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The Impact of Digitalization on Revenue Generation, Public Participation, and Allocation Efficiency

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Abstract

Purpose: The primary objective of the study is to assess how digital governance tools influence fiscal mobilization, citizen engagement, and optimal resource distribution at the local government level. It also aims to explore the mediating role of institutional quality, economic development, and political stability in shaping these outcomes.

Methodology: The study adopts a quantitative research approach using panel data from 2010 to 2022. Secondary data were collected from credible sources including the World Bank, Bank of Ghana, and Our World in Data. Ordinary Least Squares (OLS) regression was used to estimate the relationships among digitalization and the dependent variables, supported by diagnostic tests including multicollinearity, heteroscedasticity, and stationarity checks to validate model assumptions.

Findings: The results reveal that digitalization has a statistically significant positive effect on revenue generation but a significant negative effect on public participation. Its impact on allocation efficiency, however, was statistically insignificant. Institutional quality and political stability were found to significantly enhance allocation efficiency, while economic development was inversely related to both public participation and allocation efficiency. These findings underscore the contextual and institutional conditions necessary for digital governance to deliver inclusive and efficient outcomes.

Unique Contribution to Theory, Practice and Policy (Recommendations): The study highlights the importance of aligning digital reforms with institutional strengthening and inclusive design. Policymakers must complement technological investments with capacity-building, civic education, and targeted digital inclusion strategies to ensure equitable benefits. The findings also have implications for public sector accounting, suggesting a shift in the role of financial managers in digital governance contexts. Future research should adopt mixed-method designs to further explore the behavioral and contextual factors influencing digital transformation outcomes.

Keywords: *Digitalization, Local Government, Revenue Generation, Public Participation, Allocation Efficiency, Institutional Quality, E-Governance, Ghana, Public Sector Accounting*

Introduction

Digitalization has emerged as a transformative force in public administration, reshaping governance, service delivery, and citizen engagement across developing economies such as Ghana. Defined as the adoption of electronic tools like e-governance portals, mobile applications, and automated systems, digitalization enhances transparency, fiscal discipline, and participatory democracy (Mountasser & Abdellatif, 2023). In Ghana, efforts like biometric voter registration, e-tax platforms, and digital identity systems have streamlined administrative workflows and improved public resource monitoring (Agyei-Ababio et al., 2023; Fischer et al., 2021). However, these tools are not universally effective without institutional readiness, inter-agency collaboration, and infrastructural support. While the digitization of health records, tax systems, and national registries improves efficiency and data accuracy, the extent of its impact on fiscal outcomes, participation, and equity remains a critical question—especially given persistent challenges such as digital illiteracy, infrastructural gaps, and public distrust.

In the realm of revenue generation, digital platforms such as the Ghana Integrated Financial Management Information System (GIFMIS) and e-Tax portals have played a pivotal role. These tools reduce manual inefficiencies, broaden the tax base, and improve audit capabilities, leading to enhanced revenue collection (Agyei-Ababio et al., 2023; Ayakwah et al., 2021). Reforms such as the Tax Identification Number (TIN) system and Electronic Transaction Act further institutionalize these benefits by strengthening taxpayer compliance and traceability (Le Thanh Ha, 2022). However, barriers remain—particularly in rural areas—where ICT infrastructure, capacity, and change management are lacking (Osei-Kojo, 2016). Additionally, digital technologies demand behavioral shifts among revenue officers and consistent performance monitoring to yield sustainable results. Evidence also shows that private-sector digitalization, such as mobile payments in MSMEs, creates digital financial trails that contribute indirectly to public revenues (Chen et al., 2023), emphasizing the interconnectedness of formal and informal economies in a digitized tax regime.

Digitalization also holds promise for enhancing public participation, but its benefits are unevenly realized. Tools like digital town hall meetings and mobile-based feedback systems have been used to gather citizen input on local services such as water, sanitation, and education (Tiika et al., 2024; Osei-Kojo, 2016). These platforms democratize access to governance information and empower constituents to engage in oversight and policy-making (Ayakwah et al., 2021). However, access barriers—ranging from gender disparities to rural-urban divides—limit widespread adoption (Abraham et al., 2017; Abdulai et al., 2022). Without infrastructural investments and offline outreach, digital tools risk reinforcing exclusion. Moreover, the underutilization of these platforms due to weak promotion or bureaucratic inertia reduces their effectiveness. To achieve meaningful civic participation, a hybrid model that integrates digital with traditional mechanisms, supported by training and sustained political will, is essential.

Finally, allocation efficiency—the strategic and equitable distribution of public resources—is

another domain where digitalization shows potential. Systems like GIFMIS enable real-time expenditure monitoring, helping to reduce corruption and misallocation (Asiedu & Deffor, 2017). By leveraging digital demographic data and service indicators, local governments can practice evidence-based budgeting and program targeting (Ayakwah et al., 2021; Osei-Kojo, 2016). Yet, as studies caution, digital tools alone cannot drive efficiency without accompanying reforms in institutional culture, technical training, and accountability (Tiika et al., 2024). Coordination challenges across Ghana's decentralized local governments—where wealthier districts often have more advanced systems—further compound these issues. Political interference and uneven capacity across districts risk undermining the potential benefits of technological innovation. Therefore, for digitalization to truly enhance resource allocation, it must be embedded within a broader framework of inclusive, transparent, and well-resourced governance structures.

In sum, while digitalization has catalyzed reforms in Ghana's local governance—spanning revenue generation, public participation, and allocation efficiency—its impact is conditional. Effective implementation depends on a combination of legislative backing, infrastructural investment, institutional alignment, and inclusive access. Existing literature identifies both achievements and gaps, particularly the need for sector-specific, empirical studies that assess digitalization's effects across performance indicators and demographic groups (Abdulai et al., 2023). The present study thus aims to bridge these gaps through a rigorous quantitative inquiry into how digital transformation affects governance outcomes at the local level in Ghana, offering timely and actionable insights for policymakers navigating the next phase of administrative modernization.

Literature Review

Theoretical Framework

In order to thoroughly understand how digitalization influences revenue generation, public participation, and allocation efficiency, it is essential to ground the study in established theoretical perspectives. Two theories provide strong lenses through which these dynamics can be examined: New Institutional Theory and the Technology Acceptance Model (TAM). New Institutional Theory explains how formal and informal rules, cultural norms, and institutional forces influence organizational practices and behavior in adopting reforms, such as digital technologies. It is particularly useful in analyzing public sector environments where legal frameworks, bureaucratic traditions, and stakeholder pressures shape the success or failure of innovation implementations (Astutiningrum et al., 2023); (Janssen & Nonnenmann, 2016).

On the other hand, the Technology Acceptance Model (TAM) focuses on individual user behavior and perceptions, explaining why individuals adopt or resist new technologies based on two core constructs: perceived usefulness and perceived ease of use (Silva, 2015). This model is relevant for understanding the behavioral intentions of civil servants, local administrators, and citizens as they engage with digital platforms for tax payment, public consultations, or budget tracking. By integrating these two theories, the study bridges macro- level institutional dynamics and micro-level user interactions—both of which are critical to understanding

digitalization outcomes in local government frameworks.

New Institutional Theory

New Institutional Theory (NIT) posits that organizational actions are not solely shaped by technical efficiency, but also by institutional legitimacy—i.e., conformity to social norms, laws, and cultural expectations (Ningrum et al., 2017). In the context of local governance, this theory helps explain how municipal and district assemblies in Ghana respond to external pressures to modernize their administrative functions through digitalization. For example, the digitalization of revenue collection in Ghana—such as the deployment of electronic tax systems—is not just a technological upgrade but a response to global and national institutional pressures. These include compliance with international standards for transparency, citizen demands for efficient services, and national government reforms mandating digital recordkeeping (Ayakwah et al., 2021). According to Goodnight (2008), institutions adopt technologies partly to align with expectations and increase their legitimacy among stakeholders, even if such adoption is not always efficient in practice.

In Ghana, district assemblies are often motivated to implement digital tools for tax mobilization, public accountability, and project monitoring not purely because of internal efficiencies, but due to policy mandates from the Ministry of Finance and external donor incentives. This aligns with the idea of coercive isomorphism, where institutional change is driven by regulatory pressure (Phillips et al., 2009). Assemblies that conform to these norms are often rewarded with budgetary support or political legitimacy. Moreover, New Institutional Theory emphasizes the role of normative pressures—arising from professional networks, media discourse, and civil society—in reinforcing digital reforms. Professional associations or civil organizations advocating for data transparency or public expenditure tracking may influence local governments. Such actors set normative expectations that shape how digital tools are designed and implemented.

Another key mechanism is mimetic isomorphism, where organizations adopt technologies used by peers or perceived leaders in the sector. For example, the success of digitalized budgeting in Accra may prompt similar systems in smaller towns, regardless of local contextual readiness. As Sozinova (2021) suggests, institutions mimic one another in uncertain environments, particularly when trying to demonstrate innovation or competence. However, as Astutiningrum et al. (2023) argue, institutional change is not automatic. Structural and cultural constraints can impede the effective implementation of digital systems. In Ghana, local governments often struggle with resistance to change, skill shortages, and inadequate infrastructure, making it difficult to fully align new technologies with intended institutional reforms. Therefore, New Institutional Theory provides a useful lens to assess how legislation, norms, and external pressures influence digitalization in public finance and service delivery at the local level. It emphasizes that technology adoption is not solely a technical act but one embedded in a web of institutional relationships and legitimacy concerns.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis in 1989, is a behavioral model that explains how users come to accept and use technology. Its two central constructs— perceived usefulness (PU) and perceived ease of use (PEOU)—determine users' attitudes and intentions to adopt a technology (Silva, 2015). This model is particularly relevant in understanding how government officials, administrators, and citizens interact with digital tools for governance in Ghana. In local government frameworks, TAM helps analyze the individual- level responses of tax officers, data managers, and service users toward digital systems. For example, if local tax officials perceive a digital tax collection platform as useful for reducing paperwork and improving revenue tracking, and also find it easy to use, they are more likely to adopt and consistently utilize the platform (Uula & Avedta, 2023).

However, resistance arises when users perceive the systems as complex, unreliable, or irrelevant to their daily tasks. Herlina et al. (2023) found that perceived technological complexity significantly reduces user acceptance in the financial sector—a lesson that can be applied to local government digitalization as well. In Ghana, issues such as unreliable electricity, inadequate digital training, and system bugs contribute to negative perceptions of usefulness and ease of use, resulting in poor system adoption and abandonment. Furthermore, various scholars to include additional factors like trust, social influence, and facilitating conditions have expanded TAM. For instance, Cooshneapa and Hackett (2019) argue that users' confidence in data privacy and institutional support also plays a critical role in determining acceptance. This is particularly relevant in contexts where citizens are expected to submit sensitive information online, such as property data or health records.

In Ghana, digital systems such as the MyAssembly App, GhanaPost GPS, and Mobile Property Rate Payments face varying levels of acceptance depending on the community and service area. According to Sidanti et al. (2021), intention to use digital systems is closely linked to awareness campaigns, user interface design, and prior experience with similar technologies. These insights are useful for designing digital participation platforms that are intuitive and citizen-friendly. TAM also sheds light on public participation platforms, where users are expected to submit feedback, join virtual consultations, or track projects online. In such cases, if citizens perceive the platform as beneficial for voicing their concerns and receive timely responses, they are more likely to engage continuously.

In summary, TAM offers a grounded understanding of how individual perceptions shape digital adoption at the grassroots level. Its emphasis on user experience complements the institutional- level focus of New Institutional Theory, providing a dual-layered approach to evaluating the impact of digitalization in local government settings. Together, New Institutional Theory and the Technology Acceptance Model (TAM) offer a robust framework for analyzing the multifaceted impact of digitalization on local governance. While NIT focuses on the structural, normative, and regulatory factors that shape organizational decisions, TAM captures the psychological and

behavioral drivers that determine technology usage by individuals. Applied to Ghana's local government systems, these theories allow for a critical exploration of how institutional legitimacy and user perceptions influence the success or limitations of digital initiatives aimed at improving revenue generation, citizen participation, and allocation efficiency.

Methods

Data Collection and Sample

This quantitative study examines how digitalization influences governance outcomes—revenue generation, public participation, and allocation efficiency—using secondary data from 2010 to 2022. Data were sourced from trusted databases such as the World Bank and the Bank of Ghana, ensuring reliability and longitudinal consistency. Guided by New Institutional Theory and the Technology Acceptance Model (TAM), the research uses panel data from Ghana's local governments to assess variable relationships over time. The 13-year dataset captures trends linked to digital governance tools like e-tax systems and mobile platforms, allowing for a robust empirical analysis of digitalization's effects on local governance outcomes.

Measures

Table 1 presents the operational definitions, acronyms, and data sources for all key variables, including independent, dependent, and control variables.

Table 1: Measurements of Variables

Variable	Definition	Acronym	Measurement	Data Source
Digitalization	Integration of digital tools in governance	DIG	Digital Adoption Index (0–1 Scale)	World Bank Data Metrics
Allocation Efficiency	Optimal distribution of government resources	ALLOCEFF	IDA Resource Allocation Index (1–6 Scale)	World Bank Data Metrics
Revenue Generation	Government fiscal income from taxes and grants	REVGEN	Log of Total Revenue & Grants (Millions of Ghana Cedis)	Bank of Ghana Economic Reports
Public Participation	Citizen engagement in governance and decision-making	PUBPART	Political Participation Index (Index-based Score)	Our World in Data
Institutional Quality *(Control)*	Effectiveness of governance institutions	INSTQUAL	Government Effectiveness Score (-2.5 to 2.5 Scale)	World Bank Governance Indicators
Economic Development *(Control)*	Level of economic progress	ECONDEV	GDP per Capita (PPP, current international $)	World Bank Economic Data
Political Stability *(Control)*	Absence of violence and stability of government	POLSTAB	Political Stability & Absence of Violence Index (-2.5 to 2.5)	World Bank Governance Indicators

Model for the Study

All variables are standardized or normalized for comparability across years and units. The outcome variables—revenue generation, public participation, and allocation efficiency—are treated as separate dependent variables in the model, allowing for a multi-outcome analysis.

Model Specification

The relationship between digitalization and governance outcomes is tested using a time series regression model. The general form of the econometric specification is:

$$Y_{it} = B_0 + B_1 DIG_{it} + B_2 INSTQUAL_{it} + B_3 ECONDEV_{it} + B_4 POLSTAB + \mu_{it} + \epsilon_{it}$$

Where:

- Y_{it} Represents governance outcomes for country i at time t (REVGEN, PUBPART, ALLOCEFF)
- DIG_i Is digitalization, measured by the Digital Adoption Index.
- $INSTQUAL_{it}$ = Institutional quality (control)
- $ECONDEV_{it}$ = Economic development level (control)
- $POLSTAB_{it}$ = Political stability (control)
- μ_i = Time-invariant, unit-specific effect (captured in Fixed Effects model).
- ϵ_{it} is the error term

Estimation Techniques

In order To ensure the robustness and credibility of the quantitative analysis, this study employs a sequence of estimation techniques that facilitate model validity and statistical inference. These techniques are critical for verifying the underlying assumptions of regression analysis and ensuring the consistency, efficiency, and reliability of parameter estimates. To begin with, the study applies descriptive statistics to summarize and understand the basic features of the dataset. Measures such as mean, median, standard deviation, minimum, and maximum values are computed for each variable to provide insights into data distribution, central tendency, and variability. This initial step also helps detect outliers or inconsistencies in the data that may influence regression outcomes.

Following the descriptive analysis, a multicollinearity test is conducted using Variance Inflation Factors (VIFs) to assess the degree of correlation among independent variables. High multicollinearity may distort coefficient estimates and reduce the interpretability of the model. Variables with VIF values above the threshold of 10 are examined for redundancy or potential transformation. Next, the data undergo a stationarity test, specifically using the Levin–Lin– Chu

unit root test suitable for panel data. Stationarity is crucial because non-stationary data can produce spurious regression results, where relationships between variables appear significant when they are not. By confirming stationarity, the study ensures that the relationships observed are not driven by time trends or structural shifts.

In addition, the normality of residuals is tested using both graphical methods (e.g., Q-Q plots) and statistical methods such as the Jarque-Bera test. Normality is a key assumption in ordinary least squares (OLS) regression for the validity of hypothesis testing and confidence intervals. While large sample sizes tend to mitigate non-normality, formal tests provide a basis for further diagnostic steps. The study also checks for heteroscedasticity, which refers to the non-constant variance of residuals. Using the Breusch-Pagan/Cook-Weisberg test, the analysis identifies whether the assumption of homoscedasticity holds. If heteroscedasticity is detected, robust standard errors are applied in the OLS model to correct for bias in the estimated standard errors.

Finally, the core estimation is performed using the Ordinary Least Squares (OLS) technique. OLS is employed to estimate the relationship between digitalization and the three key outcome variables—revenue generation, public participation, and allocation efficiency—while controlling for institutional quality, political stability, and economic development. OLS is preferred for its interpretability and efficiency under classical assumptions, and it forms the basis for the regression results presented in the subsequent sections. Additionally, depending on the results of the Hausman test, the study may employ either a fixed-effects model (to control for unobserved heterogeneity) or a random-effects model (if effects are uncorrelated with the regressors). This hybrid approach ensures both model validity and efficiency.

Results

Descriptive Statistics

The descriptive statistics presented in Table 2 reveal important trends regarding the relationship between digitalization and key governance indicators from 2010 to 2022. Notably, digitalization remained stagnant at a value of 0.454 for most of the period, with a temporary spike to 0.575 in 2014—suggesting a brief policy intervention or pilot initiative during that year. Despite this, the trend in revenue generation showed a steady decline, dropping from 4.84 in 2010 to 3.94 by 2022, indicating that rising digitalization alone may not have translated into improved fiscal outcomes. At the same time, public participation scores increased from 5.00 to a consistent 6.67 by 2015 and remained stable, which may reflect improved access to participatory platforms or civic engagement tools. However, allocation efficiency declined marginally, especially after 2014, pointing to persistent inefficiencies in resource distribution despite digital tools. Interestingly, institutional quality remained low throughout, fluctuating around -0.1 to -0.3, suggesting weak governance mechanisms that may have hindered the impact of digital reforms. Meanwhile, economic development and educational attainment showed gradual improvements. Overall, the data suggest that digitalization alone is insufficient without corresponding improvements in institutional quality and policy execution.

Table 2: Descriptive Statistics Results

	Digitalization	Revenue Generation	Public Participation	Allocation Efficiency Development	Economic Level	Educational Attainment	Institutional Quality
2010	0.454495	4.845697	5.00	3.883333	3.586077	7.587040	-0.102774
2011	0.454495	4.741376	5.00	3.900000	3.641586	7.587040	-0.090155
2012	0.454495	4.727375	5.00	3.800000	3.693169	7.587040	-0.090009
2013	0.454495	4.677942	5.56	3.675000	3.717218	7.587040	-0.134415
2014	0.575628	4.618026	5.56	3.366670	3.741713	7.587040	-0.307953
2015	0.454495	4.527348	6.67	3.566670	3.715282	7.587040	-0.319786
2016	0.454495	4.492597	6.11	3.516667	3.699931	7.587040	-0.254053
2017	0.454495	4.393496	6.67	3.558333	3.713571	7.587040	-0.187149
2018	0.454495	4.289401	6.67	3.533333	3.743235	7.587040	-0.319947
2019	0.454495	4.221894	6.67	3.575000	3.778336	7.587040	-0.289961
2020	0.454495	4.108956	6.67	3.575000	3.781562	7.587040	-0.196979
2021	0.454495	3.945018	6.67	3.575000	3.820037	7.587040	-0.176514
2022	0.454495	3.945018	6.67	3.366667	3.857877	7.587040	-0.106421

Source: Field Data (2025)

Correlation Analysis

The correlation analysis in Table 3 offers insightful evidence about the linear relationships among the key variables in the study. To begin with, digitalization shows a weak positive correlation with revenue generation (r = 0.19), suggesting a limited direct association between the adoption of digital tools and fiscal performance at the local government level. However, this weak correlation may imply that other mediating factors, such as institutional capacity or public compliance, influence the effectiveness of digital systems. Interestingly, digitalization is negatively correlated with both public participation (r = -0.21) and allocation efficiency (r = -0.43). These results indicate that higher digitalization levels are not necessarily associated with increased civic engagement or more efficient resource distribution. This could reflect poor user adoption, digital exclusion, or weak system design that fails to translate technology into participatory or allocative gains. Moreover, public participation and revenue generation exhibit a strong negative correlation (r = -0.85), an unexpected outcome that may suggest increased citizen scrutiny leads to reduced fiscal misreporting or reallocation. Meanwhile, economic development is strongly negatively correlated with revenue generation (r = -0.91) but positively linked to public participation (r = 0.74), implying that wealthier regions may empower citizen voice but collect proportionally less revenue.

Table 3: Correlation Analysis Results

	1	2	3	4	5	6
1.Digitalization	1.000000					
2.Revenue Generation	0.190336	1.000000				
3.Public Participation	-0.208899	-0.845623	1.000000			
4.Allocation Efficiency	-0.428924	0.630406	-0.694402	1.000000		
5.Economic Development Level	0.049410	-0.907607	0.742190	-0.763239	1.000000	
6.Institutional Quality	-0.363622	0.198850	-0.547512	0.589956	-0.236396	1.000000

Source: Field Data (2025)

Diagnostic Test Summary

The econometric robustness of the model is affirmed through three core diagnostic evaluations. First, stationarity tests (LLC, IPS, ADF-Fisher, and PP-Fisher) strongly reject the null hypothesis of unit roots ($p = 0.0000$), confirming that all variables are stationary and thus suitable for time series and panel data regression. Second, multicollinearity diagnostics using centered Variance Inflation Factors (VIFs) indicate no severe inter-variable correlation, with all centered VIFs well below 2.0—assuring reliable coefficient estimation. Lastly, the Breusch-Pagan-Godfrey heteroskedasticity test confirms homoskedastic residuals ($p > 0.76$), further justifying the application of Ordinary Least Squares (OLS). Together, these tests confirm the statistical integrity and validity of the model for inferential analysis.

Table 4: Diagnostic Test Summary Table

Test Category	Test / Statistic	Value	p-Value	Interpretation
Stationarity	Levin, Lin & Chu t*	-6.108	0.0000	Variables are stationary at level (no unit root)
	Im, Pesaran & Shin W-stat	-4.989	0.0000	
	ADF - Fisher Chi-square	43.30	0.0000	
	PP - Fisher Chi-square	41.94	0.0000	
Multicollinearity	Centered VIF (D_REVGEN)	—	—	1.73 (Low)
	Centered VIF (D_PUBPART)	—	—	1.27 (Low)
	Centered VIF (D_ALLOCEFF)	—	—	1.94 (Low)
	Centered VIF (Institutional Quality)	—	—	1.55 (Low)
	Centered VIF (Political Stability)	—	—	1.96 (Low)
Heteroskedasticity	Breusch-Pagan F-statistic	0.500	0.7679	No heteroskedasticity detected
	Obs*R-squared (Chi-square)	3.53	0.6188	
	Scaled Explained Sum of Squares	0.575	0.9891	
	Durbin-Watson Statistic	2.05	—	No autocorrelation in residuals

Regression Results

The regression analyses conducted across three governance dimensions—revenue generation, public participation, and allocation efficiency—offer nuanced insights into the multifaceted role of digitalization in Ghana's local government systems. First, digitalization is shown to have a positive and statistically significant impact on revenue generation (coefficient = 2.35, $p = 0.0466$), affirming its utility in strengthening fiscal performance through mechanisms like e-tax platforms and financial automation. However, the negative and significant coefficient for economic development suggests that wealthier districts may rely more on external transfers than internal revenue efforts, a counterintuitive but structurally grounded result. Notably, institutional quality and political stability were statistically insignificant in this model, though the high R^2 of 0.885 and F-statistic significance ($p < 0.001$) affirm overall model strength. These findings align with

research from Agyei-Ababio et al. (2023) and Ayakwah et al. (2021), suggesting digital systems enhance revenue when complemented by institutional frameworks.

In contrast, digitalization appears to negatively affect public participation (coefficient = -9.84, p = 0.0135), suggesting that increasing digital governance without addressing access barriers may inadvertently marginalize less digitally literate communities. Supporting this interpretation, Abdulai et al. (2023) and Osei-Kojo (2016) observed that without inclusive design and outreach, digital tools risk reinforcing civic disengagement. Conversely, economic development showed a strong positive effect (p = 0.0017), while institutional quality had a significant but negative coefficient (p = 0.0048), perhaps reflecting centralization tendencies in technocratic governance. The R^2 of 0.868 and Durbin-Watson statistic near 2.13 indicate strong model fit and minimal autocorrelation. The paradoxical results point toward the need for hybrid models—combining digital and offline participatory mechanisms—as suggested by Abraham et al. (2017).

For allocation efficiency, the model reveals a non-significant effect of digitalization (coefficient = -0.91, p = 0.1135), indicating that digital tools alone have not meaningfully enhanced the rational allocation of public resources. More crucial predictors are institutional quality (positive, p = 0.0317) and political stability (positive, p = 0.0075), reinforcing the argument that robust institutional contexts are essential for digital reforms to succeed. Interestingly, economic development again showed a significant negative relationship (p = 0.0003), likely due to complexity and centralized budgeting in more affluent districts. The R^2 of 0.932 and F-statistic (p < 0.001) confirm high explanatory power, while a Durbin-Watson statistic of 2.19 indicates residual independence. These findings echo Fischer et al. (2021) and Chen et al. (2023), who argue that without institutional reform and participatory design, digital transformation remains structurally constrained.

Table 5: Regression Summary Table

Model	Digitalization	Econ. Dev.	Inst. Quality	Pol. Stability	R^2	F-statistic (p)	DW Stat
Revenue Generation	2.354 (*p*=0.0466)	-3.846 (*p*<0.001)	0.284 (*p*=0.5455)	-0.042 (*p*=0.9059)	0.885	15.38 (*p*<0.001)	1.21
Public Participation	-9.843 (*p*=0.0135)	6.444 (*p*=0.0017)	-4.494 (*p*=0.0048)	-0.159 (*p*=0.8625)	0.868	13.20 (*p*=0.0013)	2.13
Allocation Efficiency	-0.910 (*p*=0.1135)	-1.400 (*p*=0.0003)	0.497 (*p*=0.0317)	0.519 (*p*=0.0075)	0.932	27.61 (*p*<0.001)	2.19

CONCLUSIONS

This study explored how digitalization affects revenue generation, public participation, and allocation efficiency in Ghana's local governments. Using panel data from 2010 to 2022 and guided by New Institutional Theory and the Technology Acceptance Model, the research found that digitalization positively influences revenue generation but negatively impacts public participation. Its effect on allocation efficiency was statistically insignificant. These findings suggest that while digital tools can enhance fiscal performance, they may also exclude certain groups and require stronger institutional support. The study achieved its purpose, offering important insights for policymakers and emphasizing the need for inclusive, reform-driven digital governance.

RECOMMENDATONS

This study offers valuable insights into how digitalization affects local governance in Ghana. Practically, digital tools enhance revenue generation but fall short on improving public participation and allocation efficiency without supporting reforms and inclusivity. For accounting research, the findings highlight a shift in public financial management, urging professionals to adopt analytical and digital skills. The study also opens avenues for investigating how digital budgeting influences audit processes and fiscal oversight. However, limitations include reliance on secondary data, macro indicators, and a single-country focus. Future research should adopt mixed methods and explore sectoral and behavioral impacts to better inform digital governance reforms.

References

Abdulai, A.-R., Kc, K. B., & Fraser, E. (2022). What factors influence the likelihood of rural farmer participation in digital agricultural services? experience from smallholder digitalization in Northern Ghana. Outlook on Agriculture, 52(1), 57–66. https://doi.org/10.1177/00307270221144641

Abdulai, A.-R., Tetteh Quarshie, P., Duncan, E., & Fraser, E. (2023). Is agricultural digitization a reality among smallholder farmers in Africa? Unpacking farmers' lived realities of engagement with digital tools and services in rural Northern Ghana. Agriculture & Food Security, 12(1). https://doi.org/10.1186/s40066-023-00416-6

Abraham, A. Y., Ohemeng, W., & Ohemeng, F. N. A. (2017). Female labour force participation: evidence from Ghana. International Journal of Social Economics, 44(11), 1489–1505. https://doi.org/10.1108/ijse-06-2015-0159

Agyei-Ababio, N., Ansong, E., & Assa-Agyei, K. (2023). Digitalization of revenue mobilization in an emerging economy: the new Institutional Theory perspective. International Journal of Information Systems and Project Management, 11(2), 5–22. https://doi.org/10.12821/ijispm110201

Asiedu, K. F., & Deffor, E. W. (2017). Fighting Corruption by Means of Effective Internal Audit

Function: Evidence from the Ghanaian Public Sector. International Journal of Auditing, 21(1), 82–99. https://doi.org/10.1111/ijau.12082

Astutiningrum, A., Prihatiningtyas, Y. W., & Djamhuri, A. (2023). New Institutional Theory: Implementasi Anggaran Berbasis Kinerja. Jurnal Riset Dan Aplikasi: Akuntansi Dan Manajemen, 2(2). https://doi.org/10.33795/jraam.v2i2.77

Ayakwah, A., Damoah, I. S., & Osabutey, E. L. C. (2021). Digitalization in Africa: The Case of Public Programs in Ghana (pp. 7–25). springer. https://doi.org/10.1007/978-3-030-70538-1_2

Chen, C., Zhang, Y., & Wang, S. (2023). Digital transformation and firm performance: a case study on China's listed companies in 2009–2020. Digital Economy and Sustainable Development, 1(1). https://doi.org/10.1007/s44265-023-00018-x

Cooshneapa, R., & Hackett, S. (2019). Testing an Addition to the Technology Acceptance Model (TAM). Academy of Management Proceedings, 2019(1), 18859. https://doi.org/10.5465/ambpp.2019.18859abstract

Fischer, C., Heuberger, M., & Heine, M. (2021). The impact of digitalization in the public sector: a systematic literature review. Der Moderne Staat – Zeitschrift Für Public Policy, Recht Und Management, 14(1–2021), 3–23. https://doi.org/10.3224/dms.v14i1.13

Goodnight, G. T. (2008). Strategic Maneuvering in Direct to Consumer Drug Advertising: A Study in Argumentation Theory and New Institutional Theory. Argumentation, 22(3), 359–371. https://doi.org/10.1007/s10503-008-9093-z

Ha, L. T. (2022). Socioeconomic and resource efficiency impacts of digital public services. Environmental Science and Pollution Research, 29(55), 83839–83859. https://doi.org/10.1007/s11356-022-21408-2

Herlina, H., Widyaningrum, D., & Theotista, G. (2023). Tipologi Financial Technology Paylater: Technology Acceptance Model (TAM). Formosa Journal of Multidisciplinary Research, 2(1), 207–216. https://doi.org/10.55927/fjmr.v2i1.2417

Janssen, B., & Nonnenmann, M. W. (2016). New Institutional Theory and a Culture of Safety in Agriculture. Journal of Agromedicine, 22(1), 47–55. https://doi.org/10.1080/1059924x.2016.1249444

Mountasser, T., & Abdellatif, M. (2023). Digital Transformation in Public Administration: A Systematic Literature Review. International Journal of Professional Business Review, 8(10), e02372. https://doi.org/10.26668/businessreview/2023.v8i10.2372

Ningrum, A., Prihatiningtyas, Y. W., & Djamhuri, A. (2017). New Institutional Theory: Implementasi Anggaran Berbasis Kinerja. Journal of Research and Applications: Accounting and Management, 2(2), 107. https://doi.org/10.18382/jraam.v2i2.77

Phillips, N., Tracey, P., & Karra, N. (2009). Rethinking institutional distance: strengthening the tie between new institutional theory and international management. Strategic Organization, 7(3), 339–348. https://doi.org/10.1177/1476127009337439

Sidanti, H., Murwani, F. D., Wardhana, E. T. D. R. W., & Sopiah, S. (2021). Online purchasing intention using the technology acceptance model (TAM) approach. Economic Annals-XXI, 193(9–10), 85–91. https://doi.org/10.21003/ea.v193-10

Silva, P. (2015). Davis' Technology Acceptance Model (TAM) (1989) (pp. 205–219). igi global. https://doi.org/10.4018/978-1-4666-8156-9.ch013

Sozinova, A. A. (2021). Investigating the Prospects of New Institutional Theory in the Smart Economy (Vol. 198, pp. 2075–2081). springer. https://doi.org/10.1007/978-3-030-69415-9_227

Uula, M., & Avedta, S. (2023). Technology Acceptance Model (TAM) on Banking. Islamic Marketing Review, 2(1). https://doi.org/10.58968/imr.v2i1.238