanism through which governments leverage information and communication technologies (ICTs) to improve productivity, openness, and citizen involvement^[1-3]. Over time, this evolution has extended beyond the digitisation of

administrative processes toward more integrated and citizen-centric models of governance, commonly referred to as transformational government (t-government). Transformational government emphasises service integration, organisational restructuring, proactive service delivery, and public value creation^[4-6].

Despite significant investments in digital infrastructure and platforms, the transition from e-government to transformational government remains uneven across countries and institutional contexts. Many governments succeed in implementing digital systems but fail to achieve deeper organisational and institutional transformation^[7-9]. This gap highlights a critical limitation in the digital government literature: technological implementation does not automatically lead to transformational outcomes. Instead, digital transformation is shaped by a multifaceted interplay of organisational, institutional, and socio-cultural factors^[10-12]. Among these factors, culture plays a particularly significant yet underexplored role. Culture can be understood as the collective programming of the mind that shapes how individuals think, feel, and act^[13,14]. Cultural values influence how individuals perceive authority, manage uncertainty, and interact with technological systems, thereby shaping both the adoption and impact of digital innovations^[13,14]. In the context of e-government, dimensions such as uncertainty avoidance and power distance are especially relevant, as they affect trust in digital systems, acceptance of administrative change, and the willingness to engage with government platforms^[15-17].

The importance of cultural factors has been demonstrated in several studies and described by various frameworks. Three widely recognised cultural frameworks exist: one proposed by Hofstede, another by Hall and Hall, and a third by Trompenaars. Among these, Hofstede's framework is the most popular. As of 2010, Hofstede's framework includes six dimensions for cultural assessment: power distance, individualism/collectivism, uncertainty avoidance, long-term/short-term orientation, masculinity/femininity, and indulgence/restraint. According to Ishengoma^[18], power distance is an important factor. However, Kumar et al.^[17] emphasise that uncertainty avoidance is also an important factor.

Although global prior research has demonstrated that culture influences e-government adoption and usage (e.g.^[17]), it remains limited in explaining how cultural factors contribute to transformational government^[19]. Most studies focus on behavioural outcomes such as intention to use or system acceptance, while giving less attention to transformational government outcomes. Moreover, culture is often treated as a contextual moderator rather than a direct explanatory factor influencing both digital capability and institutional transformation^[20,21].

In Tanzania, several studies have been conducted to examine the effects of cultural factors such as power distance, uncertainty avoidance, long-/short-term orientation, and masculinity/femininity on e-government adoption^[18]. However, power distance has been the most frequently studied factor in the Tanzanian context. This preference may be attributed to the nature of the Tanzanian government, which is characterised by hierarchical structures.

Transformational government (t-government), which represents a more mature stage of e-government, is one that Tanzania has only recently begun to enter. The level of transformational government in Tanzania is still at an early (infancy) stage^[22]. Therefore, there is a need for more studies focusing on this level of technology adoption.

Accordingly, this study seeks to answer the following research questions:

RQ1: What are the direct effects of power distance on t-government in Tanzania?

RQ2: What are the direct effects of uncertainty avoidance on t-government in Tanzania?

RQ3: What are the indirect effects of uncertainty avoidance on t-government in Tanzania?

This current study addresses these gaps by developing an integrative framework that examines the role of culture in digital government transformation. Specifically, it investigates how uncertainty avoidance and power distance influence transformational government both directly and indirectly through electronic government. By positioning e-government as a mediating mechanism, the current study provides a more nuanced understanding of how cultural values are translated into institutional outcomes.

The current study makes three key contributions. First, it extends digital government research by shifting the focus from technological and organisational determinants to cultural drivers of transformation. Second, it reconceptualises culture as a primary explanatory factor rather than a contextual moderator. Third, it contributes empirical insights from a developing-country context, where socio-cultural and institutional dynamics are particularly influential in shaping digital transformation

trajectories^[9,23].

The remainder of this manuscript is organised as follows. Section 2 survey the related works on transformational government and develops the study's hypotheses. Section 3 describe the methodology, including the relevant data and methods used to address the research questions. Section 4 reports the results and findings obtained from the statistical analysis of the collected data. Section 5 compare the study's findings in relation to previous studies, explains their implications, and highlights the study's contributions. Finally, Section 6 provide the manuscript by summarising the key findings, presenting the main takeaways, and recommending directions for future research.

2. Literature Review and Hypotheses Development

2.1 Transformational Government in Tanzania

Transformational government is widely regarded as the highest maturity stage of electronic government. Electronic government initially emerged from the idea of delivering public services through digital systems, with the aim of reducing bureaucratic procedures and improving interactions between citizens and the government. In this context, e-government primarily facilitates citizen interaction with public services, such as the payment of utilities, taxes, and land rent, as well as the submission of various forms through online platforms. These services are typically provided in a re-active manner, meaning they are delivered upon citizen demand.

Over time, however, citizens have become dissatisfied with purely reactive service delivery and increasingly demand proactive and personalised services^[6]. This shift requires not only technological advancement but also the re-engineering of government business processes to anticipate citizen needs and deliver services accordingly^[24].

In response to these evolving demands, Tanzania has introduced several initiatives aimed at transitioning toward transformational government. These include the National e-Government Strategy (2022–2026), which emphasises the elimination of siloed systems and the promotion of integrated service delivery^[25,26]. Additionally, the government has launched the Digital Economy Strategic Framework (2024–2034), a long-term roadmap for digital transformation. Furthermore, the establishment of a dedicated e-Government Authority plays a critical role in overseeing and coordinating digital initiatives across government institutions to ensure a smooth transition toward transformational government.

2.2 E-government and Transformational Government

The evolution of digital government has progressed from the basic digitisation of administrative processes toward more advanced forms of governance transformation. Early e-government initiatives primarily focused on improving efficiency, accessibility, and service delivery through the use of information and communication technologies (ICT)^[1,2]. However, contemporary discourse increasingly emphasises transformational government (t-government), which involves deeper institutional changes, including service integration, proactive delivery, and citizen-centric governance^[4,6].

This shift reflects a broader understanding that digital technologies alone do not automatically lead to transformation. While e-government provides the technological infrastructure for service delivery, transformational government requires structural, organisational, and behavioural changes that extend beyond technology adoption^[5,3]. Empirical evidence further suggests that digital innovation contributes to transformation but does not guarantee it, as outcomes depend on how technologies are embedded within institutional and contextual environments^[9,27,28].

Accordingly, e-government can be conceptualised as an enabling institutional and technological capability that facilitates integration, coordination, and innovation, thereby supporting transformational government outcomes^[29]. Therefore, e-government can be conceptualised as a route to transformational government, representing its more mature stage of digital governance.

In Tanzania, previous studies on factors influencing transformational government have indicated that e-government influences transformational government^[25]. However, the current study intends to investigate this relationship in the context of cultural factors such as power distance and uncertainty avoidance. Specifically, it examines whether e-government still has an influence on transformational government when these cultural factors are taken into consideration.

Therefore, the study hypothesises that:

H1: In the context of Tanzania, Electronic government (EG) positively influences transformational government (TG).

2.3 Uncertainty Avoidance and Electronic Government

Uncertainty avoidance plays a significant role in shaping individuals' interactions with digital systems. In high uncertainty avoidance contexts, individuals tend to prefer formal rules, structured procedures, and predictable outcomes.

E-government systems inherently provide such characteristics by standardising processes, enhancing transparency, and reducing ambiguity in service delivery. As a result, individuals with high uncertainty avoidance are more likely to perceive e-government systems as useful, reliable, and trustworthy.

Empirical studies support this relationship, showing that uncertainty avoidance positively influences e-government adoption, trust, and continued usage^[15,17,16,19].

In Tanzania, there are a few studies that investigate the relationship between uncertainty avoidance and electronic government. This gap is addressed in this study by proposing the following hypothesis:

H2: In the context of Tanzania, uncertainty avoidance (UA) positively influences electronic government (EG).

2.4 Uncertainty Avoidance and Transformational Government

Beyond technology adoption, uncertainty avoidance may also directly influence perceptions and outcomes of governance transformation. Transformational government involves integration, coordination, and systemic re-structuring, all of which benefit from structured and predictable processes.

In high uncertainty avoidance contexts, individuals and institutions are more likely to support governance systems that reduce ambiguity and enhance procedural clarity. Transformational government aligns with these preferences by promoting standardisation, integration, and coordinated service delivery.

From a contextual perspective, institutional outcomes are embedded within socio-cultural environments^[11]. Therefore, uncertainty avoidance is expected to influence not only digital system adoption but also broader governance transformation.

H3: In the context of Tanzania, Uncertainty avoidance (UA) positively influences transformational government (TG).

2.5 Power Distance and Transformational Government

Power distance reflects the extent to which hierarchical authority is accepted within a society^[13,14]. In high power-distance contexts, decision-making is typically centralised, and authority structures are clearly defined.

While high power distance may limit participation and decentralisation, it can also facilitate the implementation of large-scale reforms through top-down coordination. Transformational government often requires systemic changes, cross-agency integration, and strong leadership, all of which may be supported by hierarchical governance structures.

Empirical studies indicate that power distance influences public-sector digital initiatives and governance practices^[9,17,15,30]. These findings suggest that power distance can play a significant role in shaping transformational outcomes.

In Tanzania, previous studies have indicated that power distance plays a role in facilitating electronic government implementation^[18]. However, there is a clear distinction between electronic government and transformational government and there is unclear evidence whether power distance has an influence on transformational government. Building on this previous study, the current study proposes the following hypothesis:

H4: In Tanzania, Power distance (PD) positively influences transformational government (TG).

To provide a concise overview of the theoretical arguments and empirical support underpinning the proposed hypotheses, Table 1 summarises the key relationships.

Table 1: Hypotheses Development and Justification

Hypothesis	Relationship	Theoretical Justification	Key Empirical Support
H1	EG → TG	E-government provides the technological and organisational infrastructure that enables integration, coordination, and service innovation, which are essential for transformational government. It acts as an enabling capability rather than a sufficient condition for transformation.	[4,5,29,27,28]

Hypothesis	Relationship	Theoretical Justification	Key Empirical Support
H2	UA → EG	High uncertainty avoidance encourages preference for structured, predictable systems. E-government reduces ambiguity through standardised processes and transparency, increasing trust and perceived usefulness.	[15,17,16,19,31]
H3	UA → TG	Transformational government emphasises integration and standardisation, aligning with high uncertainty avoidance cultures that prefer order, control, and reduced ambiguity in governance processes.	[11,23]
H4	PD → TG	In high power distance contexts, hierarchical authority enables top-down coordination and implementation of large-scale reforms, facilitating transformational government despite potential limitations on participation.	[9,17,15,30]

2.6 Research Model

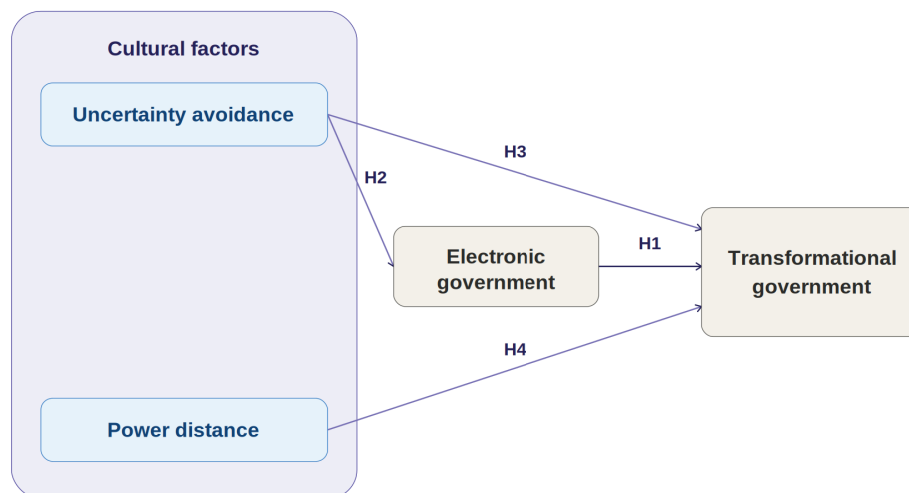
Drawing on the above theoretical arguments, this study proposes an integrated model that links cultural dimensions, digital capability, and transformational outcomes. The model adopts a contextual perspective, recognising that digital transformation is shaped by the interaction between cultural and technological factors.

At its core, the model conceptualises transformational government as the outcome of both direct cultural influences and indirect effects transmitted through electronic government. This structure reflects the dual-pathway argument advanced in this study, whereby culture influences transformation both directly and indirectly.

Electronic government is conceptualised as an enabling capability that translates cultural preferences into institutional outcomes, while transformational government represents the ultimate outcome of interest.

Overall, the model provides a comprehensive framework for understanding how cultural dimensions shape digital government transformation, offering a more nuanced perspective that moves beyond technology-centric explanations

Figure1: Research Conceptual Framework



3. Methodology

In addressing the following research questions: RQ1: What are the direct effects of power distance on transformational government in Tanzania? RQ2: What are the direct effects of uncertainty avoidance on transformational government in Tanzania? and RQ3: What are the indirect effects of uncertainty avoidance on transformational government in Tanzania? This study proposes a research framework, as illustrated in Figure1. The procedures used to address these questions are presented in sections 3.1 to 3.5.

3.1 Research Design and Context

This study used a quantitative research design to analyse the linear relationships between cultural dimensions (i.e. power distance and uncertainty avoidance), electronic government (EG), and transformational government (TG). Data was collected through a cross-sectional method (single-period of time) from individuals with prior experience using e-government services. A structured questionnaire was used as the primary data collection instrument. The questionnaire was designed to capture respondents' perceptions of digital government services, governance outcomes, and cultural orientations. This approach is appropriate for testing hypothesised relationships among latent constructs and is widely used in digital government and information systems research.

To analyse the proposed research model, this study employs Partial Least Squares Structural Equation Modelling (PLS-SEM). PLS-SEM is suitable due to its ability to handle complex relationships, including mediation effects, and its robustness for prediction-oriented research ^[32].

3.2 Measurement of Constructs

All constructs were measured through multiple items adapted from prior validated studies and a structured questionnaire. Responses were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Uncertainty avoidance (UA) and power distance (PD) were measured using items adapted from the CVSCALE ^[33], capturing individuals' preferences for structured environments and acceptance of hierarchical authority.

Electronic government (EG) was measured using selected items adapted from prior e-government literature ^[15,34] and the e-government services section of the questionnaire. These items assess key aspects of digital government performance, including usability, accessibility, efficiency, and system reliability.

Transformational government (TG) was measured as a unidimensional construct using six reflective items adapted from the questionnaire. These items capture the extent to which digital technologies enhance government efficiency, integration, responsiveness, and citizen-oriented service delivery.

Table 2: Measurement of Constructs and Sources

Construct	Code	Measurement items (sample)	Source
Uncertainty Avoidance (UA)	UA1	I prefer structured and clearly defined procedures when using e-government services	[33,16]
	UA2	I feel uncomfortable when digital services lack clear guidelines	[33]
	UA3	I prefer predictable and standardised online government processes	[33]
Power Distance (PD)	PD1	Government decisions should be made by authorities without public questioning	[17,33]
	PD2	Citizens should accept decisions made by government officials	[33]
	PD3	A hierarchical structure is important in government operations	[33]
Electronic Government (EG)	EG1	E-government services are easy to use	[34],
	EG2	E-government services are accessible when needed	[15],
	EG3	E-government improves the efficiency of public services	[34]
	EG4	E-government services are reliable and secure	[27]
Transformational Government (TG)	TG1	Digital technologies have improved government efficiency	[27]
	TG2	Government services are more integrated across departments	[27]
	TG3	Government services are more responsive to citizens' needs	[27]
	TG4	Digital systems have improved coordination across agencies	[27]
	TG5	Government services are more citizen-oriented	[27]
	TG6	Digital transformation has improved overall service delivery	[27]

3.3 Data Collection and Sample

Data were collected using a structured questionnaire distributed to respondents with prior experience using e-government services. A non-probability sampling technique, specifically convenience and purposive sampling, was employed due to accessibility considerations. The target population consisted of citizens who interact with government digital platforms.

The sample size was determined using Cochran's ^[35] formula for large populations, which incorporates the confidence level ($Z = 1.96$), estimated population proportion ($p = 0.5$), and margin of error ($e = 0.05$). Based on these parameters, the minimum required sample size was 384 respondents. A total of $N = 1370$ valid responses were obtained and used for analysis, which substantially exceeds the minimum required threshold, indicating that the sample size is more than adequate for statistical analysis. Furthermore, the sample size satisfies the requirements for PLS-SEM, as it exceeds the minimum threshold suggested by the 10-times rule based on the maximum number of structural paths directed at a latent construct ^[32]. The large sample size enhances the statistical power and robustness of the model.

3.4 Data Analysis Technique

Data were analysed using PLS-SEM with SmartPLS software, following a two-stage analytical approach.

In the first stage, the measurement model was assessed to evaluate reliability and validity. Indicator reliability was examined using outer loadings, while internal consistency reliability was assessed using Cronbach's alpha and composite reliability. Convergent validity was evaluated using the average variance extracted (AVE), and discriminant validity was assessed using the heterotrait–monotrait (HTMT) ratio.

In the second stage, the structural model was evaluated by examining path coefficients, coefficient of determination (R^2). The significance of the hypothesised relationships was assessed using bootstrapping procedures.

The mediating effect of electronic government was tested by examining the significance of indirect effects using bootstrapping

3.5 Ethical Considerations

Participation in the study was voluntary, and respondents were assured of anonymity and confidentiality. Data were collected solely for academic purposes, and informed consent was obtained prior to participation.

4. Results and Findings

4.1 Demographic Characteristics

Table 3: Demographic Characteristics of Respondents (N = 1370)

Variable	Category	Frequency	Percentage (%)
Gender	Male	846	61.8
	Female	524	38.2
Age	Under 18	12	0.9
	18–24	887	64.7
	25–34	281	20.5
	35–44	110	8.0
	45–54	69	5.0
	55–64	11	0.8
Education	Primary	4	0.3
	Secondary	42	3.1
	Diploma	27	2.0
	Bachelor's Degree	318	23.2
	Master's Degree	926	67.6
	Doctorate	51	3.7
	Other	2	0.1

Variable	Category	Frequency	Percentage (%)
Occupation	Student	820	59.9
	Employed	332	24.2
	Self-employed	109	8.0
	Unemployed	87	6.4
	Retired	13	0.9
	Other	9	0.7

Source: Field data (2024)

Descriptive analysis was conducted to summarise the demographic profile of respondents. The study utilised data from $N = 1370$ respondents who use e-government services in Tanzania. The demographic distribution indicates a gender imbalance, with 61.8% male ($n = 846$) and 38.2% female ($n = 524$). This distribution may reflect differences in access to or engagement with digital government services. In terms of age, the majority of respondents were young adults, with 64.7% ($n = 887$) aged between 18 and 24 years. Overall, more than 85% of respondents were aged 34 years or below, indicating that e-government services are predominantly utilised by younger individuals. Regarding educational attainment, the sample was highly educated, with most respondents holding a Master's degree (67.6%, $n = 926$), followed by Bachelor's degree holders (23.2%, $n = 318$) and Doctorate holders (3.7%, $n = 51$). Respondents with lower levels of education constituted only a small proportion of the sample. In terms of occupation, students represented the largest group (59.9%, $n = 820$), followed by employed individuals (24.2%, $n = 332$) and self-employed respondents (8.0%, $n = 109$). Smaller proportions included unemployed and retired individuals. Overall, the descriptive findings suggest that respondents are predominantly young, highly educated, and digitally engaged, which aligns with typical users of e-government services.

4.2 Measurement Model Assessment

The measurement model was evaluated to establish the reliability and validity of the constructs prior to assessing the structural relationships. Following the guidelines of Hair et al. ^[36,37], indicator reliability, internal consistency reliability, convergent validity, and discriminant validity were examined.

Table 4: Outer Loadings

Construct	Indicator	Loading
EG	EG2	0.724
EG	EG3	0.618
EG	EG4	0.827
EG	EG5	0.714
EG	EG6	0.748
PD	PD1	0.855
PD	PD2	0.909
PD	PD3	0.862
TG	TG1	0.686
TG	TG2	0.738
TG	TG3	0.780
TG	TG4	0.806
TG	TG5	0.817
TG	TG6	0.812
UA	UA1	0.681
UA	UA2	0.736
UA	UA3	0.561
UA	UA4	0.600

As shown in Table 4, the majority of indicator loadings exceed the recommended threshold of 0.70, indicating acceptable indicator reliability^[36]. A small number of indicators, particularly within the uncertainty avoidance construct, fall below this threshold. However, these items were retained due to their theoretical relevance and because their inclusion does not substantially compromise construct validity. Similar retention decisions are commonly reported in PLS-SEM studies when composite reliability remains adequate.

Table 5: Reliability and Convergent Validity

Construct	Alpha	CR	AVE
EG	0.778	0.849	0.532
PD	0.849	0.908	0.767
TG	0.866	0.900	0.600
UA	0.535	0.741	0.420

Table 5 shows that all constructs meet the recommended threshold for composite reliability ($CR > 0.70$), indicating satisfactory internal consistency^[37]. Convergent validity is established for electronic government, power distance, and transformational government, as their AVE values exceed the threshold of 0.50. However, uncertainty avoidance exhibits a lower AVE (0.420) and Cronbach's alpha (0.535), suggesting weaker convergent validity. This finding reflects the inherent difficulty of operationalising cultural constructs at the individual level and is consistent with prior research highlighting contextual sensitivity in cultural measurement.

Table 6: Discriminant Validity (HTMT)

Pair	HTMT
PD–EG	0.175
TG–EG	0.584
UA–EG	0.591
TG–PD	0.337
UA–PD	0.500
UA–TG	0.705

Discriminant validity was assessed using the heterotrait–monotrait ratio (HTMT), as recommended by Henseler et al.^[38]. All HTMT values are below the conservative threshold of 0.85, indicating that the constructs are empirically distinct. This confirms that each construct captures a unique conceptual domain.

4.3 Structural Model Assessment

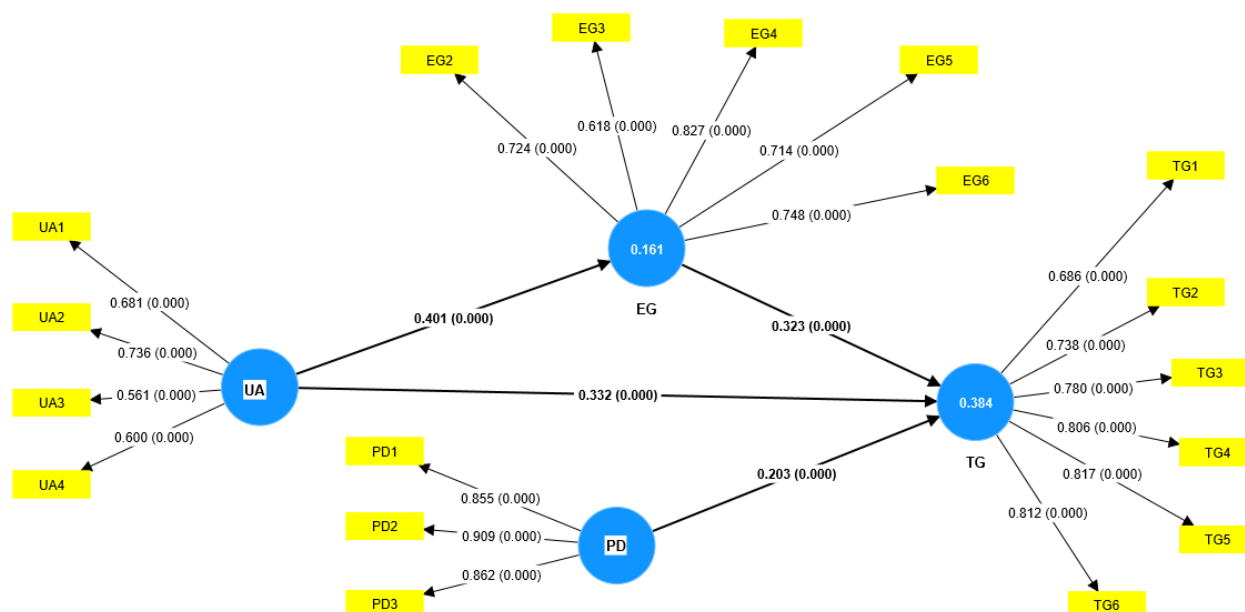
Following the validation of the measurement model, the structural model was evaluated to test the hypothesised relationships. Path coefficients, statistical significance, and explanatory power were assessed using bootstrapping procedures with 5,000 resamples^[37].

Table 7: Structural Model Results

Path	β	t	p
EG $\rightarrow$ TG	0.323	7.422	<0.001
UA $\rightarrow$ EG	0.401	9.242	<0.001
UA $\rightarrow$ TG	0.332	7.657	<0.001
PD $\rightarrow$ TG	0.203	5.942	<0.001

As presented in Table 7, all hypothesised relationships are statistically significant, providing strong support for the proposed model. Uncertainty avoidance exerts the strongest influence on electronic government ($\beta = 0.401$), indicating that cultural preferences for predictability and structured environments play a critical role in shaping engagement with digital government systems.

Figure2: Structural Model Results (Path Coefficients and Explained Variance)



Electronic government has a significant positive effect on transformational government ($\beta = 0.323$), confirming its role as an enabling capability that facilitates broader institutional transformation. This finding supports the view that digital infrastructure alone is insufficient but becomes transformative when embedded within supportive contextual conditions.

Uncertainty avoidance also has a direct effect on transformational government ($\beta = 0.332$), suggesting that cultural orientation influences governance transformation beyond its impact on technological adoption. Power distance, although comparatively weaker ($\beta = 0.203$), remains statistically significant, indicating that hierarchical structures may support coordinated implementation of transformation initiatives.

The coefficient of determination (R^2) indicates that the model explains 16.1% of the variance in electronic government and 38.4% of the variance in transformational government. These values suggest moderate explanatory power, which is considered acceptable in social science research involving complex behavioural and institutional constructs^[37].

4.4 Mediation Analysis

The mediating role of electronic government in the relationship between uncertainty avoidance and transformational government was assessed using the indirect effect approach.

Table 8: Mediation Results

Path	β	p	Result
UA → EG → TG	0.130	<0.001	Supported

The results indicate a significant indirect effect of uncertainty avoidance on transformational government through electronic government ($\beta = 0.130$, $p < 0.001$), confirming the presence of mediation. Since both the direct and indirect effects are significant, the mediation can be classified as complementary (partial) mediation^[37].

This finding highlights a dual mechanism through which cultural dimensions influence transformational outcomes. First, culture directly shapes governance orientations and institutional expectations. Second, culture indirectly influences transformation through its impact on digital capability, as reflected in electronic government.

5. Discussion of Findings and Implications

5.1 Discussion of Findings

This study set out to examine the role of cultural dimensions (power distance and uncertainty avoidance) in shaping transformational government, with particular attention to the mediating role of electronic government as prior studies have indicated that it acts as a strong antecedent to transformational government. The findings provide strong empirical support for the argument that digital transformation in the public sector is not solely a technological process but is fundamentally

embedded within socio-cultural contexts.

The results confirm that electronic government plays a significant role in enabling transformational government. This finding is consistent with prior research ^[27,28], which conceptualises e-government as a foundational capability that facilitates integration, coordination, and improved service delivery rather than as an end in itself. The significant relationship between electronic government and transformational government suggests that technological infrastructure becomes transformative only when it is effectively aligned with institutional and contextual conditions.

A key contribution of this study lies in demonstrating the central role of uncertainty avoidance. The findings indicate that uncertainty avoidance has both a direct and an indirect effect on transformational government, highlighting its importance as a structural determinant. The strong effect of uncertainty avoidance on electronic government suggests that individuals in environments characterised by a preference for predictability and structure are more likely to engage with digital systems that reduce ambiguity and standardise processes. This aligns with existing literature on cultural influences in information systems, which emphasises the role of uncertainty reduction in shaping technology adoption and use.

Furthermore, the direct effect of uncertainty avoidance on transformational government suggests that culture influences not only technological engagement but also broader institutional perceptions and governance expectations. This finding extends prior research ^[23] by demonstrating that cultural dimensions can shape transformational outcomes independently of technological mechanisms.

The mediating role of electronic government provides additional insight into the mechanisms through which culture influences transformation. The presence of complementary (partial) mediation indicates that cultural values operate through dual pathways. On the one hand, they directly shape institutional orientations and expectations regarding governance. On the other hand, they influence the development and utilisation of digital capabilities, which in turn facilitate transformation. This dual-pathway explanation advances the understanding of digital government transformation by integrating cultural and technological perspectives into a unified framework.

The findings related to power distance further enrich this perspective. Although the effect of power distance on transformational government is weaker compared to uncertainty avoidance, it remains statistically significant. This suggests that hierarchical structures may play a supportive role in enabling coordinated implementation of transformation initiatives ^[17,15,30,9]. In contexts characterised by higher power distance, centralised decision-making may reduce resistance and facilitate the execution of large-scale digital reforms.

Taken together, these findings highlight the importance of moving beyond technology-centric explanations of digital government transformation. While technological capability remains essential, it is the interaction between technology and cultural context that ultimately determines transformational outcomes. This joint influence of technology and culture on transformational government in the Tanzanian context is reflected in a coefficient of determination (R^2) of approximately 38.4%, which is acceptable according to Hair et al. ^[37].

5.2 Implications of the Study

The findings of this study have important theoretical and practical implications.

From a theoretical perspective, this study contributes to the digital government and information systems literature by re-conceptualising culture as a primary explanatory factor rather than a contextual or moderating variable. By demonstrating both direct and mediated effects of cultural dimensions, the study advances a more nuanced understanding of how socio-cultural factors shape digital transformation processes.

In addition, the study extends existing research by linking cultural dimensions to transformational government outcomes, rather than focusing solely on technology adoption or usage. This shift in focus addresses a key gap in the literature and provides a more comprehensive framework for understanding digital transformation in the public sector.

From a practical perspective, the findings suggest that policymakers and practitioners should consider cultural context when designing and implementing digital government initiatives. Strategies that focus exclusively on technological infrastructure are unlikely to achieve transformational outcomes if they do not align with underlying cultural values and institutional norms. In particular, efforts to promote digital transformation should emphasise the development of structured, reliable, and

transparent systems that align with user preferences in high uncertainty avoidance contexts. Similarly, governance structures and implementation strategies should consider the role of hierarchical authority in facilitating coordination and reducing resistance to change.

Overall, the findings underscore the importance of adopting a context-sensitive approach to digital transformation, where technological solutions are integrated with cultural and institutional considerations.

6. Conclusion and Future Research

6.1 Conclusion

This study aimed to examine the role of two prominent cultural factors—uncertainty avoidance and power distance—with electronic governance acting as a mediating factor. The findings indicate that digital transformation in the public sector is highly influenced by the cultural context of a given setting, on top of its digital capability.

The results demonstrate that uncertainty avoidance plays a central role in influencing both electronic government and transformational government, while power distance contributes to transformational outcomes through its influence on governance structures. Electronic government is confirmed as a key enabling mechanism, partially mediating the relationship between cultural orientation and transformational outcomes.

These findings advance the understanding of digital government by highlighting that transformation emerges from the interaction between cultural values and technological capabilities. Rather than viewing technology as the primary driver, this study shows that cultural context shapes both the adoption of digital systems and their ability to generate systemic change..

6.2 Limitations

Despite its contributions, this study has several limitations that should be acknowledged.

First, the measurement of uncertainty avoidance exhibited relatively low reliability and convergent validity, which may have attenuated the strength of the observed relationships. This reflects the broader challenge of operationalising cultural constructs at the individual level and suggests the need for improved measurement scales in future research.

Second, the use of a non-probability sampling approach limits the generalisability of the findings. While appropriate for exploratory and context-driven research, future studies may benefit from employing probability-based sampling techniques where feasible.

Third, the study focuses on a single country context. Although this provides valuable insights into digital transformation in developing countries, the findings may not be directly generalisable to other contexts with different cultural and institutional characteristics.

Finally, predictive assessment measures such as Q^2 and PLSpredict were not included in the analysis. As a result, conclusions are limited to explanatory relationships rather than predictive performance.

6.3 Future research

Future research should address these limitations by refining the measurement of cultural constructs and incorporating more robust scales that capture the multidimensional nature of culture, since this study explains only 38.4% of the variance in transformational government. Cross-country comparative studies would also provide valuable insights into how cultural dimensions influence digital transformation across different institutional contexts.

In addition, future studies should incorporate predictive assessment techniques, including Q^2 and PLSpredict, to evaluate the out-of-sample predictive performance of digital government models. This would align with recent methodological developments in PLS-SEM and strengthen the predictive relevance of research findings.

Further research could also explore additional cultural and institutional variables, as well as longitudinal approaches, to better understand how digital transformation evolves over time

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