Innovations

Transitional Management and Sustainability of the Power Sector in Emerging Economies

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Abstract
The power sector, both globally and in emerging economies, has seen an increasing focus on transitional management and sustainability. While some advancements have been made in understanding the connection between these two aspects, there remains a gap in the existing indigenous literature when it comes to exploring the interconnections, psychological and behavioural factors, indigenous and local knowledge systems, as well as the long term impacts and unintended consequences specific to Nigeria. The broad aim of the study is to ascertain the role of transitional management in enhancing sustainability of the power sector in emerging economies like Nigeria. The study employed descriptive survey research design. The population of the study was 8,105. Sample size of 357 was determined using Cochran William's formula, at 5% level of significance. The research instrument was a structured questionnaire. The hypotheses were tested using ordinal logistic regression. The findings indicated that Risk management had a significant positive relationship with sustainable energy security in the Nigerian Power Sector. Project management had a significant positive effect on sustainable supply chain in the Nigerian power sector. Leadership transition significantly affected regulatory compliance in the Nigerian power sector.The study concluded that implementing transitional management strategies, encompassing risk management, project management, and leadership transition, significantly contribute to achieving sustainability in the sector. This is reflected in improved aspects of sustainability like sustainable energy security, a sustainable supply chain and regulatory compliance. The study recommended that the Nigerian power sector should create risk management strategy like diversification of energy portfolio, advanced data analytics and monitoring systems, integrated environmental and social impact assessments (ESIAs) and so on to address environmental, social, and economic risks, with a focus on renewable energy. Power sector companies should use effective project management for renewable project by iterative planning and frequent reassessments, stakeholders' engagement through transparent communication and collaboration and foster leadership that champions renewable energy and environmental responsibility.

***Keywords**: Transitional Management, Sustainable development, Renewable Energy, Energy transition, Grid Modernization, Carbon Neutrality, Public-Private Partnerships, Climate Change Mitigation, Smart Grid Technologies.*

Introduction:
Emerging economies are under increasing pressure to develop their power sectors sustainably, balancing the need for growing energy demands with environmental protection. Transitional management is critical in guiding these economies through necessary changes, addressing challenges, and ensuring the long-term sustainability of their power sectors by minimizing carbon emissions and environmental risks (International Energy Agency [IEA], 2021).

International Institute for Sustainable Development(2024) emphasizes that transitional management is crucial for enabling emerging economies to shift from fossil fuel-based power generation to renewable energy sources, thereby reducing greenhouse gas emissions and enhancing long-term energy security. The World Bank (2022) also highlights the significance of transitional management in fostering sustainability within these power sectors, stressing the need for robust policies, regulatory frameworks, and capacity-building initiatives to achieve social, economic, and environmental benefits.

Further research in the Energy Policy Journal (2023) demonstrates that transitional management facilitates the adoption of energy-efficient technologies in emerging economies, which improves energy efficiency and reduces wastage, thereby lowering greenhouse gas emissions. According to a report by the United Nations Development Programme (UNDP) (2023), transitional management is also vital for attracting investment in the power sectors of emerging economies. It creates a stable regulatory environment, promotes innovative financing mechanisms, and encourages public-private partnerships, leading to increased investment flows and the development of sustainable power infrastructure. By strategically implementing transitional measures, these economies can pave the way for a resilient and sustainable power sector.

Objectives of the Study:
The broad objective of the study is to ascertain the role of Transitional Management in enhancing Sustainability of the power sector in South East, Nigeria. The specific objectives of the study are to:

1. determine the relationship between risk management and sustainable energy security of the power sector organizations in South East, Nigeria.
2. ascertain the effect of project management on sustainable supply chain of the power sector organizations in South East, Nigeria
3. examine the effect of leadership transition on regulatory compliance of the power sector organizations in South East, Nigeria

Review of Related Literature:

Conceptual Review

In the rapidly evolving business landscape, globalization, technological advancements, and environmental and social pressures present complex challenges to organizations. Transitional management has become a strategic approach to help organizations navigate these challenges effectively and promote sustainability. This approach, rooted in disciplines like business administration, organizational psychology, sociology, and systems theory, seeks to enhance organizational performance through systematic planning, execution, and evaluation of change initiatives (Goessling, Haemmerli, and Bellanca, 2020).

Transitional management is composed of four interconnected stages: preparation, planning, implementation, and evaluation. The preparation phase involves assessing the need for change and defining objectives, while the planning phase focuses on developing detailed strategies, including risk management. During the implementation phase, these strategies are rolled out with ongoing monitoring, and the evaluation phase provides insights for continuous improvement (Blaschke, Hammerle, and Spangenberg, 2019).

Studies underscore the importance of stakeholder engagement, leadership support, and systematic implementation in achieving sustainable change. Bellanca et al. (2020) and Malsch and Dagli (2018) highlight the critical role of these elements in the successful execution of sustainability-oriented changes. Additionally, embedding sustainability into organizational culture and values is crucial for enduring transformation (Al-Karaghouli and Lussier, 2018; Blaschke et al., 2019).

Transitional management has been successfully applied across sectors such as energy, healthcare, and non-profit organizations, addressing both the psychological and emotional aspects of change. This approach is particularly vital for achieving successful and sustainable outcomes in the power sector of emerging economies (Gelinas and Rogers, 2022). Key components of transitional management include strategic planning, change management, team building, leadership development, talent management, performance management, risk management, communication, continuous improvement, and resilience (PWC, 2019; Prosci, 2020).

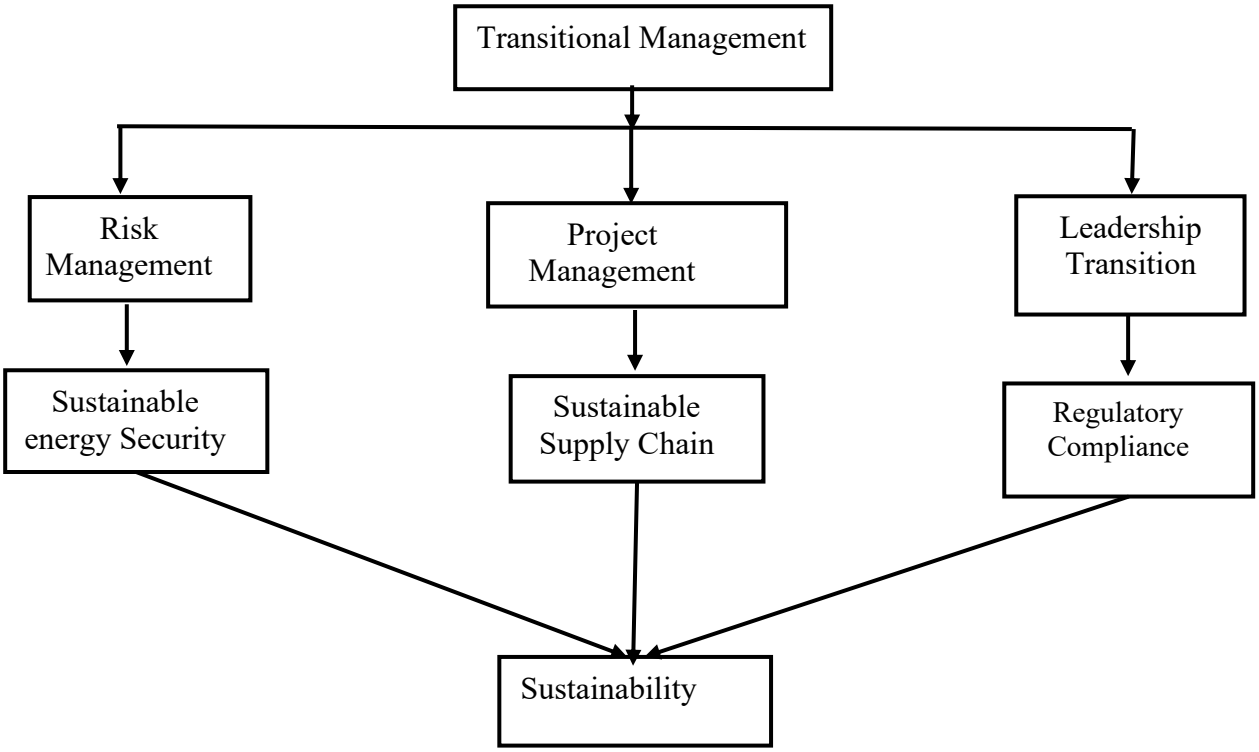
Effective transitional management is essential for navigating significant changes while maintaining competitiveness. It allows organizations to turn potential challenges into opportunities, thus achieving various objectives such as reducing environmental impact, improving market competitiveness, and enhancing brand reputation (Yin and Trang, 2021; Pardo-del-Val, Martinez-Fuentes, and Sánchez-Marin, 2020; Chang, Lee, Hsieh, and Chen, 2021). Furthermore, organizations can leverage sustainability to attract and retain

talent, comply with regulations, and explore new business opportunities, ultimately contributing to a sustainable future (Chang, Lee, Hsieh, and Chen, 2021).

Sustainability in organizations involves a multidimensional perspective, encompassing environmental, social, economic, cultural, and human aspects. Environmental sustainability focuses on reducing the environmental impact through practices like utilizing renewable energy and minimizing carbon footprints (Giannakis&Papaioannou, 2021). Social sustainability ensures fair business practices that consider the social impact on employees and communities, including promoting employee rights and fostering diversity (Sakamoto et al., 2019; Cho & Kim, 2020). Economic sustainability aligns long-term financial stability with sustainable practices, maximizing profits while minimizing societal impacts (Hess et al., 2019; Schaltegger et al., 2021). Cultural sustainability emphasizes preserving cultural values and diversity, supporting cultural awareness, and promoting cross-cultural collaboration (Kavoossi et al., 2020). Human sustainability focuses on workforce health and well-being through flexible work arrangements, wellness programs, and career development opportunities (Abdellaoui& Quesada-Pineda, 2022).

Techniques to maintain sustainability include the circular economy, green finance, sustainable agriculture, sustainable transportation, and sustainable construction (Kirchherr, Reike&Hekkert, 2019; Bachelet, 2020; FAO, 2019; ITF, 2021; Kibert, 2019). Leading organizations like Nike, Unilever, and Tesla exemplify how integrating sustainability into core strategies not only reduces environmental impact but also creates long-term value for all stakeholders. By embracing sustainable practices, businesses can achieve financial success while positively contributing to society and the environment

Figure 1: Conceptual framework:



Source: Researcher, 2024.

Risk Management and Sustainable Energy Security

Risk management is crucial for sustainable energy security, especially during the transition from traditional to sustainable energy sources. This shift presents technological, financial, and regulatory risks that must be managed effectively to maintain competitiveness and reduce environmental impacts. Traditional risk management focuses on identifying, assessing, and mitigating risks to meet organizational goals (Yin & Shi, 2020). However, the dynamic nature of energy transitions calls for proactive strategies to anticipate future uncertainties (Kuppusamy et al., 2019).

Sustainable energy security ensures a reliable, affordable, and sustainable energy supply, which is vital for organizational operations. As conventional energy sources decline, the adoption of renewable alternatives like solar, wind, and geothermal becomes increasingly important (Pajouhesh& Kalantari, 2021). Effective risk management during this transition requires a comprehensive approach that assesses the current energy system, identifies obstacles, and develops strategies to balance sustainability with risk minimization (Krogmann, 2019; Barratt, 2020).

Recent studies illustrate the evolution of risk management in sustainable energy transitions. Yin and Shi (2020) highlighted the importance of risk-sharing and contingency planning in the energy sector. Kuppusamy et al. (2019) emphasized the need for proactive risk management to maintain energy security during transitions. Pajouhesh and Kalantari (2021) discussed the challenges of adopting renewable energy, advocating for effective stakeholder engagement and supportive policy frameworks. Barratt (2020) showed that collaborative governance enhances risk management in the UK's energy transition.

Project Management and Sustainable Supply Chain:

Project management is integral to successful transitional management, involving planning, executing, controlling, and closing projects to meet specific goals within defined constraints (Beheshtinia et al., 2020). It requires a systematic approach to balance scope, time, cost, quality, resources, and risk (Project Management Institute, 2017). Incorporating sustainable supply chain management (SSCM) adds complexity by integrating environmental, social, and economic considerations into the supply chain (European Commission, 2021). SSCM aims to reduce negative impacts on society and the environment while maintaining profitability, using practices such as green supply chain management (Hanfield et al., 2021) and ethical procurement (Jabbour et al., 2018).

Effective project management in transitional management involves developing a project management plan, managing stakeholders, defining roles, implementing change management, and monitoring progress (Sanchez et al., 2020). Challenges in project management and SSCM include changing customer demands, transparency issues, coordination complexities, cost implications, regulatory compliance, stakeholder resistance, and the lack of reliable metrics (Tolaymat&DeMott, 2021; Sarkis& Fan, 2020). Despite these challenges, SSCM and project management are vital for ensuring long-term organizational sustainability and success.

Leadership Transition and Regulatory Compliance:

The relationship between leadership transition and regulatory compliance is critical within organizations. Effective leadership transition requires comprehensive planning, clear communication, and effective execution to minimize disruptions and enhance organizational performance. Ensuring regulatory compliance is particularly crucial in highly regulated industries, where noncompliance can lead to substantial fines, legal issues, and reputational damage, emphasizing the need for a robust compliance program.

This framework involves three phases of transitional management: pre-transition, transition, and post-transition, each requiring specific strategies to ensure a smooth and compliant shift in leadership. Essential elements include regulatory compliance audits, establishing compliance teams, and training incoming leaders on regulatory

requirements. Continuous monitoring and maintaining comprehensive compliance records are vital for upholding regulatory standards during and after the transition.

The article highlights the pivotal role of leadership in maintaining regulatory compliance. Leaders must be well-informed about compliance regulations and committed to upholding them. Their active involvement is essential for fostering a culture of compliance throughout the organization, ensuring that compliance strategies are adhered to, monitored, and adapted as necessary to mitigate risks associated with noncompliance.

Methodology

The study adopted descriptive survey research design. The primary data were collected from the respondents via administration of structured questionnaire by 5 point Likert scale types. The population of the study consist of eight thousand, one hundred and five (8,105) staff from five districts of business units of Electricity Distribution Companies in South Eastern States in Nigeria. The study focused on only the technical staff (e.g. electrical engineers, line workers, substation technicians, meter technicians and so on) and non-technical staffs (customer service representatives, human resource specialist, and administrative assistants) from the five (5) electricity distribution companies. A Sample size of 357 was determined using Cochran William's formula, at 5% level of significance. The formula and computation are stated as follows:

$$n = \frac{z^2Npq}{Ne^2 + z^2pq}$$

Where:

n = the sample size
z = Standard score corresponding to given level which this study is given as 95% .i.e. 1.96
p = the estimated proportion of an attribute that is presented in the population or % of success rate = 50%
q = the estimated proportion of an attribute that is not present in the population or % of failure rate = 1= 50%
e = the desired level of precision (the margin of error) .i.e. 5% or 0.05.

Therefore:

$$n = \frac{z^2Npq}{Ne^2 + z^2pq}$$

$$n = \frac{(1.96)^2\ 8{,}105\ (.5)\ (.5)}{8{,}105\ (0.05)2 + (1.96)\ (.5)\ (.5)}$$

$$n = \frac{3.8416\ (8{,}105)\ (.25)}{8{,}105\ (0.0025) + (3.8416)\ (.25)}$$

$$n = \frac{7{,}784.042}{21.8204} = 357$$

Therefore the sample size is 357.

Proportionate stratified sampling method were used to give proper representation of the selected Electricity Distribution Companies and in order to get the number of questionnaires to be distributed to them using Bowley's Formula. Validity of research instrument was ascertained using content and face validity. Content validity was by ensuring all facets of the variables were covered in the instrument. Face validity was confirmed by three management experts from University of Nigeria and two professionals from Enugu Electricity Distribution Company (EEDC). The research instrument was tested for reliability through Cronbach Alpha values and composite reliability, by a test-retest method confirming an alpha value above the threshold of 0.70, indicating high reliability.

Summary of Cronbach Alpha Coefficients for Each Specific Variable:

Table 1: Reliability Statistics of Transitional Management:

S/N	Construct	Cronbach's Alpha	No. of Items
1.	Risk Management	0.95	4
2.	Project Management	0.97	4
3.	Business Process Re-engineering	0.86	4
4.	Employee Re-orientation	0.98	5
5.	Leadership Transition	1.00	4

Source: SPSS Version 25

Table 2: Reliability Statistics of Sustainability:

S/N	Construct	Cronbach's Alpha	No. of Items
1.	**Sustainable Energy Security**	**1.00**	**4**
2.	**Sustainable Supply Chain**	**1.00**	**4**
3.	**Circular Economy**	**0.97**	**4**
4.	**Employee Development**	**1.00**	**5**
5.	**Regulatory Compliance**	**1.00**	**4**

Source: SPSS Version 25

Overall Interpretation

The test-retest reliability coefficients for all sections are either excellent or perfect (ranging from 0.86 to 1.00). This indicates a very high level of consistency in the measurements over time. Such high reliability suggests that the data collected in the study is stable and can be trusted to reflect true, consistent practices and perceptions over different points in time. This reliability is crucial for making valid and reliable conclusions about the various aspects of transitional management and their impacts on sustainability of the Nigerian power sector.The research hypotheses were tested using ordinal logistic regression. The t-statistics and beta (β) values at 5% level of significance were observed for statistical decisions.

Data Presentation and Analysis:

In this study, a total of 357 questionnaires were distributed to employees across various electricity distribution companies in the southeastern part of Nigeria, a total of 249 copies representing 69.74 percent were returned while 108 copies representing 30.25 percent were not returned. The completed questionnaires which were properly filled were utilized for further analysis.

Table 1: Distribution of Respondents:

Category	Response	Frequency	Percent
Gender	Male	191	76.7
	Female	58	23.3
Marital Status	Single	78	31.3
	Married	171	68.7
Age Distribution	50 and above	45	18.1

	36 to 50 years	123	49.4
	20 to 35 years	81	32.5
Educational Qualification	Master's Degree or Higher	26	12.4
	HND/First Degree	192	77.1
	WAEC/OND	31	12.4
Position of Respondent	Coordinating Role	143	57.4
	Employee	43	17.3
	Officer	5	2.0
	Supervisory Role	58	23.3

Source: Survey Data, 2024.

Table 1 illustrate the gender distribution of respondents, with males constituting 191 (76.7%) and females 58 (23.3%). This gender disparity suggests a need for strategies to promote gender diversity, particularly in non-technical roles and reflects positively on the companies' ability to develop internal leadership and maintain a structure that supports employee progression.

From the above table illustration, 171 (68.7%) of respondents are married, while 78(31.3%) are single. This demographic data provides insight into the workforce's marital composition which illustrates mature workforce, which may influence company policies and workplace culture

Table1 depict that the majority 123 (49.4%) of respondents are between 36-50 years, 81 (32.5%) of the respondents are between 20 to 35 years and 45 (18.1%) of the respondents are between 50 years and above. This indicates a potential for a stable, experienced workforce in the long term suggests a stable workforce with potential for long-term career development within the industry. This demographic profile can influence the company's approach to training, career progression, and retirement planning.

From the Table illustration above, the educational background of respondents, reveals that 192 (77.1%) of the respondents hold an HND or First degree, 31 (12.4%) of the

respondents hold WAEC/OND and, 26 (12.4%) hold Master's degree or higher. This suggests that the workforce is highly educated, which can be beneficial for the companies' operational efficiency. This is advantageous for the companies as it suggests a workforce that is capable of handling complex tasks and adapting to technological advancements.

Table 1 indicate that the majority 143 (57.4%) of respondents occupy coordinating roles, 58 (23.3%)of the respondents occupy supervisory roles, 43 (17.3%) occupy employee role and, 5 (2.0%) occupy the officer role. This indicates that a substantial portion of the workforce is involved in managerial or semi-managerial tasks. This reflects positively on the companies' ability to develop internal leadership and maintain a structure that supports employee progression.

Test of Hypotheses:

Hypothesis One: Risk Management and Sustainable Energy Security:

The study employed ordinal logistic regression to test the hypothesis, which was appropriate due to the ordinal nature of the data and the robustness of the model in handling potential violations of assumptions such as normality and homoscedasticity. This was particularly important given the small-scale and potentially non-normally distributed nature of the data from micro enterprises.

Table 2a: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	334.126			
Final	236.273	97.853	248	.011
Link function: Logit.				

Model Fitting: The model fitting information shows a significant chi-square value of 97.853 with a p-value of 0.011. This indicates a significant relationship between risk management and sustainable energy security in power sector organizations.

Table 2b: Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	236.126	248	.010
Deviance	239.243	249	.001
Link function: Logit.			

Goodness-of-Fit: The Pearson and Deviance goodness-of-fit statistics have p-values of 0.010 and 0.001, respectively, suggesting the model fits the data well.

Table 2c: Pseudo R-Square

Cox and Snell	.497
Nagelkerke	.513
McFadden	.542
Link function: Logit.	

Pseudo R-Square: The Cox and Snell, Nagelkerke, and McFadden values are 0.497, 0.513, and 0.542, respectively. These values imply that the model explains a moderate to good portion of the variance in the relationship between risk management and sustainable energy security.

Table 2d: Parameter Estimates

		Estimate	**Std. Error**	**Wald**	**df**	**Sig.**	**95% Confidence Interval**	
							Lower Bound	**Upper Bound**
Threshold	[SES]	61.315	9.123	9.245	1	.001	61.315	74.844
Location	[RM]	82.325	11.234	10.324	1	.000	85.543	88.495
Link function: Logit.								

Parameter Estimates: The parameter estimates show a significant positive effect of risk management on sustainable energy security, with an odds ratio of 82.325 (95% CI, 85.543 to 88.495). The Wald chi-square is 10.324, and the p-value is 0.000, confirming the significance of the relationship.

Interpretation: The results indicate that risk management practices have a significant positive effect on the sustainable energy security of power sector organizations. The alternate hypothesis is accepted, suggesting that implementing risk management strategies can enhance sustainable energy security.

Hypothesis Two: Project Management and Sustainable Supply Chain:

The second hypothesis was also tested using ordinal logistic regression to ascertain the effect of project management on the sustainable supply chain within power sector organizations.

Table 3a: Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	264.522			
Final	226.678	35.844	247	.001
Link function: Logit.				

Model Fitting: The model fitting information reveals a significant chi-square value of 35.844 with a p-value of 0.001, indicating a significant relationship between project management and sustainable supply chain.

Table 3b: Goodness-of-Fit			
	Chi-Square	Df	Sig.
Pearson	245.324	247	.001
Deviance	229.347	248	.000
Link function: Logit.			

Goodness-of-Fit: The Pearson and Deviance statistics have p-values of 0.001 and 0.000, respectively, showing that the model is well-fitted to the data.

Table 3c: Pseudo R-Square

Cox and Snell	.478
Nagelkerke	.489
McFadden	.495
Link function: Logit.	

Pseudo R-Square: The Cox and Snell, Nagelkerke, and McFadden values are 0.478, 0.489, and 0.495, respectively, indicating that the model explains a moderate to good portion of the variance in the relationship between project management and sustainable supply chain.

Table 3d: Parameter Estimates								
		Estimate	**Std. Error**	**Wald**	**Df**	**Sig.**	**95% Confidence Interval**	
							Lower Bound	**Upper Bound**
Threshold	[SSC]	62.335	8.322	9.561	1	.001	62.345	67.564
Location	[PM]	63.436	9.132	9.934	1	.000	64.543	74.293

Link function: Logit.

Parameter Estimates: The parameter estimates demonstrate a significant positive effect of project management on the sustainable supply chain, with an odds ratio of 63.436 (95% CI, 64.543 to 74.293). The Wald chi-square is 9.934, and the p-value is 0.000, confirming the significance of the relationship.

Interpretation: The findings confirm that project management practices significantly enhance the sustainable supply chain in power sector organizations. The alternate hypothesis is accepted, underscoring the importance of effective project management in fostering a sustainable supply chain.

Hypothesis three: Leadership Transition and Regulatory Compliance:
Leadership transition has no significant effect on regulatory compliance.

Table 4a: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	380.159			
Final	234.178	145.981	248	.000
Link function: Logit.				

Model Fitting Information: The ordinal logistic regression model was used to test the hypothesis that leadership transition has no significant effect on regulatory compliance. Table a presents a Chi-square value of 145.981 with a p-value of 0.000, indicating a significant relationship between leadership transition and regulatory compliance.

Table 4b: Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	228.126	246	.000
Deviance	201.446	247	.001

Goodness-of-Fit: shows the goodness-of-fit statistics with Pearson Chi-square and Deviance values yielding p-values of 0.000 and 0.001, respectively. These results confirm that the model fits the data well, demonstrating its effectiveness in capturing the relationship between leadership transition and regulatory compliance.

Table 4c: Pseudo R-Square

Cox and Snell	.718
Nagelkerke	.734
McFadden	.784
Link function: Logit.	

Pseudo R-Square Values: the pseudo R-square values (Cox and Snell = 71.8%, Nagelkerke = 73.4%, McFadden = 78.4%) suggest that a strong portion of the variance in regulatory compliance is explained by leadership transition within the power sector organizations.

Table 4d: Parameter Estimates

		Estimate	**Std. Error**	**Wald**	**df**	**Sig.**	**95% Confidence Interval**	
							Lower Bound	**Upper Bound**
Threshold	[LT]	66.347	7.985	6.534	1	.001	56.543	68.236
Location	[RC]	68.552	8.528	9.695	1	.000	71.712	83.187
Link function: Logit.								

Parameter Estimates: provides the parameter estimates, showing a positive effect of leadership transition on regulatory compliance with an odds ratio of 68.552 (95% CI, 71.712 to 83.187). The Wald Chi-square value of 9.695 and a p-value of 0.000 further support the significance of this relationship.

Conclusion: The analysis supports the rejection of the null hypothesis, concluding that leadership transition significantly impacts regulatory compliance in power sector organizations. This implies that effective leadership transition strategies can enhance regulatory adherence, promoting better governance and operational efficiency.

Discussion of Findings

Relationship between risk management and sustainable energy security:

The findings highlight the significant relationship between risk management and sustainable energy security in the power sector organizations. The studies across different global contexts emphasize the importance of risk management practices such as predictive maintenance, diversification of energy sources, government support, organizational culture, and training in achieving sustainable energy security. Demographic factors, including educational levels, technological infrastructure,

workforce diversity, and government policies, also play a role in the effectiveness of risk management strategies. However, it is important to acknowledge that external factors such as political instability and corruption can hinder progress in achieving sustainable energy security, even with robust risk management practices. Therefore, a holistic approach that combines risk management with broader institutional reforms is necessary for optimal outcomes.

Effect of Project Management on Sustainable Supply Chain in the Power Sector

The study found that project management positively impacts sustainable supply chain performance in the Nigerian power sector. Effective project management practices enhance efficiency, reduce waste, and encourage responsible sourcing. Research highlights project management's crucial role in sustainable supply chain development, emphasizing techniques like stakeholder engagement and risk mitigation. While project management is essential, integrating broader sustainability principles and considering external factors are vital for achieving comprehensive sustainability in supply chains, especially in sectors like construction and energy.

Effect of Leadership Transition on Regulatory Compliance in the Nigerian Power Sector

The study investigated the impact of leadership transitions on regulatory compliance in the Nigerian power sector using ordinal logistic regression. Results showed that such transitions significantly affect compliance. Effective leadership promotes adherence to regulations, transparency, and accountability, while unstable leadership can lead to lax enforcement and hinder progress. Research underscores the crucial role of leadership in shaping compliance cultures, with transitions offering opportunities for improvement through fresh perspectives and innovative strategies. However, the relationship between leadership transitions and compliance is complex and may depend on contextual factors like regulatory frameworks and market structures.

Summary of Findings:

This study identified several significant relationships within the Nigerian power sector:

1. The study found a significant impact of risk management on sustainable energy security. Risk management efforts in renewable energy lead to more reliable and secure sustainable energy supplies.
2. Effective project management showed a substantial effect on the sustainable supply chain. This enhances resource allocation, reduces waste, and ensures timely completion of infrastructure projects, thereby optimizing material and energy use.

3. Leadership transition significantly influenced regulatory compliance. Leadership changes impacted regulatory adherence and the creation of new frameworks in the sector.

Conclusion

This study investigated the effect of transitional management practices on the sustainability of the Nigerian power sector in the Southeast Region. The findings indicate that the implementation of transitional management strategies—including risk management, project management, business process re-engineering, employee re-orientation, and leadership transition—significantly contributes to sustainability in the sector. This is evidenced by improvements in sustainable energy security, a sustainable supply chain, a circular economy approach, employee development, and regulatory compliance. These results suggest that transitional management serves as a powerful tool for the Nigerian power sector in the Southeast to achieve a more sustainable future by enhancing efficiency, environmental responsibility, and long-term viability.

Recommendations:

To enhance the Nigerian energy sector's sustainability, a robust risk management framework is essential:

a. Advocate for supportive policies like tax credits and subsidies to boost renewable energy.

b. Establish clear renewable energy targets for the sector.

c. Develop strategic long-term goals for renewable energy integration, alongside detailed implementation plans.

d. Invest in cutting-edge technologies and innovations like smart grids and energy storage for increased efficiency and reliability in infrastructure.

.2. Firms in the Nigerian energy sector should implement robust project management methodologies for deploying renewable energy projects. This includes setting clear goals, managing timelines and budgets effectively, and fostering collaboration between stakeholders, utilizing methodologies like lean project management, PRINCE2, and adaptive project framework, among others.

3. The energy sector should facilitate a leadership transition by promoting leaders with a strong vision for sustainability. This involves implementing a robust succession planning process, developing future leaders, and creating a culture that values sustainability and innovation through training and development programs.

Contributions to Knowledge:
This study enhances the understanding of Nigerian power sector sustainability by showcasing how a comprehensive transitional management framework can effectively achieve sustainability goals. It highlights key dimensions such as energy security, supply chain sustainability, and regulatory adherence. Empirical evidence confirms a direct link between transitional management strategies and enhanced sustainability, offering crucial insights for policymakers, industry leaders, and researchers.

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