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Analysis of Factors Influencing Strategy Implementation Efficacy in the State Department for Road Agencies in Kenya

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Abstract: The Kenyan Department of Road Agencies faces persistent challenges in effectively implementing road infrastructure improvement plans. Despite numerous initiatives, only 55% of projects are completed on time, and many fall short of quality standards, contributing to delays and unsatisfactory outcomes. Key contributing factors include inadequate departmental capacity, bureaucratic inefficiencies, and chronic underfunding, with annual budget allocations falling short by up to 30%. These obstacles significantly hinder the department's ability to meet the growing demand for upgraded road networks, which are essential for Kenya's social and economic development. This study aimed to assess the factors influencing the efficacy of strategy implementation within Kenya’s State Department for Road Agencies. Specifically, it examined how resource allocation, strategic communication, stakeholders' involvement, and monitoring and evaluation (M&E) processes impact the successful execution of strategies. The research was grounded in the Public Finance Management Act No. 18 of 2012, which mandates government agencies to align long-term plans with national fiscal policy objectives and the medium-term budget framework. A descriptive research design was employed, targeting employees from 4 key road agencies: The Kenya Rural Roads Authority (KeRRA), the Kenya National Highways Authority (KeNHA), the Kenya Urban Roads Authority (KuRA), and the Kenya Roads Board (KRB). The study gathered primary data from 488 employees across these agencies, with 441 valid responses obtained, representing a 92.2% response rate. Data was collected through structured questionnaires administered via Google Forms and analyzed using the Statistical Package for Social Science (SPSS). Both descriptive and Inferential statistics revealed significant relationships between key factors and strategy implementation efficacy. Resource allocation, including budget, human resources, and technology adoption, played a critical role, with 63% of respondents citing insufficient resources as a barrier. Ineffective strategic communication, reported by 58%, also hindered successful implementation. Stakeholder engagement was essential, but 65% felt under-involved in decision-making, negatively impacting execution. Furthermore, 72% of respondents found current monitoring and evaluation (M&E) practices inadequate. Strengthening these areas—resource allocation, communication, stakeholder engagement, and M&E—was shown to be essential for improving the effectiveness of strategy implementation. The study recommended enhancing resource allocation, improving communication, increasing stakeholder engagement, and strengthening M&E practices to improve strategy implementation. These findings offer valuable insights for policymakers and stakeholders, crucial for achieving strategic objectives and advancing road infrastructure development in Kenya. The multiple linear regression analysis reveals that resource allocation, strategic communication, stakeholder buy-in, and monitoring and evaluation practices significantly influence the effectiveness of strategy implementation in Kenya's State Department for Road Agencies. The model explains 48.7% of the variance, emphasizing the importance of a holistic approach in enhancing outcomes.

Keywords: *Strategy Implementation Efficacy; Resource Allocation; Strategic Communication; Stakeholders' Engagement; Monitoring and Evaluation; Road Agencies.*

I. INTRODUCTION

1.1 Background of the Study

Globally, notably in Asia and the United Kingdom, play a fundamental role in designing and implementing public sector initiatives under the supervision of top management (Gus O'Donnell, 2014). This technique is similar to the procedure used in efforts like Europe 2020, in which strategic plans developed by bodies like the European Commission are ratified by institutions like the European Council. In countries like the United Kingdom, the United States, and Russia, there exists a common focus on the phrase "priorities" in public sector strategy, reflecting a continuous theme in strategic planning and budgeting. According to Tripathi (2014), in the United States, competent managers and supervisors must be skilled at mentoring, teaching, and delegating duties. These skills are essential for developing the growth and proficiency of their subordinates, ultimately improving organizational performance. Tripathi emphasizes the importance of activities like knowledge transfer, coaching, and mentoring in increasing staff capabilities essential for successful strategy execution. As a result, management must identify essential training, mentorship opportunities, and task delegation in order to empower individuals and nurture their knowledge and performance improvement.

Regionally, a significant management difficulty for numerous public enterprises is strategy implementation, based on the White Paper on Chinese Corporations' Strategy Implementation issued in 2006. A shocking 83% of respondents stated they were having problems successfully implementing their plan, according to the poll detailed in the document, while a dismal 17% of respondents claimed they were confident in their implementation methods. This emphasizes how difficult it is to implement strategies in general, especially in the public sector. The effectiveness of the plan's execution can be greatly impacted by a number of variables, such as the individuals in authority of communication and carrying out the plan, organizational structure, synchronization and command mechanisms, and the accessibility of both monetary and non-monetary resources (Machuki, 2011).

In Africa, Colvin, (2018) postulates that inadequate execution of strategies within the public sector is a crucial facet that has resulted into the dismal performance of public institutions and is certainly a major inhibition to realizing development goals in the continent. Myriads of government ventures either stall or are abandoned owing to poor execution. Evidently, strategy implementation is the key challenge to an enterprise if it is to achieve its intended goals. Successful execution of strategy is essential and hence the need for business entity to master the art of implementing strategy. According to Shimizu (2012), strategy execution within South Africa should not be seen as a simple process because most of the blame lies with humans for carrying out the plan, even though top management develops it. Shimizu, (2012) argues that a successful strategy implementation requires intensive communication to curb ambiguities, accumulation of diverse findings and ideas and general co-ordination within the organization.

From a Kenyan perspective, Njoroge (2013) investigated the variables that affect the capacity of Kenya's Parliamentary Service Commission to implement strategies effectively. The finding was that bureaucracy in use of resource and administration had a significant effect on the commission's ability to implement strategies effectively. The author suggests doing more research on the impact of organizational structure on resource usage. Another important component influencing the accomplished application of tactics of the government is leadership. Chege (2012) came to the conclusion such hierarchical structure and leadership have a significant impact on how well initiatives are implemented in the public sector. The author's primary focus was on the service sector.
The results also showed that the availability of the resources and their effectiveness during plan execution had an impact on the desired outcomes. The Chege (2012) study highlighted the need for additional research on the connection between resource availability and communication as well as the effectiveness of strategy implementation.

The government of Kenya has demonstrated a commitment to enhancing the well-being of its citizens through the execution of various policies and initiatives aimed at addressing multifaceted challenges like poverty, economic stagnation, and limited citizen engagement in governance processes. This dedication is mirrored in its expansion plan, Vision 2030, which envisions Kenya's transformation into a middle-income country characterized by a good standard of living for every person by 2030.The government of Kenya's commitment to improving the lives of its citizens is evident through its comprehensive policy framework and development agenda, encapsulated in Vision 2030. By addressing poverty, fostering economic growth, promoting citizen participation, and prioritizing infrastructure development, Kenya seeks to realize its vision of becoming a middle-income country with a good standard of living for every citizen by the year 2030 (GoK, 2017).

The Kenya Roads Act of 2007 established the Kenya Roads Agencies, which report to the State Department of Transport within the Ministry of Roads, Transport, and Public Works. A few examples are the County Governments, the Kenya Wildlife Service for Park Roads, the Kenya Institute of Highways and Building Technology, the Kenya National Highways Authority, the Kenya Urban Roads Authority, and the Kenya Rural Roads Authority. The Ministry is responsible for establishing national road development policy, developing, standardizing, and maintaining roads, providing mechanical and transportation services, enforcing axle load control, testing road construction materials and providing usage advice, maintaining security roads, protecting road reserves, registering engineers and road contractors, developing and maintaining airstrips.

Implementing a strategy is putting those plans into motion so that the organization may attain its goals and objectives. Simply put, it's about getting things done. The ability to put choices into action in a timely, consistent, and effective manner is crucial to the accomplishment of any business. According to Noble (2019), many interpretations fall short because they don't take into consideration how strategies must adapt to new circumstances.

According to Noble's (2019) definition, the four primary dimensions of strategy implementation are the adoption, ownership, cascade, and enactment of strategic plans. This notion is bolstered by Hrebiniak's (2018) observation that effective strategic planning yields results through a systematic and dynamic institutionalization of strategy.

By putting into place crucial institutional structures for anchoring the strategic plan, institutionalization ensures that the strategy permeates the entirety of the organization's operations (Stuart, 2022). Jonathan (2019) believes that organizational structure, expertise, and shared values are all part of the institutional mechanisms at play. It also factors in the practice of breaking down long-term strategies into shorter, more manageable chunks like annual goals and policies.

Prior studies in this field highlight a link between strategy execution and results however, they don't have enough concrete proof (Poister *et al.*, 2020). These findings lend credence to the idea that paying attention to how a strategy is actually implemented is among the most important factors in ensuring success. However, academics have not given adequate time to defining the concept of strategy execution (Noble, 2019).

1.2 Statement of the Problem

The Kenyan State Department for Road Agencies continues to face significant hurdles in effectively implementing road infrastructure projects. Despite various initiatives aimed at upgrading the country's road network, only 55% of projects are completed within the scheduled timelines, with many falling short of expected quality standards (Owino, 2023). Key obstacles include limited departmental capacity, bureaucratic inefficiencies, and chronic underfunding, where budget shortfalls reach up to 30% annually (Nyamweya *et al.*, 2022). For instance, in 2023, budget cuts and a lack of funds to settle land compensation delayed major road projects like the Kenol-Sagana-Marua and Nairobi Expressway infrastructure, pushing completion timelines far beyond initial estimates. These challenges severely hinder the department's ability to meet the rising demand for improved roads, which are critical for driving both social and economic development in Kenya.

The consequences of poor project execution are far-reaching. Inadequate road networks contribute to a 25% increase in transportation costs, limiting market access, disrupting trade, and reducing productivity, which cumulatively results in a 1.5% annual decline in GDP growth (World Bank, 2021). Additionally, remote areas where over 40% of the population resides suffer from limited access to essential services, exacerbating socio-economic inequalities (Owino, 2023).

The failure to deliver on road infrastructure projects weakens Kenya's competitiveness, reducing its attractiveness to foreign direct investment (FDI) by up to 10% annually, thus stalling regional integration and sustainable growth (Nyamweya *et al.*, 2022).

For businesses, logistical challenges resulting from poor infrastructure increase operational costs by up to 18%, reducing competitiveness and profitability (Owino, 2023). Public frustration has risen alongside travel delays, increased transportation costs, and safety risks, eroding trust in the government's ability to deliver on its development objectives (Nyamweya *et al*., 2022).

Addressing these challenges is vital to unlocking the potential of Kenya's road infrastructure. A comprehensive analysis of the factors affecting project execution can provide insights for targeted reforms that could enhance implementation, reduce inefficiencies, and accelerate economic growth by up to 3% per year, while promoting inclusive development and improved quality of life for all citizens (World Bank, 2021).

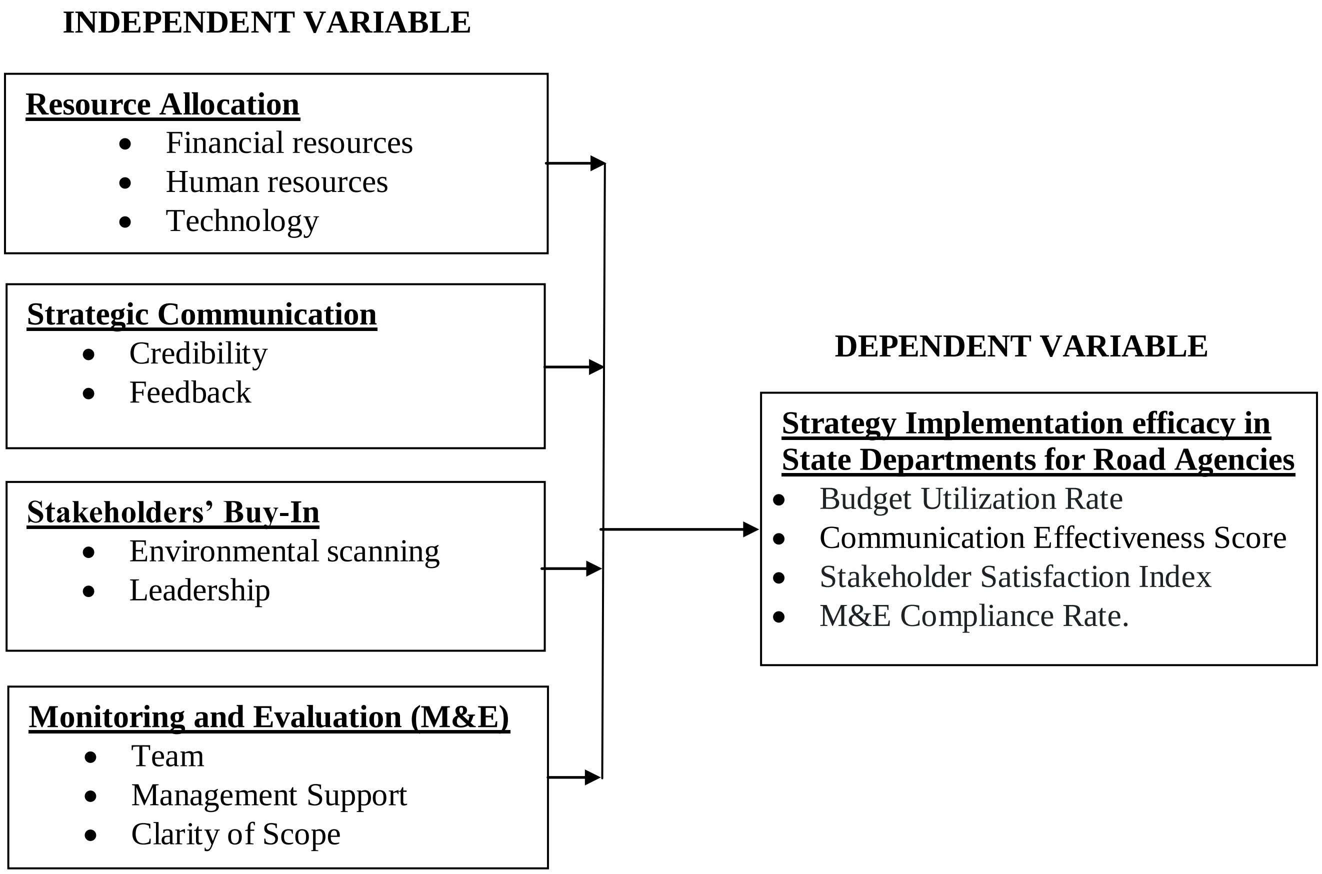
1.3 Research Objective

The general objective of this study is to undertake a comprehensive analysis of factors influencing strategy implementation efficacy in the State Department for Road Agencies in Kenya, with the aim of identifying key challenges, facilitating factors, and their interrelationships.

Thespecificobjective is:

1. To determine the influence of resources allocation on the effectiveness of strategy implementation in the State Department for Road Agencies in Kenya.

1.4 Conceptual Framework



II. Literature Review

2.1 Theoretical Framework

The study was anchored on Resource-Based View (RBV) Theory, the Diffusion of Innovation (DOI) Theory, Stakeholder Theory andContingency Theory.

2.1.1Resource Based View Theory (RBV)

The Resource-Based View (RBV), proposed by Barney (1991), asserts that organizations achieve sustainable competitive advantage by strategically managing valuable, rare, inimitable, and non-substitutable (VRIN) resources. For the State Department for Road Agencies (SDRA) in Kenya, RBV highlights the role of specialized resources in achieving successful infrastructure projects. Key RBV assumptions—resource heterogeneity and immobility—suggest that unique technical expertise, like engineering skills, and project management capabilities can drive success in ways competitors cannot easily replicate (Newbert, 2008). Limited financial resources also impact SDRA, as effective financial management becomes essential to project delivery within budget and time constraints, a point echoed by Adams and Colebourne (2009). Additionally, rare and skilled human capital provides a critical advantage in the public sector (Hooley et al., 1996). By managing these resources strategically, SDRA exemplifies how RBV principles can support public-sector entities in complex, resource-constrained environments.

2.1.2The Diffusion of Innovation (DOI) Theory

The Diffusion of Innovation (DOI) Theory, developed by Rogers (1962), provides a framework for understanding how new ideas, technologies, or practices spread through organizations, particularly in complex public institutions like Kenya's State Department for Road Agencies (SDRA). Strategic communication is critical for the SDRA, as it fosters adoption and integration of innovations, especially in infrastructure projects. DOI identifies five adopter categories—innovators, early adopters, early majority, late majority, and laggards—each with varying readiness for change. Effective communication is crucial for moving innovations through these categories, addressing potential resistance within bureaucratic structures (Greenhalgh et al., 2004). Kaminski (2011) highlights the need for tailored communication to support each group, while Dearing and Cox (2018) emphasize overcoming resistance with strategic messaging and leadership support. For SDRA, strong communication strategies can ensure stakeholder alignment and the successful execution of road projects, filling research gaps in public-sector strategy implementation in developing countries.

2.1.3Stakeholder Theory

Stakeholder Theory, developed by Freeman (1984) and expanded by Donaldson and Preston (1995), posits that organizations must manage diverse stakeholder interests to achieve successful outcomes. For Kenya's State Department for Road Agencies (SDRA), this theory provides a framework to address the varied expectations and influences of stakeholders such as government agencies, local communities, contractors, and environmental groups. Stakeholder buy-in, as Freeman noted, is essential, particularly in public-sector projects where accountability spans multiple entities. The Ministry of Transport and Infrastructure plays a key role, as its regulatory and budgetary control impacts SDRA's strategic priorities. Local communities, despite having less power, hold legitimate concerns about project impacts, underscoring the importance of engagement to reduce resistance (Mitchell, Agle, & Wood, 1997). Studies, including Wang and Qian (2011) and Mainardes et al. (2011), show that effective stakeholder engagement improves project outcomes, emphasizing the SDRA's need for inclusive, transparent communication to enhance strategy implementation efficacy in road infrastructure.

2.1.4Contingency Theory

Contingency Theory, established by Donaldson (2001), argues that organizational effectiveness hinges on adapting management practices to specific internal and external circumstances rather than following a universal model. For Kenya's State Department for Road Agencies (SDRA), this theory underscores the need to design a flexible monitoring and evaluation (M&E) system tailored to the unique challenges of road infrastructure development. Contingency Theory emphasizes that factors like organizational structure, political environment, and resource constraints should guide system design (Lawrence & Lorsch, 1967). Otley (1980) found that M&E systems are most effective when they account for task complexity, environmental uncertainty, and stakeholder dynamics—critical elements for SDRA. Donaldson

(2006) further highlighted the impact of organizational size and scope, suggesting that SDRA's large-scale projects require real-time feedback mechanisms. This study aims to address a gap in Contingency Theory by applying it to public-sector infrastructure, demonstrating how context-sensitive M&E can enhance strategy implementation in complex socio-political environments.

II. Research Methodology

The research employed a descriptive survey. Using stratified random sampling, a representative sample of 488 employees was selected. Data was collected through structured questionnaires and analyzed using SPSS, incorporating both descriptive and inferential statistics, including correlation and multivariate regression analysis, to explore relationships between independent variables.

IV. Research Findings and Discussion

The discussion of the descriptive statistics, correlation analysis and regression analysis, is presented in the subsections below.

4.1.1 Descriptive Analysis of Technological Adoption Strategies

The study aided in understanding if and how resource allocation contributes or hinders the successful implementation of strategies inTable 4.2.

Table 4.2: Descriptive Analysis of Influence of Resource Allocation

Statements	N	Mean	Std. Dev
Resource Allocation for Road Infrastructure	441	2.15	0.94
Annual budget allocation for Road infrastructure	441	2.11	0.88
Distribution of human resources across different roles	441	2.22	0.94
Adoption rate of modern technology and Software tools	441	2.26	0.97

Source: Author (2024)

The study results show that on a scale of 1-5 the average rating for resource allocation is 2.15. Implying that respondents perceive resource allocation as somewhat inadequate. The average rating for Annual budget allocation is 2.11, which suggests that respondents feel the budget allocation is not sufficient. Distribution of human resources is at a mean of 2.22, this suggests that distribution of human resource is equally perceived as inadequate. Indicating that there are challenges in staffing across roles. With a mean of 2.26 Adoption rate of modern technology and software tools is perceived to be insufficient. The standard deviation for all variables was below 1, ranging from 0.875 to 0.971, this indicates that the responses are somewhat consistent. The low mean scores across all statement in Resource Allocation suggest that respondents overall believe the allocation of resources in the State Department for Road Agencies in Kenya is insufficient. While the standard deviations indicate a degree of variation in opinion, all subgroups trend toward dissatisfaction with resource distribution. The findings from this study suggest that improving resource allocation can be important to increase the effectiveness of strategy implementation in road infrastructure projects.

4.1.2 Regression Analysis

To study further explore the relationship between resource allocation and strategy implementation efficacy, a regression analysis was conducted. The results are summarized in Table 4.3 below.

Table 4.3: Regression Analysis of Resource Allocation and Strategy Implementation Efficacy

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	R^2
Constant	1.231	-	5.124	0.000	
Resource Allocation	0.503	0.627	14.208	0.000	0.393

Source: *Research Data 2024*

The regression analysis shows that the coefficient for resource allocation is 0.503, and its p-value is 0.000, which is statistically significant. The R^2 value of 0.393 indicates that approximately 39.3% of the variance in strategy implementation efficacy can be explained by resource allocation. This means resource allocation plays a critical role in determining the effectiveness of strategy implementation within the state department.

4.6.4Correlation Between Resource Allocation and Strategy Implementation Efficacy

Correlation analysis was conducted to test the hypothesis in this section which states as follows;

H_{01} There is no significant influence of resource allocation on the analysis of factors influencing strategy implementation efficacy in the State Department for Road Agencies in Kenya.

Pearson correlation coefficient was conducted for the two variables; resource allocation and strategy implementation efficacy. In both cases frequencies associates with Likert scale 1-5 were used in computing the correlation coefficient. The results are as indicated in Table 4.4

Table 4.4: Correlations between Resource Allocation and Strategy Implementation Efficacy

Variable	Resource Allocation	Strategy Implementation Efficacy
Resource Allocation	1	0.627**
Strategy Implementation Efficacy	0.627**	1
Sig. (2-tailed)	-	0.000

. Correlation is significant at the 0.01 level (2-tailed); **Source: *Research Data 2024*

The findings indicate a Pearson correlation coefficient of 0.627 between resource allocation and strategy implementation efficacy in the State Department of Road Agencies in Kenya. This value shows a strong positive correlation between the two variables, implying that as the resource allocation increase, the strategy implementation efficacy increases. The P-value is 0.000which indicates that the correlation between the two variables is statistically significant therefore not due to random chance. As a result of this finding the null hypothesis adopted earlier that there is no significant influence of resource allocation on the analysis of factors influencing strategy implementation efficacy in the State Department for Road Agencies in Kenya is rejected. The study findings show a positive correlation, implying that effective resource allocation is likely to result to effectiveness in the strategy implementation efficacy. Hence overall effect of improved resource allocation in terms of financial, human and technological resource could enhance and support strategy implementation outcomes within the state department of Road Agencies in Kenya.

4.6.5ANOVA Test

An ANOVA test was conducted to assess whether the model used for regression was a good fit. The results are summarized in Table 4.5:

Table 4.5: ANOVA Test for Resource Allocation and Strategy Implementation Efficacy

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	118.824	1	118.824	201.867	0.000
Residual	183.164	439	0.417		
Total	301.988	440			

Source: *Research Data 2024;* Dependent Variable**:** Strategy Implementation Efficacy

The F-value of 201.867 and a p-value of 0.000 confirm that the regression model is statistically significant, suggesting that the relationship between resource allocation and strategy implementation efficacy is not due to random chance.

4.6.6Discussion

The regression analysis, ANOVA test, and correlation findings align with previous studies, such as those by Barney (1991) and Adams and Colebourne (2009). Both studies emphasized the importance of adequate resource allocation in improving performance outcomes and strategy implementation. This study further corroborates that enhanced financial, human, and technological resources can improve strategy execution in the State Department for Road Agencies in Kenya. This detailed analysis, including correlation, regression, and ANOVA, clearly shows the significant positive relationship between resource allocation and the success of strategy implementation in Kenya's road agencies.

V. Conclusion

This chapter presents a comprehensive overview of the study conducted to analyze the factors influencing strategy implementation efficacy within the State Department for Road Agencies in Kenya. The primary aim of the study was to identify key challenges and enabling factors that affect the success of strategy execution in this critical sector. The chapter is organized into four main sections: a summary of findings structured around the study’s objectives, the conclusions drawn from these findings, recommendations based on the conclusions, and suggestions for further research.

Recommendations

The study reveals that resource allocation—comprising budget distribution, human resources, and technology adoption—plays a crucial role in determining the success of strategy implementation. Descriptive analysis results show that respondents perceive resource allocation as insufficient, as reflected by low mean scores in areas like annual budget allocation and the distribution of human resources. This suggests that organizations may struggle to meet strategic goals due to inadequate resources.

Furthermore, inferential analysis demonstrates a strong positive correlation between effective resource allocation and other critical factors such as technology adoption and budgetary provisions. This means that when resources are allocated efficiently, there is a higher likelihood of successful technology adoption and better budget management, both of which are essential for achieving strategic objectives. The findings underscore the importance of optimizing resource allocation to enhance overall strategy implementation efficacy. Organizations need to focus on ensuring that adequate resources are distributed to key areas, enabling them to execute strategies effectively and achieve desired outcomes.

To improve strategy implementation, the department should prioritize enhancing resource allocation. This includes increasing budgetary provisions, optimizing the distribution of human resources, and adopting modern technology. Efforts should be made to lobby for additional funding where necessary, while also maximizing the efficiency of existing resources. A more strategic approach to resource management will ensure that the department has the necessary tools, personnel, and financial support to execute its strategies effectively.

Areas for further Studies

Given the scope and limitations of this research, future studies could explore the long-term effects of resource allocation on strategy implementation within state road agencies, focusing on a broader set of variables. While this study highlighted key factors such as leadership, stakeholder involvement, and organizational structure, future research might examine other dimensions, such as technology adoption, government policy shifts, and environmental factors that impact strategy execution. Moreover, longitudinal studies could be conducted to assess the evolution of strategy implementation over time, providing insights into how changes in resource availability and organizational dynamics affect outcomes.

Another area worth investigating is the comparative analysis of strategy implementation across different sectors or regions. Future researchers could expand the scope to include not only road agencies but also other public service organizations to examine whether the findings of this study hold true in diverse contexts. Comparative studies across regions, such as urban versus rural areas, could shed light on how geographical and demographic differences impact resource allocation and strategy implementation. Additionally, qualitative studies involving interviews and case studies with senior managers could offer in-depth insights into the challenges and best practices of strategy execution in public institutions.

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