



THE JOINT EFFECT OF CORPORATE INFORMATION TECHNOLOGY STRATEGY, INFORMATION TECHNOLOGY GOVERNANCE AND INFORMATION QUALITY ON SERVICE DELIVERY OF STATE CORPORATIONS IN KENYA

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ABSTRACT

This study examined the joint effect of corporate IT strategy, IT governance, and information quality on service delivery among State corporations in Kenya. The study sought to establish whether the three information systems factors jointly predict service delivery and to determine the relative contribution of each factor.

The study adopted a descriptive cross-sectional research design. Primary data were collected using structured questionnaires, while secondary data were obtained from annual performance contract reports of 178 State corporations in Kenya. A census approach was adopted, yielding 120 valid responses, representing a response rate of 67.4%. Multiple regression analysis was performed to assess the simultaneous effect of corporate IT strategy, IT governance, and information quality on service delivery. Model fit was assessed using the Adjusted R^2 , while the overall significance of the regression model was tested using the F -statistic and the individual contribution of each predictor was assessed using standardized regression coefficients and corresponding t -tests.

The multiple regression model was statistically significant, $F(3,116) = 83.707$, $p < .001$, indicating that corporate IT strategy, IT governance, and information quality jointly significantly predict service delivery among State corporations in Kenya. The model explained 67.6% of the variance in service delivery (Adjusted $R^2 = .676$). The standardized regression coefficients indicated that corporate IT strategy had a positive and statistically significant effect on service delivery ($\beta = .412$, $t = 5.249$, $p < .001$), followed by information quality ($\beta = .350$, $t = 4.314$, $p < .001$) and IT governance ($\beta = .162$, $t = 2.249$, $p = .026$). The estimated regression model based on the unstandardized coefficients was $\text{Service Delivery} = 35.555 + 4.557(\text{Corporate IT Strategy}) + 1.772(\text{Information Quality}) + 3.601(\text{IT Governance})$.

The study contributes empirical evidence to the relatively limited literature examining the simultaneous influence of corporate IT strategy, IT governance, and information quality on service delivery within State corporations in Kenya. The findings have implications for policymakers and managers seeking to strengthen information systems capabilities and service delivery through coordinated IT strategic planning, governance mechanisms, and information quality management.

The study integrates corporate IT strategy, IT governance, and information quality into a single multiple regression model for explaining service delivery in Kenyan State corporations, thereby extending empirical understanding of their simultaneous contribution within the strategic information systems context.

KEYWORDS: Corporate IT Strategy, IT Governance, Information Quality, Service Delivery, State Corporations

INTRODUCTION

Organizations in the global market have recognized that achieving robust internal operations is often linked to senior leadership's commitment to a competitive corporate IT strategy. Rapid economic and technological progress has underscored the need for businesses to depend on responsive, efficient IT systems to deliver high-quality, customized services (Arvidsson, Holmström, & Lyytinen, 2014). Many successful firms have adopted strategic approaches to create value for both internal and external stakeholders by leveraging strong IT strategies. To ensure sustainable growth, organizations focused on delivering value must embed their operations and processes within a robust corporate IT strategy. This approach enables timely, high-quality product and service delivery to customers (Abdi, Mohammed & Dominic, 2010). Corporate IT strategy operates as a high-level management concept, and for effective execution, IT governance must be integrated at the middle management level (De Haes & Van Grembergen, 2013). The synergy between corporate IT strategy and IT governance enhances decision-making related to IT use, leading to positive outcomes such as improved service delivery and a stronger brand reputation (Adaba & Rusu, 2014). The effectiveness of IT governance and strategy implementation reflects the organization's use of technology to provide innovative, customized, high-quality services at a competitively low cost (Jewer & McKay, 2012).



Reliable IT systems and skilled human resources are essential to seamlessly integrate organizational processes and facilitate the efficient processing and dissemination of valuable information. Establishing a streamlined, IT-enabled organizational framework requires high-quality, interlinked information systems to support growth and improve service delivery (Madnick, Wang, Lee & Zhu, 2009).

This study is grounded in the Fourth Industrial Revolution Theory, which highlights that advancements in organizational technology and economic growth stem from the transition from mechanical to digital processes (Frey & Osborne, 2013). To deliver timely, customized services, firms must adopt advanced technologies that surpass the limitations of manual, costly, and unreliable systems. The Diffusion of Innovation (DoI) Theory further explains how new ideas spread throughout an organization over time, with the goal of achieving competitive and superior services through quality, user-friendly technology that strengthens competitive positioning (Rogers, 2003).

The study focused on state corporations in Kenya, which are owned, financed, and regulated by the government (GoK, 2003). These entities provide essential services, such as energy, manufacturing, agriculture, transport, infrastructure, health, and education, which are crucial for citizens' well-being (Muthaura, 2007). Additionally, state corporations contribute significantly to employment, innovation, value addition, and economic growth (Mirungu & Muoria, 2012). The vital economic roles of these organizations underscore the need for effective corporate IT strategy, IT governance, and information quality to enhance service delivery. However, many state corporations face challenges such as inadequate IT strategies, limited funding, and losses from inefficiencies, corruption, and mismanagement of public resources (Mirungu & Muoria, 2012).

Research Problem

This review identifies several conceptual, contextual, and methodological gaps in the literature on the joint effect of corporate IT strategy, IT governance, and information quality on service delivery within state corporations in Kenya.

Conceptually, few studies have examined the combined impact of corporate IT strategy, IT governance, and information quality on service delivery. While individual effects are recognized (Arvidsson et al., 2014; Pang, 2014; Durcikova & Gray, 2009), no significant research has focused on their joint influence on improving service delivery, particularly in the context of state corporations in Kenya. However, Getembe, Magutu and Litodo, 2021, 2022, 2023 and 2024 in his various works noted that independently Corporate IT Strategy IT Governance and Information Quality has significant effect on Service Delivery

Contextually, While the role of state corporations in Kenya is crucial for fulfilling government responsibilities (Mirungu & Muoria, 2012), their potential for economic growth has not been fully realized due to weak business models and inefficient service delivery (Kashorda et al., 2007; Muthaura, 2007). Studies such as those by Waruinge (2008) and Njuru (2012) emphasize e-government programs and the adoption of Integrated Financial Management Information Systems (IFMIS) to enhance service delivery. However, there is a lack of research exploring how corporate IT strategy, IT governance, and information quality specifically impact service delivery in these corporations. Some studies have highlighted the role of performance contracting and e-government strategies in improving governance and service delivery (Ochieng, 2010; Bomett, 2015). However, the integration of IT strategies with governance frameworks to enhance service delivery within state corporations in Kenya remains inadequately addressed.

Methodologically, Statistical Techniques and Research Variables: Most previous studies used qualitative techniques to examine the relationship between IT strategies and public service delivery (Njuru, 2012), without incorporating advanced statistical techniques. Specifically, the use of multiple regression analysis to assess the joint effects of corporate IT strategy, IT governance and information quality on service delivery is scarce. Additionally, the joint effects of these variables on service delivery in state corporations have not been rigorously tested through integrated conceptual models. While studies have examined the isolated effects of the individual variables; IT strategy, IT governance, and information quality (Getembe et al, 2021, 2022, 2023 & 2024) there is a lack of studies using integrated conceptual models to analyze how these variables interact to influence service delivery in state corporations. This study aims to fill this gap by exploring how the interplay of these variables shapes service delivery outcomes.

Therefore, this review identifies significant gaps in the literature concerning the joint effects of corporate IT strategy, IT governance, and information quality on service delivery in state corporations in Kenya. Previous studies have largely addressed these variables in isolation, and there is a notable lack of research exploring their combined influence. Moreover, existing research on Kenyan state corporations does not adequately examine the role of these factors in enhancing service delivery. Methodologically, there is limited use of advanced statistical techniques and integrated conceptual models to explore these relationships. This study seeks to address these gaps by examining the joint effects of these factors on service delivery in state corporations in Kenya. These are gaps that this study addressed and it is from this perspective that the study intended to answer the following research question: What was the joint influence of corporate IT strategy, IT governance and information quality on service delivery of State Corporations in Kenya?



Objective of the Study

To determinethe joint effect of corporate IT strategy, IT governance and information quality on service delivery of state corporations in Kenya

Empirical Research Focus and Underpinning Theories

The theoretical foundations of this study are rooted in the Fourth Industrial Revolution Theory and the Diffusion of Innovation Theory. The Fourth Industrial Revolution Theory focuses on technological advancements, particularly the digitization and automation of work processes, which are crucial for improving service delivery and operational excellence and superior performance (Brynjolfsson & McAfee, 2014; Schwab, 2016). The theory emphasizes the need for firms to embrace these changes to remain competitive and efficient in their service delivery. Additionally, the Diffusion of Innovation Theory explains how new technologies and ideas spread within organizations and influence their operations over time, highlighting the role of innovation in fostering growth and profitability (McAfee & Brynjolfsson, 2008; Rogers, 2003). Both theories suggest that the integration of IT strategies, governance, and high-quality information systems is key to enhancing service delivery.

Prior empirical literature highlights the significant roles of corporate IT strategy, IT governance, and information quality how individually they can enhance firm performance (Lee & Yang, 2013). Organizations increasingly recognize the importance of technological innovation and managerial control in supporting organizational processes designed to deliver services that enhance customer satisfaction (Miremadi et al., 2011). Technological strategies aligned with corporate objectives can provide organizations with a competitive advantage by improving service delivery and fostering customer retention (Danjum & Rasli, 2012; Khalid, 2010). Furthermore, IT governance and information quality contribute to better decision-making, risk management, and operational efficiency, thereby supporting improved service delivery (Nelson et al., 2005; Friedman, 2008).

The empirical literature also reveals that while many organizations globally have adopted IT to enhance service delivery, there is limited research on the combined effects of corporate IT strategy, IT governance, and information quality, particularly in the context of Kenyan state corporations (Magutu et al., 2010). This study seeks to address this gap by examining how these factors collectively influence service delivery, providing a more comprehensive understanding of how organizations can leverage IT to meet customer needs and achieve higher levels of satisfaction (Bitner et al., 2008). It builds on previous studies emphasizing the role of service innovations and IT integration in improving organizational outcomes and competitiveness (McAfee & Brynjolfsson, 2008; Khalid, 2010).

Finally, the study adopts a positivist research philosophy, which emphasizes empirical analysis and the objective testing of hypotheses derived from theoretical frameworks. This approach is particularly well-suited for exploring the relationships among corporate IT strategy, IT governance, information quality, and service delivery, as it relies on observable data and logical reasoning to draw conclusions (Collins, 2010; Hjørland, 2005). By employing a positivist approach, the study aims to provide concrete evidence of how these factors influence service delivery, offering valuable insights for organizations seeking to enhance their IT strategies and improve customer satisfaction.

Table 1: Summary of Knowledge Research Gaps

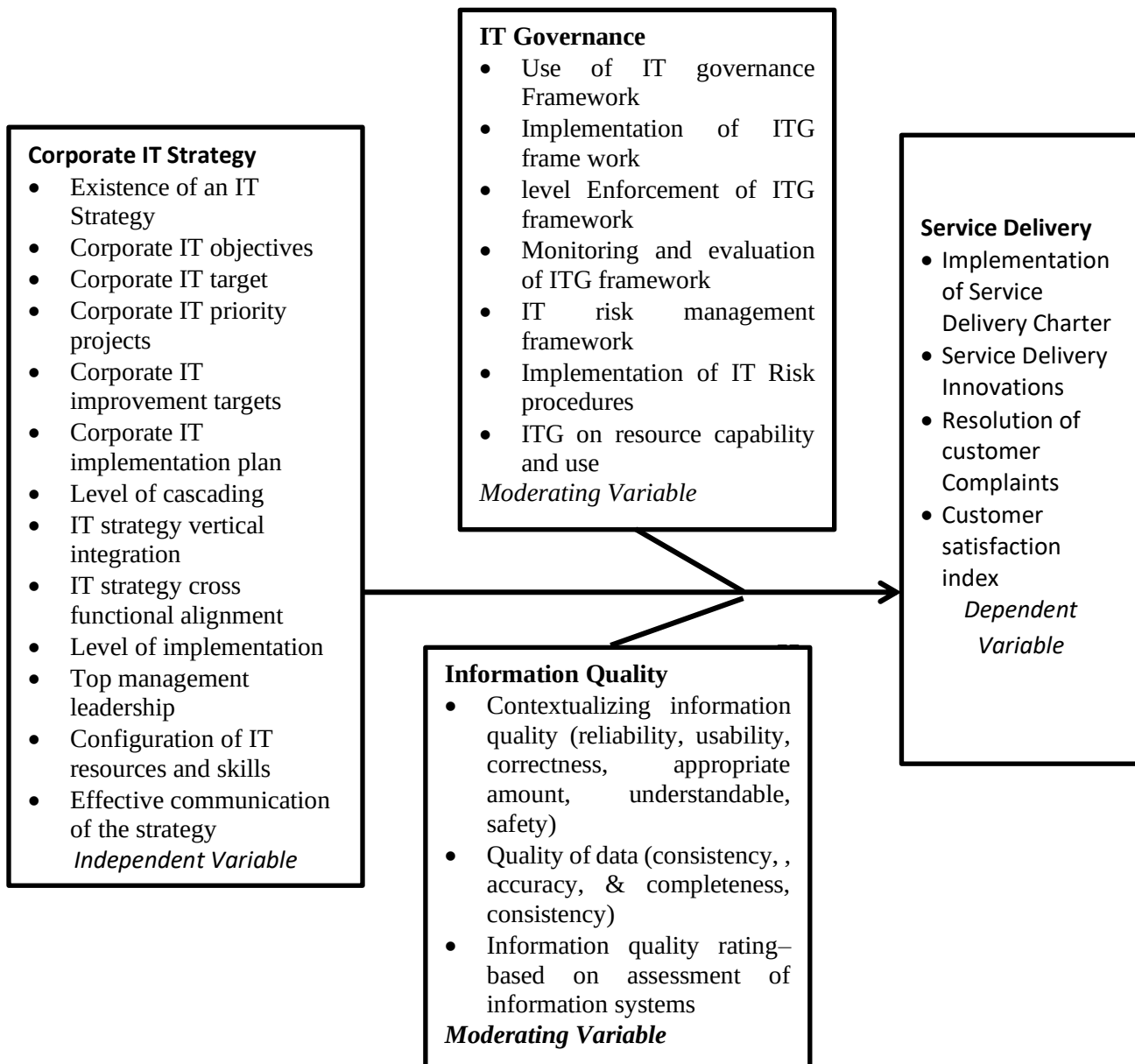
Author/Year	Focus	Findings	Research Gaps	Proposed Remedy
Peppard et al., (2014)	Information systems strategy, <i>Journal of Strategic Information Systems</i> , 23(1), 1-10.	Strategic information technology support organizational efficiency and competitive advantage.	Much emphasis on competitive age as major focus of corporate IT strategy but not on Service delivery	There is need to empirically test the association between corporate IT strategy and service delivery.
Lee & Yang, (2013)	The Adoption of electronic technologies to help distinguish between e- services and communication technologies, <i>American Review of Public Administration</i> , 44(1)7 5 -91.	The use of new user friendly technologies & motivated employees improve service delivery.	Not clear how corporate IT strategy enhances service delivery.	There is need to empirically test how service delivery is enhanced by corporate IT strategy.



De Haes & Van Grembergen, (2013)	How to improve enterprise governance of IT in a major airline: <i>Journal of Information Technology</i> , 3, 60-69	Concluded that ITG supports decision on IT value delivery, strategic alignment, IT and Firm performance	Not clear on how ITG moderates between corporate IT strategy and service delivery	There is need to test the effect of ITG on corporate IT strategy and service delivery
Jewer & McKay (2012)	Antecedents and consequences of Board of IT governance. <i>Journal of the Association of Information Systems</i> , 13(7), 581-617.	Firms develop ITG to guide IT management experts on how to align IT/ business strategy to attain competitive edge in service delivery.	How ITG impacts organizational service delivery not considered	There is need to empirically test the effect of ITG on service delivery.
Nelson et al. (2005)	An empirical examination on the Antecedents of information and system quality. <i>Journal of Management Information Systems</i> 21, 199–235.	IT quality measures information quality. Author emphasized that for quality outputs to be realized, information systems need to be of value.	Service delivery which is critical is not considered in the study	There is need to empirically test the link between information quality and service delivery of organizations
Arvidsson et al., (2014)	A multi-dimension of Information systems use as strategy practice <i>The Journal of Strategic Information Systems</i> , 23(1), 45-61.	The author established that the corporate IT strategy supports organizational efficiency, higher productivity, customer satisfaction and value creation towards competitive advantage	IT Governance and information quality concepts were not considered	Need for further empirical study on the integration of IT governance , useful information quality and corporate IT strategy on service delivery.

Conceptual Framework

A conceptual framework visually represents the key variables of a study and illustrates the presumed relationships among them, based on insights drawn from the literature and empirical reviews (Ravitch & Riggan, 2012). According to the scholars, a conceptual framework is a hypothesized model that identifies and connects the main concepts or variables in a study, highlighting the relationships between them. The literature reviewed in this study informs the development of the conceptual framework, which is presented in the figure below.

**Figure 1: Conceptual Model****Conceptual Hypothesis**

H₀: There is no significant joint effect of corporate IT strategy, IT governance and information quality on service delivery of state corporations in Kenya.

Below is a **publication-standard revision** that retains the tables, places an appropriate explanation immediately after each table, removes repetitive hypothesis-testing language, corrects the statistical interpretation and coefficient labels, and distinguishes the **construct-level regression** from the **indicator-level analysis**. I have also corrected the inconsistent regression equation and the misplaced β coefficients.



Methodology of the Research

The study adopted a **descriptive cross-sectional research design** to collect data from state corporations (SCs) in Kenya at a defined point in time. The design was appropriate for examining the relationships among corporate IT strategy, IT governance, information quality, and service delivery without manipulating the study variables. In particular, the design enabled the study to assess the extent to which corporate IT strategy, IT governance, and information quality collectively explained variations in service delivery across state corporations (Creswell, 2013).

The study population comprised **178 state corporations in Kenya**, distributed across twenty ministries and classified into eight operational categories, namely financial, commercial and manufacturing, public universities, training and research, service corporations, regional development, tertiary education and training, and regulatory corporations. The functions and composition of state corporations have been subject to government reforms, including restructuring, mergers and discontinuations (Taskforce on Parastatals Reform Report, 2013). The target respondents were senior officers with sufficient knowledge of corporate strategy, information technology, governance and organizational planning, specifically chief executive officers, heads of IT, human resource officers, and heads of corporate planning.

A census approach was adopted, whereby all 178 state corporations constituted the target population. This approach was intended to maximize coverage of the population and minimize sampling error associated with selecting a subset of corporations (Saunders et al., 2012). Of the 178 targeted corporations, 120 provided usable responses, forming the dataset used for the empirical analysis.

Table 2: Population Distribution

S/No.	State Corporation Category	Corporations
1	Financial	18
2	Commercial & Manufacturing	34
3	Public Universities	32
4	Training and Research	14
5	Service Corporations	26
6	Regional Development	12
7	Tertiary Education & Training	11
8	Regulatory	31
Total		178

Source: GoK (2019)

Table 2 shows that the 178 state corporations were distributed across eight operational categories. Commercial and manufacturing corporations constituted the largest category with 34 corporations, followed by public universities with 32 and regulatory corporations with 31. Training and research corporations constituted the smallest category with 14 corporations, while the remaining categories ranged from 11 to 26 corporations. The distribution demonstrates that the study population covered a diverse range of state corporations with different institutional mandates and operational contexts.

3.2 Data Collection

Primary and secondary data were employed to provide complementary measures of the study variables. Primary data were collected using a structured questionnaire developed from the study objectives, theoretical framework, empirical literature and operational definitions of the constructs. The questionnaire was administered using the drop-and-pick method with the assistance of trained research assistants.

The instrument comprised five sections. Section I collected information on the characteristics of the state corporations and respondents. Sections II, III and IV measured corporate IT strategy, IT governance and information quality, respectively. Section V captured secondary measures of service delivery obtained from government performance contracting and evaluation reports covering the period 2013/14 to 2017/18. The use of both primary and secondary sources enhanced the breadth of measurement and provided an objective basis for constructing the service delivery index (Bryman & Bell, 2011; Creswell & Clark, 2014).

Reliability and Validity

Instrument reliability was assessed using **Cronbach's alpha coefficient** to establish the internal consistency of the questionnaire items. A coefficient of 0.70 or higher was considered acceptable for establishing satisfactory internal consistency (Robinson, 2009; Straub et al., 2004). Reliability assessment was complemented by validity procedures, particularly content and construct validity. The questionnaire was pre-tested before the main data collection to identify ambiguities, omissions and weaknesses in the wording or sequencing of items. The resulting feedback was used to refine the instrument and improve its ability to measure the intended constructs (Field, 2005; Mugenda & Mugenda, 2003).

**Diagnostic Tests**

Prior to inferential analysis, the data were subjected to diagnostic procedures to assess whether the assumptions underlying regression analysis were reasonably satisfied. Linearity was assessed using scatter plots, while the distributional properties of the variables were examined using descriptive statistics, including the mean, median, standard deviation, skewness and kurtosis. Multicollinearity was assessed using tolerance, the Variance Inflation Factor (VIF) and the Condition Index. Homoscedasticity was examined to establish whether the variance of the residuals was reasonably constant across predicted values. These procedures were undertaken to support the validity and stability of the subsequent regression estimates (Bilge et al., 2011; Jensen & Ramirez, 2012).

Operationalization of Study Variables

The study variables were operationalized in accordance with their conceptual definitions and the dimensions identified from the relevant empirical and theoretical literature.

Table 3: Operationalization of Study Variables

Variable	Operational Indicators	Operational Definition	Supporting Literature	Rating Measure
Corporate IT Strategy (Independent Variable)	Existence of an IT strategy	A comprehensive plan guiding the use of IT to support organizational objectives and strategies	Arvidsson et al. (2014)	5-point Likert scale
	Existence of corporate IT objectives	Clearly defined IT objectives aligned with organizational objectives	Arvidsson et al. (2014)	5-point Likert scale
	Corporate IT targets	Short-term IT targets derived from broader IT objectives	Abdi et al. (2010)	5-point Likert scale
	Corporate IT priority projects	IT initiatives involving investment, development, operations, maintenance, service delivery and organizational development	Abdi et al. (2010)	5-point Likert scale
	Corporate IT improvement targets	Mechanisms supporting improvement in IT capabilities, including staff training and ICT and information-security controls	Abdi et al. (2010)	5-point Likert scale
	Corporate IT implementation plan	A roadmap for translating the IT strategic plan into operational activities	Thompson (2007)	5-point Likert scale
	Level of cascading IT strategy	Extent to which IT strategy is communicated and implemented across organizational levels	Arvidsson et al. (2014)	5-point Likert scale
	IT strategy vertical integration	Alignment of IT strategy with strategic direction and value-chain activities	Yayla & Hu (2014)	5-point Likert scale
	IT strategy cross-functional alignment	Integration of IT strategy with planning across organizational functions	Yayla & Hu (2014)	5-point Likert scale
	Level of implementation	Extent to which IT strategy is translated into action across management levels	Peppard et al. (2014)	5-point Likert scale
	Top management leadership	Senior management commitment to organizational purpose, strategies, objectives and goals	Peppard et al. (2014)	5-point Likert scale
	Configuration of IT resources and skills	Alignment and maintenance of IT resources and skills to support organizational requirements	—	5-point Likert scale
	Effective communication of corporate IT strategy	Extent to which systems and mechanisms communicate IT strategy to relevant stakeholders	Peppard et al. (2014)	5-point Likert scale



IT Governance (Moderating Variable)	Existence of IT governance framework	Presence of a framework for implementing IT governance	De Haes & Van Grembergen (2013)	5-point Likert scale
	ITG level of implementation	Extent to which IT governance arrangements are implemented throughout the organization	Blitstein & Ron (2012)	5-point Likert scale
	Enforcement of ITG framework	Policies and rules supporting implementation of IT governance	Pang (2014)	5-point Likert scale
	Monitoring and evaluation of ITG framework	Systems for monitoring IT governance performance against organizational objectives	Blitstein & Ron (2012)	5-point Likert scale
	Existence of IT risk management framework	Presence of a framework for identifying and mitigating IT-related risks	De Haes & Van Grembergen (2013)	5-point Likert scale
	Implementation of IT risk management framework	Extent to which IT risk-management arrangements are implemented across management levels	De Haes & Van Grembergen (2013)	5-point Likert scale
	IT governance on resource capability and use	Extent to which IT governance supports generation, deployment and use of IT resources	Pang (2014)	5-point Likert scale
Information Quality (Moderating Variable)	Contextual information quality: reliability, usability, correctness, appropriate amount, understandability and safety	Extent to which information is meaningful, complete, usable and fit for strategic purposes	Madnick et al. (2009)	5-point Likert scale
	Data quality: completeness, timeliness, accuracy and consistency	Extent to which data are complete, timely, accurate and consistent for organizational use	Nelson et al. (2005)	5-point Likert scale
	Information quality rating based on information systems	Perceived value and usefulness of information produced by organizational information systems	Nelson et al. (2005)	5-point Likert scale
Service Delivery (Dependent Variable)	Customer satisfaction index	Extent to which services meet or exceed customer expectations	Chen & Tsou (2012)	Ratio
	Implementation of service delivery charter	Extent to which commitments contained in the customer service charter are implemented	Miremadi et al. (2011)	Ratio
	Application of service delivery innovation	Extent to which innovative services and approaches are applied to enhance service delivery	Ochieng (2010)	Ratio
	Resolution of customer complaints	Extent to which customer complaints are addressed effectively	Chen & Tsou (2012)	Ratio

Source: Research Data (2020)

Table 3 demonstrates that corporate IT strategy, IT governance and information quality were measured using multiple indicators to capture their respective conceptual dimensions. Corporate IT strategy incorporated strategic formulation, alignment, implementation, leadership, resources and communication. IT governance incorporated governance structures, implementation, enforcement, monitoring and evaluation, risk management and resource use. Information quality incorporated both information and data quality dimensions. Service delivery was operationalized using four objectively measured indicators derived from performance contracting data.

**Data Analysis**

Data analysis involved descriptive and inferential statistical procedures. A composite service delivery index was constructed from four performance dimensions: customer satisfaction, implementation of the service delivery charter, application of service delivery innovations, and resolution of public complaints.

The weights assigned to the four dimensions were based on the Government of Kenya performance-contracting framework. For each dimension, the average achievement over the five-year period was first calculated:

$$\text{Average} = (Y_1 + Y_2 + Y_3 + Y_4 + Y_5) / 5$$

The resulting averages were then multiplied by their respective weights:

- Customer satisfaction index = $0.30 \times Av1$
- Implementation of service delivery charter = $0.30 \times Av2$
- Application of service delivery innovation = $0.20 \times Av3$
- Resolution of public complaints = $0.20 \times Av4$

The overall service delivery composite score was therefore calculated as:

$$\text{Service Delivery Index} = 0.30Av1 + 0.30Av2 + 0.20Av3 + 0.20Av4$$

Inferential analysis was conducted at the **95% confidence level**. To examine the combined explanatory contribution of corporate IT strategy, IT governance and information quality to service delivery, the study employed **multiple linear regression using the Enter method**. The three independent variables were entered into the regression model simultaneously, allowing their individual contributions to service delivery to be estimated while controlling for the other variables in the model.

The regression model was specified as:

$$SD = \beta_0 + \beta_1CITS + \beta_2ITG + \beta_3IQ + \varepsilon$$

Where:

- **SD** = Service Delivery
- **β_0** = Regression intercept
- **CITS** = Corporate IT Strategy
- **ITG** = IT Governance
- **IQ** = Information Quality
- **$\beta_1, \beta_2, \beta_3$** = Regression coefficients
- **ε** = Error term

Model fit was assessed using R, R² and adjusted R², while the overall statistical significance of the regression model was assessed using the F-statistic. The standardized beta coefficients, t-statistics and associated p-values were used to examine the unique contribution of each predictor while controlling for the other predictors in the model.

Service Delivery Composite Index**Table 4: Service Delivery Composite Index**

Service Delivery Criteria Category	Unit of Measure	Weight	2014	2015	2016	2017	2018	Average	Weighted Score
Implementation of Service Delivery Charter	%	0.30	58.8	64.2	68.6	69.3	75.0	67.18	20.15
Application of Service Delivery Innovations	%	0.20	48.0	50.9	51.5	55.4	60.8	53.32	10.66
Resolution of Customer Complaints	%	0.20	53.8	60.2	67.2	75.8	83.4	68.08	13.62
Customer Satisfaction Index	%	0.30	54.8	55.4	57.6	63.5	67.3	59.72	17.92
Composite Score		1.00							62.35

Source: Research Data (2020)



Table 4 shows that the overall service delivery composite score was **62.35%**. Resolution of customer complaints recorded the highest five-year average at 68.08%, followed by implementation of the service delivery charter at 67.18%. Customer satisfaction recorded an average of 59.72%, while application of service delivery innovations had the lowest average at 53.32%. After applying the specified weights, the four dimensions contributed 13.62, 20.15, 17.92 and 10.66 percentage points, respectively, producing an overall service delivery index of 62.35%.

The five-year figures also indicate an upward pattern across the four dimensions. For example, resolution of customer complaints increased from 53.8% in 2014 to 83.4% in 2018, while implementation of the service delivery charter increased from 58.8% to 75.0%. These measures provided the basis for constructing the dependent-variable index used in the subsequent regression analysis.

Response Rate and Distribution of Responding State Corporations

The study targeted all 178 state corporations. Completed and usable questionnaires were obtained from 120 corporations, representing a **67.4% response rate**.

Table 6: Distribution of the Response Rate

State Corporation Category	Target	Response/Frequency	Percentage	Rank*
Public Universities	32	28	23%	1
Commercial & Manufacturing	34	24	20%	2
Regulatory	31	21	18%	3
Financial	18	13	11%	4
Service Corporations	26	11	9%	5
Tertiary Education & Training	11	9	8%	6
Regional Development	12	6	5%	7
Training and Research	14	8	7%	8
Total	178	120	100%	

Source: Research Data (2020)

*Rank refers to the ordering of responses by frequency.

Table 6 indicates that 120 of the 178 targeted state corporations supplied usable responses. Public universities contributed the largest number of responses (28), followed by commercial and manufacturing corporations (24) and regulatory corporations (21). The response distribution broadly covered all eight categories of state corporations, thereby providing observations from diverse institutional settings.

The response rate of 67.4% provided a substantial proportion of the targeted population for analysis. In interpreting response rates, the adequacy of a survey response should be considered in relation to the study population, research design, data completeness and potential non-response bias rather than relying solely on a universal numerical threshold. In this study, the 120 usable responses constituted the observations subsequently used in the regression analyses.

Results on the Service Delivery Index

Service delivery was measured using secondary performance data covering the five-year period from 2014 to 2018. Four dimensions were combined using the predefined weights: implementation of the service delivery charter (30%), customer satisfaction (30%), application of service delivery innovations (20%), and resolution of customer complaints (20%).

The resulting composite index was **62.35%**, as reported in Table 7.

**Table 7: Service Delivery Index**

Criteria	Measure	Weight	2014	2015	2016	2017	2018	Average	Weighted Score
Implementation of Service Delivery Charter	%	0.30	58.8	64.2	68.6	69.3	75.0	67.18	20.15
Application of Service Delivery Innovations	%	0.20	48.0	50.9	51.5	55.4	60.8	53.32	10.66
Resolution of Customer Complaints	%	0.20	53.8	60.2	67.2	75.8	83.4	68.08	13.62
Customer Satisfaction Index	%	0.30	54.8	55.4	57.6	63.5	67.3	59.72	17.92
Composite Score		1.00							62.35
Criteria	Measure	Weight	2014	2015	2016	2017	2018	Average	Weighted Score

Source: Research Data (2020)

Table 7 confirms that the service delivery index was derived systematically from the four specified dimensions. Resolution of customer complaints had the highest average achievement, while service delivery innovation recorded the lowest. The resulting weighted composite score of 62.35% was subsequently used as the dependent variable in the construct-level regression model.

Joint Explanatory Relationship of Corporate IT Strategy, IT Governance and Information Quality with Service Delivery

The study estimated a multiple linear regression model to examine the combined explanatory relationship between corporate IT strategy, IT governance, information quality and service delivery. The three constructs were entered simultaneously using the Enter method, thereby allowing the model to estimate their combined explanatory contribution while controlling for the other predictors.

Table 8: Variables Entered/Removed in the Composite Regression Model

Model	Variables Entered	Variables Removed	Method
1	IT Governance, Information Quality, Corporate IT Strategy	None	Enter

- Dependent Variable: Service Delivery
- All requested variables entered.

Source: Research Data (2020)

Table 8 shows that corporate IT strategy, IT governance and information quality were simultaneously entered into the regression model. None of the specified predictors was removed. The Enter method was appropriate because the analysis was concerned with the combined explanatory contribution of the three theoretically specified constructs rather than automated variable selection.

Table 9: Model Goodness of Fit for the Composite Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.827	.684	.676	2.40257

- Predictors: (Constant), IT Governance, Information Quality, Corporate IT Strategy

Source: Research Data (2020)

The model produced a multiple correlation coefficient of $R = .827$. The R^2 of **.684** indicates that the three predictors jointly accounted for 68.4% of the observed variance in service delivery in the sample. After adjustment for the number of predictors and sample size, the adjusted R^2 was **.676**, indicating that approximately **67.6% of the variation in service delivery was explained by the combined model**. The remaining 32.4% represents variation associated with factors outside the three predictors included in the model and random error.

Table 10: Overall Significance of the Composite Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1449.546	3	483.182	83.707	<.001
Residual	669.591	116	5.772		
Total	2119.137	119			

- Dependent Variable: Service Delivery
 - Predictors: (Constant), IT Governance, Information Quality, Corporate IT Strategy
- Source: Research Data (2020)



As shown in Table 10, the overall regression model was statistically significant, $F(3,116) = 83.707, p < .001$. The result indicates that the set of corporate IT strategy, IT governance and information quality, considered collectively, explained a statistically significant proportion of variation in service delivery. The result provides empirical support for interpreting the individual regression coefficients within the context of the combined model.

Table 11: Regression Coefficients for the Composite Measurement Model

Model	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
(Constant)	35.555	1.936		18.367	<.001
Corporate IT Strategy	4.557	.868	.412	5.249	<.001
Information Quality	1.772	.788	.162	2.249	.026
IT Governance	3.601	.835	.350	4.314	<.001

a. **Dependent Variable: Service Delivery**

Source: Research Data (2020)

Table 11 indicates that all three predictors had positive and statistically significant coefficients in the composite regression model. Corporate IT strategy had a standardized coefficient of $\beta = .412$ ($p < .001$), IT governance had $\beta = .350$ ($p < .001$), and information quality had $\beta = .162$ ($p = .026$). The standardized coefficients represent the unique contribution of each predictor after accounting for the other two variables in the model.

The corresponding regression equation based on the **unstandardized coefficients** is:

Service Delivery = 35.555 + 4.557(Corporate IT Strategy) + 3.601(IT Governance) + 1.772(Information Quality) + ϵ

The standardized coefficients should not be substituted for the unstandardized coefficients in this prediction equation. The standardized coefficients are more appropriately used to compare the relative unique contributions of the predictors within the model.

At the construct level, corporate IT strategy had the largest standardized coefficient ($\beta = .412$), followed by IT governance ($\beta = .350$) and information quality ($\beta = .162$). These coefficients indicate positive associations with service delivery after controlling for the other predictors. The findings therefore show that the three constructs operated together as statistically significant explanatory variables of service delivery among the responding state corporations.

4.4 Supplementary Indicator-Level Regression Analysis

To provide a more detailed understanding of the construct-level findings, an additional regression model was estimated using the individual indicators of corporate IT strategy, IT governance and information quality. This analysis was supplementary to the composite model and was intended to identify the specific dimensions that made unique contributions when all indicators were considered simultaneously.

Table 12: Model Summary for Indicator-Level Regression

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.894	.799	.734	2.17795	1.868

Dependent Variable: Service Delivery

Source: Research Data (2020)

The indicator-level model produced $R = .894$, with an R^2 of $.799$ and an adjusted R^2 of $.734$. Thus, the 29 indicators collectively accounted for 79.9% of the observed variation in service delivery, with 73.4% remaining after adjustment for the number of predictors. The Durbin-Watson statistic of 1.868 was also consistent with an absence of substantial first-order residual autocorrelation.

Table 13: Overall Significance of Indicator-Level Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1692.016	29	58.345	12.300	<.001
Residual	426.910	90	4.743		
Total	2118.926	119			

Dependent Variable: Service Delivery

Source: Research Data (2020)

Table 13 shows that the indicator-level regression model was statistically significant, $F(29,90) = 12.300, p < .001$. The result indicates that the set of 29 indicators collectively explained a statistically significant proportion of variation in service delivery.

**Table 14: Indicator-Level Regression Coefficients**

No.	Indicator	Standardized β	T	p-value	Interpretation at 5%
1	Existence of Corporate IT Strategy	.081	1.205	.231	Not significant
2	Corporate IT Objectives	.115	1.663	.100	Not significant
3	Corporate IT Targets	.094	1.401	.165	Not significant
4	Corporate IT Target Improvements	.025	.376	.708	Not significant
5	Corporate IT Annual Implementation Plans	-.025	-.370	.712	Not significant
6	Level of Cascading of Corporate IT Strategy	.138	1.969	.052	Not significant
7	Corporate IT Strategy Vertical Integration	-.046	-.645	.520	Not significant
8	Corporate IT Strategy Cross-Functional Alignment	.003	.047	.962	Not significant
9	Level of Implementation of Corporate IT Strategy	.237	3.110	.003	Significant positive
10	Top Management Leadership	.048	.637	.526	Not significant
11	Configuration of IT Resources and Skills	.116	1.548	.125	Not significant
12	Effective Communication of Corporate IT Strategy	-.149	-2.128	.036	Significant negative
13	Reliability of Information	-.083	-1.129	.262	Not significant
14	Usability of Information	-.042	-.584	.561	Not significant
15	Correctness of Information	.022	.279	.781	Not significant
16	Appropriate Amount of Information	.080	1.112	.269	Not significant
17	Understandability of Information	.061	.881	.381	Not significant
18	Safety of Information	-.009	-.124	.902	Not significant
19	Completeness of Data	.169	2.573	.012	Significant positive
20	Timeliness of Data	.065	.987	.326	Not significant
21	Accuracy of Data	-.034	-.452	.652	Not significant
22	Consistency of Data	.021	.274	.785	Not significant
23	IT Governance Framework	-.231	-3.058	.003	Significant negative
24	IT Governance Level of Implementation	.203	2.771	.007	Significant positive
25	Enforcement of ITG Framework	-.087	-1.257	.212	Not significant
26	Monitoring and Evaluation of ITG Framework	.340	4.455	<.001	Significant positive
27	IT Risk Management Framework	.069	1.001	.319	Not significant
28	Implementation of IT Risk Management Framework	.024	.388	.699	Not significant
29	IT Governance on Resource Capability/Use	.196	2.764	.007	Significant positive

Source: Research Data (2020)

Table 14 provides a more granular assessment of the contribution of individual indicators. Six indicators had statistically significant unique coefficients at the 5% level. Five were positive: level of implementation of corporate IT strategy ($\beta = .237$, $p = .003$), completeness of data ($\beta = .169$, $p = .012$), IT governance level of implementation ($\beta = .203$, $p = .007$), monitoring and evaluation of the IT governance framework ($\beta = .340$, $p < .001$), and IT governance on resource capability/use ($\beta = .196$, $p = .007$). Effective communication of corporate IT strategy had a statistically significant negative coefficient ($\beta = -.149$, $p = .036$).

The remaining indicators did not attain statistical significance at the 5% level. The level of cascading of corporate IT strategy approached but did not reach the conventional 5% significance threshold ($p = .052$).

The negative coefficients for effective communication of corporate IT strategy and IT governance framework should be interpreted cautiously. Their signs represent **unique conditional coefficients** after controlling for all other indicators in a highly specified model; they should not be interpreted as evidence that communication or governance frameworks intrinsically reduce service delivery. Such coefficient reversals can arise when closely related indicators are simultaneously entered into a regression model and share substantial variance with other predictors. Consequently, the construct-level findings provide the principal basis for interpreting the overall relationship, while the indicator-level model provides additional diagnostic detail.

Discussion of Findings

The findings demonstrate a statistically significant combined relationship between corporate IT strategy, IT governance, information quality and service delivery among the responding state corporations. The composite regression model explained 67.6% of the variation in service delivery after adjustment for model complexity. The overall model was statistically significant, $F(3,116) = 83.707$, $p < .001$, indicating that the three constructs collectively provided substantial explanatory information about differences in service delivery.



Corporate IT strategy recorded the largest standardized coefficient in the composite model ($\beta = .412, p < .001$). This finding is consistent with the view that strategic alignment of IT with organizational objectives can provide a framework for directing IT investments, capabilities and implementation activities toward organizational priorities. Peppard et al. (2014) similarly emphasize the strategic role of IT in organizational transformation and performance.

IT governance also demonstrated a positive and statistically significant coefficient ($\beta = .350, p < .001$). This result suggests that governance arrangements, including structures for decision-making, accountability, monitoring and resource use, are associated with service delivery when corporate IT strategy and information quality are controlled. The finding is consistent with the literature emphasizing governance mechanisms as important for aligning IT decisions with organizational objectives and ensuring that IT resources generate organizational value.

Information quality had a positive and statistically significant coefficient ($\beta = .162, p = .026$). Although its standardized coefficient was smaller than those of corporate IT strategy and IT governance, the result indicates that information quality made an independent contribution to service delivery within the combined model. This is consistent with the information-quality literature, which identifies accuracy, completeness, timeliness, consistency, usability and related attributes as important conditions for effective organizational decision-making and operations (Nelson et al., 2005; Madnick et al., 2009).

The supplementary indicator-level model provided additional insight into the mechanisms represented by the broader constructs. In particular, implementation of corporate IT strategy, completeness of data, implementation of IT governance, monitoring and evaluation of IT governance, and IT governance related to resource capability and use were positively associated with service delivery when the other indicators were controlled. These findings suggest that the practical implementation of strategy and governance mechanisms may be particularly relevant dimensions of the broader constructs.

The indicator-level results also demonstrate why construct-level and indicator-level analyses should not be interpreted interchangeably. While the composite measures of corporate IT strategy, IT governance and information quality were all positively associated with service delivery, some individual indicators had non-significant or negative conditional coefficients. This difference reflects the fact that construct-level coefficients summarize broader dimensions, whereas indicator-level coefficients estimate the unique contribution of each indicator in the presence of numerous correlated predictors.

The findings are broadly consistent with previous research emphasizing the importance of IT-enabled organizational capabilities in improving organizational processes and service outcomes. Bitner et al. (2008) conceptualize service delivery as an important manifestation of organizational and service capability, while McAfee and Brynjolfsson (2008) highlight the contribution of IT integration to organizational processes and performance. Taken together, these perspectives provide a theoretical basis for understanding why strategic IT orientation, governance arrangements and information quality may operate jointly in shaping service delivery.

Summary of Findings and Conclusion

The analysis established that corporate IT strategy, IT governance and information quality collectively explained a substantial proportion of the variation in service delivery among the state corporations represented in the dataset. The composite regression model recorded $R = .827$, $R^2 = .684$ and $\text{adjusted } R^2 = .676$, with an overall statistically significant model, $F(3,116) = 83.707, p < .001$.

All three constructs made statistically significant positive contributions within the composite model. Corporate IT strategy recorded $\beta = .412 (p < .001)$, IT governance $\beta = .350 (p < .001)$, and information quality $\beta = .162 (p = .026)$. The findings therefore indicate that service delivery is systematically associated with the combined presence of strategic IT orientation, governance arrangements and information quality.

The indicator-level analysis provided further detail, with six individual indicators recording statistically significant unique coefficients. Five had positive coefficients, while effective communication of corporate IT strategy had a negative conditional coefficient. These indicator-level results should be understood as conditional relationships rather than causal effects and do not override the broader construct-level findings.

Overall, the findings support the proposition that corporate IT strategy, IT governance and information quality should be considered together when examining service delivery in state corporations. The results also indicate that translating strategy into implementation, strengthening governance implementation and monitoring, supporting IT resource capability and ensuring complete data are potentially important dimensions within this broader relationship.

**Table 15: Summary of Model Statistics**

Objective	R	R ²	Adjusted R ²	F	Sig./p-value	Interpretation
To determine the joint explanatory relationship of corporate IT strategy, IT governance and information quality with service delivery of state corporations in Kenya	.827	.684	.676	83.707	<.001	The composite model was statistically significant and explained 67.6% of the adjusted variation in service delivery.

Source: Research Data (2020)

Table 15 summarizes the principal statistics for the construct-level regression model. The adjusted R² of .676 indicates that corporate IT strategy, IT governance and information quality jointly explained 67.6% of the variation in service delivery in the sample. The statistically significant F-statistic confirms that the explanatory contribution of the combined model was greater than would be expected from an intercept-only model.

Contributions of the Study Findings

Contribution to Knowledge

The study contributes empirical evidence on the relationship between corporate IT strategy, IT governance, information quality and service delivery within the context of Kenyan state corporations. Whereas these constructs are often examined separately, the study brings them together within a single explanatory framework. The finding that the three constructs jointly explained 67.6% of the adjusted variation in service delivery provides empirical evidence of the relevance of considering strategic, governance and information dimensions simultaneously.

The study further contributes by operationalizing service delivery through multiple performance dimensions rather than relying solely on a single perceptual measure. The use of customer satisfaction, service delivery charter implementation, service delivery innovation and resolution of customer complaints provides a multidimensional representation of service delivery.

The indicator-level analysis adds further conceptual detail by identifying specific dimensions associated with service delivery after controlling for the remaining indicators. In particular, the results draw attention to strategy implementation, data completeness, governance implementation, governance monitoring and evaluation, and IT resource capability/use.

Managerial and Policy Contribution

The findings have implications for managers of state corporations responsible for strategic planning, information technology, governance and service delivery. The results suggest that attention to IT strategy should extend beyond strategy formulation to implementation and organizational alignment. Similarly, IT governance should encompass not only the existence of governance frameworks but also their implementation, monitoring and evaluation, and their connection to IT resource capability and use.

The findings concerning information quality also highlight the importance of reliable organizational information resources. In particular, the positive association between data completeness and service delivery suggests that information-management practices should address the completeness and usability of data required for operational and managerial decision-making.

For policy makers and oversight institutions, the findings provide empirical support for strengthening institutional arrangements that integrate corporate strategy, IT governance and information management. Such arrangements can provide a framework for monitoring whether investments in IT and information systems are aligned with organizational objectives and service delivery requirements.

The results should, however, be interpreted within the study's cross-sectional design. The regression estimates demonstrate statistical associations and explanatory relationships in the observed data; they should not be interpreted as establishing definitive causal effects. Future longitudinal or experimental studies could provide stronger evidence regarding the direction and causal mechanisms underlying these relationships.

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