**Regulatory Compliance and Service Delivery in Uganda’s State-Owned Energy Sector: A Case Study of Uganda Electricity Distribution Company Limited**

**Abstract**

This study explored the influence of regulatory compliance on service delivery within state-owned energy corporations, with a specific focus on Uganda Electricity Distribution Company Limited (UEDCL). Grounded in The Institutional Theory, the research examined how stakeholder participation contributes to service efficiency. A quantitative research approach was employed, integrating cross sectional and descriptive research designs. The study targeted 678 participants, including board members, UEDCL employees, and private sector stakeholders in the energy industry. A combination of stratified and simple random sampling techniques was used to select a sample of 251 respondents. Data collection was conducted using structured questionnaires, and analysis was carried out through descriptive statistics and inferential techniques. The correlation analysis revealed a positive relationship between regulatory compliance and service delivery (r = 0.336, p < 0.01). Regression analysis further confirmed a significant relationship between regulatory compliance and service delivery (β = 0.312, t = 3.594, p = 0.000, p < 0.05), highlighting the critical role of regulatory compliance in enhancing service efficiency. These findings offer empirical insights into regulatory compliance within Uganda’s energy sector, providing a basis for strengthening governance and operational effectiveness in state-owned enterprises.

**Keywords:** Regulatory Compliance, Service Delivery, State-Owned Energy Corporation, Electricity Distribution Company Limited

**Introduction**
The imperative of regulatory compliance and effective service delivery in state-owned energy corporations cannot be overstated, particularly in the face of increasing energy demands and the need for sustainable development (Kwakwa et al., 2020). Regulatory compliance is crucial in ensuring that state-owned energy corporations operate within established legal and policy frameworks, thereby promoting transparency, accountability, and good governance (Moyo et al., 2020). Effective service delivery, on the other hand, is essential for ensuring that energy services are accessible, reliable, and affordable, which in turn has a positive impact on economic development and poverty reduction (IEA, 2020). However, state-owned energy corporations often face challenges in balancing regulatory compliance with effective service delivery, which can have negative consequences for energy sector performance and overall economic development (Oyedele et al., 2019). Therefore, it is essential to explore the relationship between regulatory compliance and service delivery in state-owned energy corporations, with a view to identifying strategies for improving energy sector performance and promoting sustainable development.

State-owned energy corporations play a significant role in both advanced and emerging economies, with varying degrees of success and challenges. In advanced economies, these corporations often operate in a more liberalized market environment, with a focus on efficiency, profitability, and sustainability. For instance, France's EDF, a state-owned utility company, has successfully transitioned to a more market-oriented approach, while maintaining a strong focus on renewable energy and nuclear power (Boute, 2020). Similarly, Germany's Energiewende, a state-led energy transition program, aims to reduce greenhouse gas emissions and increase the share of renewable energy in the energy mix.

In emerging economies, state-owned energy corporations often face significant challenges, including inefficient operations, limited access to financing, and corruption and governance issues. Many of these corporations struggle with inefficient operations, leading to financial losses and a lack of investment in new technologies (Kwakwa et al., 2020). For example, in India, state-owned energy corporations have faced challenges in accessing financing for new projects and investments, which has hindered their ability to expand and modernize their operations (Mishra et al., 2020). Furthermore, corruption and governance issues can be significant challenges for state-owned energy corporations in emerging economies, as seen in the case of South Africa's Eskom, which has faced allegations of corruption and mismanagement (Moyo et al., 2020).

In Uganda, the energy sector has witnessed significant developments, including the discovery of oil reserves and the development of the oil and gas sector. However, despite these developments, the sector faces major challenges attributed to regulatory compliance. A weak regulatory framework, characterized by fragmentation and multiple institutions, hinders the development of the sector (African Development Bank, 2019). Additionally, the lack of effective enforcement of existing regulations and corruption have led to inefficiencies (Uganda National Planning Authority, 2020). The sector also lacks transparency and accountability, with limited information available to the public (Global Witness, 2019). These challenges highlight the need for a comprehensive study on regulatory compliance and how this influences service delivery in the energy sector in Uganda.

This study on regulatory compliance in the energy sector in Uganda is significant because it aims to identify the challenges and gaps in the current regulatory framework, and propose recommendations for improvement. By doing so, the study will contribute to the development of a more effective and efficient regulatory framework, which will in turn enhance the transparency, accountability, and sustainability of the energy sector in Uganda, ultimately supporting the country's economic development and energy security goals.

**Research Questions**

1. How do internal compliance mechanisms and leadership commitment at Uganda Electricity Distribution Company Limited (UEDCL) influence the effectiveness of regulatory compliance and service delivery?
2. To what extent does employee awareness, training, and engagement with regulatory bodies impact regulatory compliance practices within UEDCL?

**Null Hypotheses**

1. Internal compliance mechanisms and leadership commitment at UEDCL do not significantly influence the effectiveness of regulatory compliance and service delivery.
2. Employee awareness, training, and engagement with regulatory bodies (ERA) do not significantly impact regulatory compliance practices within UEDCL.

**2.1 Underpinning Theory**

This study was anchored on The Institutional Theory, propounded by DiMaggio and Powell (1983). The theory posits that organizations conform to institutional norms and expectations to gain legitimacy and survive in their environment. According to this theory, organizations are influenced by their institutional environment, which includes regulatory frameworks, norms, and expectations. The theory suggests that organizations will adopt practices and structures that are consistent with the institutional norms, even if they are not necessarily efficient or effective (DiMaggio & Powell, 1983).

In the context of Uganda Electricity Distribution Company Limited (UEDCL), the Institutional Theory can be used to explain regulatory compliance. UEDCL, as a state-owned enterprise, is subject to various regulatory requirements and expectations. The company is required to comply with the Electricity Act (1999) and the Electricity (Licensing) Regulations (2007), among other regulations. According to the Institutional Theory, UEDCL will conform to these regulatory requirements to gain legitimacy and avoid sanctions. For instance, UEDCL has established a regulatory compliance department to ensure that the company complies with all relevant regulations (UEDCL, 2020).

Moreover, the Institutional Theory suggests that UEDCL will also adopt practices and structures that are consistent with the institutional norms. For example, the company has adopted a corporate governance framework that is consistent with the institutional norms in Uganda (UEDCL, 2020). This framework includes a board of directors, an audit committee, and a risk management committee, among other structures. By adopting these structures, UEDCL is able to demonstrate its commitment to regulatory compliance and good corporate governance.

The Institutional Theory provides a useful framework for understanding regulatory compliance in UEDCL. The theory suggests that UEDCL will conform to institutional norms and expectations to gain legitimacy and survive in its environment. By adopting practices and structures that are consistent with the institutional norms, UEDCL is able to demonstrate its commitment to regulatory compliance and good corporate governance.

**2.2 Empirical Review**

Regulatory compliance and service delivery are critical aspects of state-owned energy companies globally, including Uganda. Empirical studies have shown that regulatory compliance is essential for ensuring that state-owned energy companies operate efficiently and effectively (Kwakwa et al., 2020). For instance, a study by Kwakwa et al. (2020) found that regulatory compliance was a significant factor in the performance of state-owned energy companies in Ghana. The study noted that companies that complied with regulatory requirements tended to perform better than those that did not.

In Uganda, regulatory compliance has been identified as a major challenge facing state-owned energy companies (Muhumuza, 2020). A study by Muhumuza (2020) found that Uganda's state-owned energy company, Uganda Electricity Distribution Company Limited (UEDCL), faced significant challenges in complying with regulatory requirements. The study noted that UEDCL's failure to comply with regulatory requirements had resulted in inefficiencies and poor service delivery.

Other empirical studies have also highlighted the importance of regulatory compliance in ensuring good service delivery in state-owned energy companies (Oyedele et al., 2019). For example, a study by Oyedele et al. (2019) found that regulatory compliance was a significant factor in the service delivery of state-owned energy companies in Nigeria. The study noted that companies that complied with regulatory requirements tended to provide better services to their customers.

In terms of service delivery, empirical studies have shown that state-owned energy companies face significant challenges in providing reliable and efficient services to their customers (Mishra et al., 2020). For instance, a study by Mishra et al. (2020) found that state-owned energy companies in India faced significant challenges in providing reliable and efficient services to their customers. The study noted that the companies' failure to provide reliable and efficient services had resulted in customer dissatisfaction and lost revenue.

In Uganda, service delivery has been identified as a major challenge facing state-owned energy companies (Kakuba, 2019). A study by Kakuba (2019) found that UEDCL faced significant challenges in providing reliable and efficient services to its customers. The study noted that UEDCL's failure to provide reliable and efficient services had resulted in customer dissatisfaction and lost revenue.

These empirical studies have shown that regulatory compliance and service delivery are critical aspects of state-owned energy companies globally, including Uganda. Regulatory compliance is essential for ensuring that state-owned energy companies operate efficiently and effectively, while service delivery is critical for providing reliable and efficient services to customers.

**Research Gaps**

The first major gap is the examination of internal compliance mechanisms and leadership commitment within UEDCL. While previous research primarily focused on external regulatory enforcement and sector-wide compliance challenges (Kwakwa et al., 2020; Muhumuza, 2020), this study explores how UEDCL regularly reviews and updates its policies, implements systems for reporting non-compliance, and prioritizes compliance at the leadership level. This focus provides a detailed institutional perspective on how compliance is managed internally, rather than only assessing external regulatory pressures.

The second major gap is the analysis of employee awareness, training, and engagement with regulatory bodies. Prior studies emphasized compliance as a top-down process enforced by regulators (Oyedele et al., 2019; Mishra et al., 2020) but did not assess how well employees understand, implement, and report regulatory issues. This study fills that gap by evaluating whether UEDCL employees are aware of ERA regulations, receive training on compliance requirements, and engage with ERA officials to enhance compliance practices. It also examines whether the company encourages employees to report non-compliance, providing a bottom-up perspective on regulatory adherence.

**Table 1: Research Gaps**

|  |  |  |
| --- | --- | --- |
| **Gap Identified** | **Previous Empirical Studies** | **Current Study on UEDCL** |
| Internal compliance mechanisms and leadership commitment | Focused on external regulatory enforcement and sector-wide compliance challenges (Kwakwa et al., 2020; Muhumuza, 2020). | Examined UEDCL’s internal compliance systems, policy reviews, and leadership prioritization of regulatory adherence. |
| Employee awareness, training, and engagement with regulators | Emphasized compliance as a top-down enforcement process by regulators (Oyedele et al., 2019; Mishra et al., 2020). | Assessed employee awareness of ERA regulations, training on compliance, and interactions with ERA to enhance adherence |

**Source**: Field Data, 2025

**3.0 Methodology**

***Research Design***

This study adopted cross-sectional and descriptive research designs to investigate the relationship between regulatory compliance and service delivery in state-owned energy corporations. The cross-sectional design was selected as it enables data collection at a single point in time, offering a snapshot of prevailing conditions and the associations between variables. This approach is particularly advantageous for identifying trends and relationships without the need for prolonged observation periods.

The descriptive research design was employed to systematically present the characteristics of the study population, capturing stakeholders’ perspectives on regulatory compliance and service delivery. Through the use of descriptive statistics, including means, frequencies, and standard deviations, the study effectively summarized and interpreted the data, providing critical insights into the extent of regulatory adherence and its influence on service efficiency. These research designs were well-suited for generating quantitative data in a structured and efficient manner, ensuring a comprehensive analysis of the study's objectives.

**Table 2: Target Population**

|  |  |
| --- | --- |
| **Target** | **Population** |
| Board Members | 8 |
| Employees of UEDC | 661 |
| Private sector Players in the Energy Industry | 9 |
| **Total** | **678** |

**Sources:** UEDC (2024*)*

 **Sampling Techniques**

The sample size of 251 respondents was selected from a target population of 678 using Yamane (1967). This study employed a combination of stratified random sampling and simple random sampling to achieve a representative and unbiased selection of participants. Stratified random sampling was used to categorize the target population into distinct subgroups based on relevant characteristics, such as board members, UEDCL employees, and private sector participants. This method ensured proportional representation of each subgroup, minimizing sampling bias and enhancing the accuracy of the findings. Within each stratum, simple random sampling was applied to select respondents, giving every individual an equal opportunity to participate as shown in Table 3. This integrated approach strengthened the generalizability of the study by capturing diverse perspectives while maintaining the randomness necessary for objective and reliable results.

**Table 3: Sample size**

|  |  |  |
| --- | --- | --- |
| **Stratum** | **Population** | **Sample Size**  |
| Board Members | 8 | 3 |
| Employees of UEDC | 661 | 245 |
| Private sector Players in the Energy Industry | 9 | 3 |
| **Total** | **678** | **251** |

**Source:**Field Data (2024)

***Research Instruments***

This study gathered primary data through a structured questionnaire incorporating a five-point Likert scale to ensure uniformity and facilitate data analysis. The structured design enabled the systematic collection of quantitative responses, allowing for an objective evaluation of participants’ views on regulatory compliance and service delivery. The Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), provided respondents with a clear framework to express varying levels of agreement or disagreement, capturing diverse perspectives while ensuring ease of interpretation. This method was well-suited for measuring attitudes and perceptions, supporting statistical analysis through descriptive and inferential techniques, thereby enhancing the reliability and comparability of the findings.

***Data collection procedure***

The study employed a structured data collection process, beginning with securing approvals from relevant authorities, including institutional review boards and the management of Uganda Electricity Distribution Company Limited (UEDCL). A pre-field visit was conducted to familiarise the research team with the study setting, build rapport with key stakeholders, and finalise logistical preparations. During the data collection phase, self-administered questionnaires were distributed to selected respondents following the sampling framework. Participants received a briefing on the study’s objectives, confidentiality assurances, and sufficient time to complete the questionnaires. Once collected, responses were reviewed for completeness and accuracy before being prepared for data analysis to enhance the reliability of the findings.

***Data Analysis and presentation***

The study analysed quantitative data using descriptive statistics, correlation analysis, and regression techniques to ensure a comprehensive examination of the relationship between regulatory compliance and service delivery. Descriptive statistics, including means, frequencies, percentages, and standard deviations, provided a summary of the dataset, allowing for a clear understanding of trends and variations. Correlation analysis was employed to determine the strength and direction of the relationship between regulatory compliance and service delivery, offering insights into the degree of association between the variables. Regression analysis further established the predictive influence of regulatory compliance on service delivery, assessing the extent to which changes in compliance levels impacted service outcomes. The linear regression equation used in the study was:

**Y = β₀ + β₁X + ε**

where **Y** represents service delivery, **β₀** is the intercept, **β₁** is the regression coefficient for regulatory compliance (**X**), and **ε** is the error term. This model allowed for statistical inference regarding the significance and impact of regulatory compliance on service efficiency, enhancing the study’s ability to draw meaningful conclusions.

Ethical principles were strictly adhered to throughout the study to ensure integrity, confidentiality, and respect for all participants. Informed consent was obtained from respondents before data collection, guaranteeing voluntary participation based on a clear understanding of the study’s objectives, potential risks, and anticipated benefits. Confidentiality and anonymity were preserved by assigning unique identification codes instead of personal details, thereby safeguarding respondents’ privacy and preventing unauthorised access to sensitive information.

**4.0 Discussion of Findings**

*4.1 Response Rate*

The study achieved a response rate of 65%, which is considered acceptable for survey-based research, particularly in organisational settings where participants may have competing priorities. This response rate was facilitated by effective follow-ups, clear instructions, and assurances of confidentiality, which encouraged participants to complete the questionnaires. A response rate above 60% is generally regarded as sufficient for ensuring the validity and reliability of survey findings, as it reduces the risk of non-response bias and enhances the representativeness of the sample.

**Table 4: Response Rate Summary**

|  |  |  |
| --- | --- | --- |
| **Description** | **Frequency** | **Percentage (%)** |
| Distributed Questionnaires | 251 | 100% |
| Returned Questionnaires | 163 | 65% |
| Non-Responses | 88 | 35% |

Source: Field Data, 2025

*4.2 Descriptive Statistics on Regulatory Compliance and Service Delivery*

The study assessed the impact of regulatory compliance on service delivery within Uganda Electricity Distribution Company. The table below presents the mean and standard deviation values based on responses using a Likert scale, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree."

The full Likert scale used in the study is as follows:

1. **Strongly Disagree**
2. **Disagree**
3. **Neutral**
4. **Agree**
5. **Strongly Agree**

This scale allows participants to express varying degrees of agreement or disagreement with the statements provided, capturing nuanced opinions on regulatory compliance and service delivery.

**Table 5: Regulatory Compliance and Service Delivery in State – Owned Energy Corporation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Statement** | **N** | **Mean** | **SD** |
| The company's operations are guided by the relevant laws and regulations in Uganda. | 163 | 3.3190 | 1.14237 |
| The company regularly reviews and updates its policies to ensure compliance with changing laws and regulations. | 163 | 3.8834 | .90535 |
| The company has a system in place to report and address non-compliance with laws and regulations. | 163 | 3.4601 | 1.12352 |
| The company's leadership prioritizes regulatory compliance. | 163 | 3.6564 | 1.10766 |
| The company's employees are aware of the laws and regulations governing their work. | 163 | 3.4969 | 1.10763 |
| I am aware of the regulations set by the Electricity Regulatory Authority (ERA) that apply to my work. | 163 | 3.5215 | 1.18289 |
| I have received training from the company on regulatory compliance requirements set by ERA. | 163 | 3.4049 | 1.05782 |
| I regularly interact with ERA officials to ensure compliance with regulatory requirements. | 163 | 3.1718 | 1.09203 |
| The company encourages employees to report any regulatory non-compliance to ERA. | 163 | 2.7546 | 1.23774 |
| I believe that the company's engagement with ERA has improved our regulatory compliance practices. | 163 | 3.2331 | 1.23514 |
| **Valid N (listwise)** | **163** | **3.3902** | **1.11922** |

Source Field, 2025

Regulatory compliance (M=3.32, SD=1.14) reflects moderate adherence levels with considerable variation across different areas of the organization. While basic compliance frameworks are established, their application remains inconsistent between departments. This observation aligns with Mwirigi and Kumar's (2023) broader findings on regulatory maturity in East African utilities, where structural reforms are progressing but face operational hurdles. The performance gap between Uganda and Kenya, where higher scores of 4.1 were reported by Okello et al. (2022), suggests that Uganda could benefit from adopting regional best practices to enhance compliance.

Policy review and maintenance (M=3.88, SD=0.90) stands out as a strength, demonstrating consistent and systematic attention to policy frameworks throughout the organization. The lower standard deviation indicates widespread alignment on policy updating processes, reinforcing the mature approach to policy maintenance. This approach supports Zhang and Li's (2024) observations about the advancement of regulatory governance in developing markets, marking a significant shift from the fragmented policy landscape described by Wilson (2021) in his study of African state corporations.

Internal compliance reporting systems (M=3.46, SD=1.12) reflect the organization's growing ability to monitor and document regulatory adherence. Although the score suggests the presence of reporting mechanisms, the variation in implementation across units indicates room for improvement. This performance, while encouraging, highlights the need for further development, especially when compared to Tanzania's more robust reporting systems (3.9), as noted by Ndumba (2024). Leadership commitment to compliance (M=3.66, SD=1.11) has strengthened, although it still falls short of regional benchmarks.

Employee regulatory awareness (M=3.50, SD=1.12) and ERA requirement understanding (M=3.52, SD=1.09) indicate moderately effective knowledge dissemination across the organization. The similar means and standard deviations suggest that while information sharing practices are consistent, there is room for improvement. These results align with Mugisha's (2023) research on regulatory knowledge within utility workforces but highlight a clear gap when compared to ERA's 2024 sector assessment benchmark. The training effectiveness score (M=3.40, SD=1.06) further supports this evaluation, pointing to a need for more robust capacity-building programs, similar to those successfully implemented in Rwanda.

External regulatory engagement (M=3.17, SD=1.09) emerges as a critical area requiring attention, particularly in non-compliance reporting to ERA (M=2.75, SD=1.24). These scores reveal significant weaknesses in regulatory relationship management and transparency practices. The findings echo Thompson's (2024) analysis of regulatory communication patterns in African utilities, which highlights systemic challenges in external stakeholder engagement. The low perceived value of ERA engagement (M=3.23, SD=1.24) further exacerbates these challenges, supporting Kiiza's (2024) observations about the need for more collaborative regulatory relationships.

Overall compliance performance (M=3.39, SD=1.11) aligns with regional expectations, as indicated in the World Bank's 2024 African Utility Governance Report. This comprehensive score suggests that while the organization has established compliance foundations, it is at a critical development stage with substantial potential for improvement in certain areas. The results show that while internal systems show promise, external engagement and reporting mechanisms need significant strengthening to meet regional best practices.

*4.4 Service Delivery* *in Uganda Electricity Distribution Company*

The study sought to determine the perception of respondents on service delivery in Uganda as shown in Table 6.

**Table 6: Service Delivery in Uganda Electricity Distribution Company**

|  |  |  |  |
| --- | --- | --- | --- |
| **Statement** | **N** | **Mean** | **SD** |
| I believe our customers are satisfied with the overall service quality we provide. | 163 | 3.0613 | 1.28953 |
| Our customers appreciate the helpfulness and courtesy of our staff. | 163 | 3.2086 | 1.23954 |
| The company's electricity supply reliability meets customer expectations. | 163 | 2.8712 | 1.24299 |
| Customers are satisfied with the timeliness of our response to their complaints. | 163 | 3.1840 | 1.26315 |
| I think our customers are happy with the services we provide. | 163 | 2.9755 | 1.28116 |
| Our customers are generally satisfied with the reliability of our electricity supply. | 163 | 3.0123 | 1.14389 |
| Customers appreciate our prompt response to their complaints and inquiries. | 163 | 3.1227 | 1.22108 |
| Our customers are happy with the overall quality of our services. | 163 | 2.9018 | 1.32038 |
| Customers find our billing and payment processes easy and convenient. | 163 | 3.4969 | 1.10763 |
| Our customers would recommend our services to others. | 163 | 2.8650 | 1.16807 |
| **Valid N (listwise)** | **163** | **3.0699** | **1.22774** |

**Source:** Field, 2024

Stakeholder engagement in the utility sector shows moderate effectiveness, with existing feedback mechanisms (M=3.35, SD=1.39), but there are challenges in encouraging stakeholder input (M=2.88, SD=1.34), suggesting insufficient efforts to foster active participation (Mugera, 2024; Nyangoma, 2023). The limited solicitation of feedback (M=2.96, SD=1.29) and weak integration of feedback into decision-making processes (M=2.79, SD=1.19) further highlight engagement shortcomings (Basalirwa, 2024; Wandera, 2023).

The stakeholder response mechanisms (M=2.91, SD=1.29) and collaboration efforts (M=2.94, SD=1.26) reveal inefficiencies, consistent with studies on public enterprise partnerships (Arinaitwe, 2024; Namata, 2023). Addressing stakeholder needs presents the greatest challenge, with the lowest score recorded (M=2.48, SD=1.25), emphasizing deficiencies in inclusive decision-making (Kaweesa, 2024; Nakimuli, 2023).

Collaboration outcomes (M=3.52, SD=1.30) and transparency (M=3.50, SD=1.11) demonstrate that effective engagement leads to beneficial results (Nabasa, 2024; Kisembo, 2023). The overall mean score (M=3.00, SD=1.27) indicates moderate but suboptimal performance, reinforcing the need to strengthen stakeholder involvement, particularly in active participation and feedback utilization, to enhance decision-making and service delivery (Muwonge, 2024).

*4.4 Correlation Analysis on Regulatory Compliance and Service Delivery*

A correlation analysis was performed to explore the relationship between an organization's adherence to regulatory standards and the quality of its service delivery. The objective was to assess whether higher levels of compliance are linked to better service outcomes.

**Table 7: Correlation Matrix**

|  |  |  |
| --- | --- | --- |
|  | Regulatory Compliance | Service Delivery |
| Regulatory Compliance | Pearson Correlation | 1 | .336\*\* |
| Sig. (2-tailed) |  | .000 |
| N | 163 | 163 |
| ServiceDelivery | Pearson Correlation | .336\*\* | 1 |
| Sig. (2-tailed) | .000 |  |
| N | 163 | 163 |

**Source:** Field Data, 2025

The correlation analysis indicates a weak positive relationship between regulatory compliance and service delivery (r = 0.336, p < 0.01). Based on interpretation thresholds (0.10–0.39 indicating a weak correlation), the findings suggest a significant but limited association. This implies that while enhanced regulatory compliance contributes to better service delivery, its impact remains modest, with other factors likely influencing overall service outcomes.

*4.5* *Simple Regression Analysis of* *Regulatory Compliance on Service Delivery*

A **simple regression analysis** was conducted to evaluate the extent to which regulatory compliance influences service delivery. This analysis aimed to quantify the direct impact of compliance on service outcomes and determine whether regulatory adherence serves as a significant predictor of service quality.

*4.5.1 ANOVA test*

The study conducted simple regression analysis to determine goodness of fit of the model using ANOVA and results presented in Table 8.

**Table 8: ANOVA on Regulatory Compliance and Service Delivery in State-Owned Energy Corporations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model** | **Sum of Squares** | **df** | **Mean Square** | **F** | **Sig.** |
| 1 | Regression | 19.608 | 1 | 4.902 | 16.252 | .000b |
| Residual | 47.356 | 160 | .302 |  |  |
| Total | 66.963 | 161 |  |  |  |

**Source:** Field, 2024; Key: a. Dependent Variable: Service Delivery b. Predictor: (Constant), Regulatory Compliance

The ANOVA results show that the regression model is statistically significant (F = 16.252, p < .000), indicating that regulatory compliance has a meaningful impact on service delivery. The model explains 19.608 units of the total variation, with the residuals accounting for 47.356 units. These findings suggest that while regulatory compliance significantly influences service delivery, other factors also contribute to the outcomes.

*4.5.2 Coefficient test*

The study conducted regression analysis to determine the significance of the independent variable and the dependent variable a shown Table 9.

**Table 9: Coefficients Regulatory Compliance Influence Service Delivery**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 1.372 | .340 |  | 4.041 | .000 |
| RegulatoryCompliance | .312 | .087 | .260 | 3.594 | .000 |
|  |  |  |  |  |  |

**Source:** Field, 2024; a. Dependent Variable: Service Delivery; Predictor: Regulatory Compliance

The coefficients present the detailed analysis of how each regulatory compliance influences service delivery. Regulatory compliance also shows a significant positive relationship with service delivery (β = 0.312, t = 3.594, p = 0.000). The constant term (β = 1.372, t = 4.041, p = 0.000) represents the baseline level of service delivery when all predictors are zero. This result indicates that each unit increase in regulatory compliance leads to a 0.312-unit improvement in service delivery (31.2%), assuming other variables remain constant. These findings highlight that regulatory compliance play the most crucial positive roles in determining service delivery effectiveness.

Consequently, the hull hypothesis was rejected and alternative hypothesis adopted.

The model equation can be expressed as:

Y = β₀ + β₁X₁

Where:

Y = Service Delivery

X1= Regulatory Compliance

Based on the coefficients provided:

Y = 1.372 + 0.312X₂

**Conclusion**

The results reveal a significant positive association between regulatory compliance and service delivery, as indicated by the regression coefficient (β = 0.312, p = 0.000). The mean score of 3.3902 suggests a moderate level of regulatory compliance within the organization. However, the relatively high standard deviation (1.11922) signifies considerable variation in adherence levels across different areas. This variability implies that while compliance plays a crucial role in enhancing service delivery, inconsistencies in implementation may limit its overall effectiveness. Strengthening regulatory adherence through more uniform application of compliance measures could further improve service outcomes.

**Recommendations**

To enhance the positive correlation between regulatory compliance and service delivery in Uganda, a comprehensive and strategic revision of compliance mechanisms is essential. The initial step involves standardizing compliance monitoring systems across all service delivery units. The considerable variation in compliance levels, indicated by the high standard deviation in current data, suggests that different departments or units within the organization may be adhering to regulatory standards inconsistently. By establishing a uniform monitoring system, every unit will operate under the same regulatory framework, reducing discrepancies and promoting uniformity in performance. This consistency is key to improving overall service delivery outcomes.

In conjunction with standardization, it is vital to implement extensive compliance training programs for employees at all organizational levels. Ensuring that all staff, from junior to senior management, possess a clear understanding of regulatory requirements is fundamental to achieving effective compliance. These training sessions should cover the core regulations relevant to the organization, outline the consequences of non-compliance, and emphasize the benefits of meeting established standards. Updating training materials regularly will ensure that employees stay informed of any regulatory changes and integrate compliance practices seamlessly into their daily operations.

Additionally, a robust compliance support system must be established to offer continuous guidance to employees navigating complex regulatory requirements. This system should include easily accessible, well-defined guidelines outlining the necessary compliance steps, as well as regular audits to monitor performance. Introducing a dedicated support desk would provide real-time assistance for staff members who face difficulties or need clarification on regulatory matters. By adopting a proactive support system, the organization can promptly address any challenges, preventing minor issues from escalating into significant compliance failures.

To encourage sustained adherence to regulations, organizations could introduce performance-based incentives for departments that consistently meet or exceed compliance standards. This would foster a healthy competitive atmosphere, where departments that excel in compliance are recognized and rewarded, motivating others to follow suit. These incentives could range from financial rewards to public acknowledgment or even career advancement opportunities, all of which would bolster employees' commitment to upholding regulatory standards.

It is important to incorporate regular assessment and feedback mechanisms into the compliance framework. These assessments will help track the organization’s progress in maintaining compliance over time, ensuring that standards are met consistently. Feedback mechanisms, such as surveys or performance evaluations, will allow departments to identify areas requiring improvement. Providing constructive feedback and pinpointing gaps in compliance will facilitate continuous refinement of practices, ensuring that service delivery consistently aligns with the organization's regulatory goals.

*Limitation of the Study*

A key limitation of this study is the potential for response bias in the data collection process. Since the study relied on self-reported data from employees and organizational stakeholders, respondents may have been inclined to provide answers that align with what they perceive as socially acceptable or desirable, rather than accurately reflecting their true behaviors and perceptions. This could lead to an overestimation of the levels of regulatory compliance and service delivery, thus affecting the overall accuracy of the findings. To address this limitation, future research could incorporate objective performance indicators or third-party assessments to complement the self-reported data, ensuring a more reliable and balanced evaluation.

Another limitation lies in the use of cross-sectional data, which captures a snapshot of information at a single point in time. While this approach provides useful insights into the relationship between regulatory compliance and service delivery at that moment, it does not account for changes that may occur over time. As a result, the study is unable to establish causal relationships or examine the long-term effects of regulatory compliance on service delivery. To gain a deeper understanding, future studies could adopt a longitudinal approach, tracking the same organizations or participants over time to assess how regulatory compliance impacts service delivery in the long run and whether improvements in compliance result in sustained enhancements in performance.

*Suggestion for Further Studies*

Another area for further study could involve examining the role of leadership and organizational culture in enhancing regulatory compliance and improving service delivery within state-owned enterprises. Investigating how leadership styles, managerial support, and a strong compliance-oriented culture influence the implementation of regulatory frameworks could provide deeper insights into the drivers of compliance and service efficiency. This research could also explore the barriers faced by employees and managers in adhering to regulatory standards and how these challenges could be mitigated to foster better service delivery.

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