Strategic Leadership and Project Management Sustainability in Enugu, Nigeria

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ABSTRACT
This study examines the relationship between strategic leadership and project management sustainability in Enugu, Nigeria, with a particular focus on construction projects in the State. The study aimed to achieve two specific objectives: first, to determine the relationship between visionary project coordination and resource efficiency of construction projects in Enugu State, Nigeria; and second, to establish the relationship between innovative thinking and waste reduction in construction projects in Enugu State, Nigeria. The study employed descriptive research design, collecting primary data with a structured questionnaire from forty-five registered Architectural firms in the study area. The data collected were analyzed using Spearman Rank Order Correlation due to the nonparametric nature of the data. The results show that visionary project coordination had a significant positive effect on resource efficiency in construction projects by Architecture firms in Enugu State, Nigeria (r = .849; p<.001), and innovative thinking had significant effect on waste reduction in construction projects by Architecture firms in Enugu State, Nigeria (r = .849; p<.001). It was concluded that strategic leadership had significant effect on project management sustainability, and it was thus recommended that project managers should anticipate, prepare and clearly communicate present and future developments to project staff to ensure that the goal of sustainable initiatives such as recycling and reuse are implemented in construction projects.

Keywords: Strategic, Leadership, Project, Management and Sustainability

INTRODUCTION
The construction industry has gained immense significance as a pivotal driver of the socio-economic development of many nations through the provision of jobs, infrastructure and facilities that support other sectors of the economy [1, 2]. With this growing significance, construction projects grow in complexity and scale, and as a result, the need for effective project management becomes paramount to ensure timely delivery, cost efficiency, and adherence to sustainability goals. In Nigeria, the industry accounts for about 8-4% of the nation's gross domestic product and provides employment for a large segment of the population [3, 4]. In addition to these challenges, the construction industry is also facing stinging criticism for its poor sustainability practices which have led to

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environmental degradation, waste generation, and inefficiencies [5]. Sustainable construction practices aim to minimize the negative environmental impacts of construction projects and create built environments that are environmentally friendly, resource-efficient, and socially responsible [6]. Adopting sustainability in construction project management requires integrating environmental, social, and economic considerations into decision-making processes throughout a project's lifecycle [7]. Generally, there are several key determinants that can influence the level of success achieved in project management. Leadership commitment from top management is crucial, as project managers need support from senior leaders to drive the achievement of the project goals and overcome barriers [8]. In spite of this logic, there is a dearth of research on the relationship between strategic leadership and project management sustainability in the Nigerian construction industry [9, 10, 11], particularly in Enugu, Nigeria. Enugu is a city located in southeastern Nigeria, and it has been experiencing rapid urbanization and industrialization in recent years [12, 13]. As a result, there has been an increase in construction activity, with many building and infrastructure projects being undertaken by both public and private sector organizations [12]. Despite this growth, there have been reports of unsustainable project management practices, resulting in delayed completion, abandonment, cost overruns, and compromised quality [14, 15]. Given the importance of construction to Nigeria's economy and the need to address its sustainability challenges, addressing the research gap could provide insights for enhancing sustainable practices through strategic leadership. Against this backdrop, this study seeks to investigate the effect of strategic leadership on project management sustainability in the construction industry in Enugu, Nigeria.

However, while the importance of strategic leadership in construction project management sustainability is acknowledged in the literature, in Enugu, Nigeria, there is limited research on this subject matter which makes it difficult to understand how effective strategic leadership influences sustainable practices in the context of local projects. Incidentally, despite the logic of strategic leadership, there remains a number of reports and physical evidences suggesting that construction project management outcomes in Enugu do not comply with the triple bottom line of economic, social, and environmental sustainability. There exists therefore a gap in understanding how strategic leadership practices influence the sustainable execution and outcomes of construction projects in this context. This lacuna is significant in the sense that the adoption of strategic leadership principles by construction project management firms in the State may bother on mere speculation if not guided by substantial local empirical evidence. It then becomes necessary to go beyond speculation and establish empirical evidence of the relationship between strategic leadership and project management sustainability in Enugu.

This study seeks to fill this gap by exploring how strategic leaders can promote sustainable outcomes through their decisions and actions within a Nigerian context. Bridging this gap has potentials of contributing to both theoretical knowledge and practical insights that can inform decision-making and policy formulation in the Nigerian construction industry with the specific objectives are to: determine the relationship between visionary project coordination and resource efficiency of construction projects in Enugu State, Nigeria and establish the relationship between innovative thinking and waste reduction in construction projects in Enugu State, Nigeria.

REVIEW OF RELATED LITERATURE

The global construction industry is a critical driver of economic growth, infrastructure development, and urbanization. Within this context, strategic leadership and project management practices play a pivotal role in ensuring the sustainability and success of construction projects. This role is most particularly needed in developing countries like Nigeria where the construction industry, in light of its crucial role in the country's economic development, also faces numerous challenges, including resource constraints, environmental degradation, and inefficient project management [16, 17]. Strategic leadership involves creating a shared vision, aligning resources, and fostering collaboration among team members [18, 19]. Lending credence, [20] posit that effective strategic leaders achieve this by inspiring and motivating their teams, promoting a culture of innovation, and encouraging continuous learning and improvement. In the context of construction projects, strategic leadership can help ensure that projects are delivered on time, within budget, and with minimal environmental impact. When these are achieved, the prospects and potentials for sustainable project management is probable. Effective project coordination, especially through visionary leadership, is recognized as a crucial element for achieving resource efficiency in construction projects. Visionary project coordination involves setting clear goals, establishing a shared vision, and aligning project activities with organizational strategy [21]. It entails the setting of a clear and inspiring vision for a project and effectively coordinating resources to achieve the desired outcomes. For this to happen, strong leadership, effective communication, and collaboration among team members are required [21]. So, visionary leaders are those who set clear goals, inspire and motivate teams, and ensure alignment with the project's long-term objectives. This view is supported by [22] with the avowal visionary leaders can create a shared vision that minimizes resource waste and optimizes resource allocation. This view

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sustainability approaches. The goals and objectives should be defined in relation to the follower with the theory of innovative leadership, which is relevant to the study because it involves employees in the organizational vision as their own through inspiration, raising the level of motivation, and aligning the needs with interests for the good of the organization or society. This theory is relevant to the study because strategic leaders communicate a vision that inspires and motivates people towards sustainable performance outcomes. When sustainability goals are set, they encourage subordinates to transcend their self-interest for the good of the organization or society.

Innovative thinking is the ability to conceptualize long-term goals and anticipate future trends, manage risk, strategically plan to align project objectives with a broader vision. Innovation has emerged as a driving force for sustainable construction, with potentials of leading to reduced waste and improved project outcomes. The literature suggests that organizations that foster a culture of innovation are more likely to identify and implement waste reduction strategies effectively. Study by [27] concur with this avowal with the emphasis that innovative thinking can lead to the implementation of advanced construction methods, materials, and processes that minimize waste generation. Thus, innovative thinking involves challenging traditional practices, exploring new technologies, and adopting sustainable approaches. One of the instances given as credence to the utility of innovative thinking is the adoption of Building Information Modeling (BIM) technology. [28] aver those innovative approaches such as BIM has enhanced waste reduction through improved planning, collaboration, and decision-making. Scholarly articles also discuss the concept of "circular economy", which aims to minimize waste generation and maximize resource efficiency through strategies like recycling, reusing, and remanufacturing [27]. Waste reduction, entails recycling and reuse, source reduction of waste, and managing waste management knowledge. Figure 2.1 illustrates the graphical presentation of the conceptual framework.

Figure 1: Conceptual Framework

Theoretical Framework

The transformational leadership theory, developed by [29] and elaborated by [30], emphasizes the leader's ability to inspire and motivate followers to transcend their self-interest for the good of the organization or society. This theory is relevant to the study because strategic leaders communicate a vision that inspires and motivates people towards sustainable performance outcomes. When sustainability goals are set, they encourage subordinates to adopt the organizational vision as their own through inspiration, raise the level of motivation, and align the needs of the follower with the goals and objectives. The construction industry in Nigeria is in dire need of transitioning towards sustainable development, and thus may require transformational leaders who can develop, empower, and involve employees in sustainability initiatives, ensuring their total support and commitment towards such reforms.

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The theory is based on the assumption that the development of vision, communication of that vision, and the ability to translate the vision into reality is the role of a strategic leader who wishes to achieve a certain goal. In light of the discussion, the study utilized the propositions of this theory in the examination of the relationship between strategic leadership and project management sustainability as a means of validating or refuting its hypotheses in the study area.

Empirical Review

[31] investigated how visionary leadership influences employee performance within an organization, taking into account the moderating effect of organizational citizenship behaviour. The study collected data from employees in the service sector of Rawalpindi/Islamabad regions in Pakistan. Among the 350 distributed questionnaires, 275 were completed and returned, utilizing convenient sampling. The hypotheses were tested using regression on SPSS and AMOS software, and the findings revealed significant relationships between the variables. [32] investigated visionary leadership and its correlation with corporate social performance within selected microfinance banks in Nigeria. The research involved 75 senior employees of microfinance banks, specifically chosen for their ability to provide the most valuable insights for the study's objectives. Data was collected using a five-point Likert scale, ranging from "strongly disagree" to "strongly agree"; and analysis employed Pearson correlation and multiple regression techniques, using SPSS 17 statistical software for the analyses. The findings indicate that there was a weak and insignificant positive relationship between corporate social performance, employee satisfaction, environment, and visionary leadership. [33] examined the less forceful interpretation of the Porter hypothesis in the context of waste management by investigating how the level of strictness in environmental regulations influences innovation within a European cross-country context. The findings affirm that the strictness of regulations has a positive impact on innovation.

Summary of the Review of Related Literature

Despite the extensive research on strategic leadership and its impact on organizations, there exists a gap in the literature regarding the specific effects it has on project management sustainability. Specifically, minimal research has been conducted on the visionary project coordination and innovative thinking elements by which strategic leadership influences resource efficiency and waste reduction, particularly in the Nigerian construction industry. This is indicative of limited research on the moderating factors employed by the study and how they may influence project management sustainability in Enugu, Nigeria. Moreover, most studies on strategic leadership and sustainable performance focused on private sector business organizations, with minimal attention given to those in the construction industry. This gap is significant because the construction industry operates in a unique project environment that requires them to property development interests with social responsibilities, due to the very high contribution of the industry to environmental degradation issues. Addressing these gaps enables the study contribute to the existing body of knowledge on strategic leadership and provide valuable insights for construction project management scholars and practitioners seeking to enhance the sustainability of their project deliverables.

METHODOLOGY

The study employed descriptive research design. Census method was used to collect data from primary sources as it concerned relationship between strategic leadership and project management sustainability. The study made use of data from primary sources, which were obtained by use of questionnaire. The population of the study comprises 45 numbers who practice registered Project management firms in the study area. In light of the manageability of the number, holistic sampling was employed on the population. As a result, the research instrument was distributed to all members of the study population. The research instrument was 5-point Likert Scale structured questionnaire which was administered by 4 supervised research assistants to architecture firms in the study area. The study adopted content validity to verify the instrument’s inclusiveness and relevance to the strategic leadership and project management sustainability discussion using 3 experts from Management disciplines whom views were used to modify and fine tune the instrument. The reliability of the instrument was determined through an internal consistency test using the Cronbach alpha coefficient as the test statistic. The study adopted the test-retest method. Data were presented with Tables, and analyzed using Spearman Rank Order correlation to ascertain how strategic leadership related to project management sustainability within the context of projects management. Spearman was used due to the nonparametric nature of the data.

DATA PRESENTATION AND ANALYSIS

Questionnaire Administration

In consistency with the population sample, a total of 45 copies of the questionnaire were administered to the respondents; out of which a total of 40 copies were retrieved from the respondents as shown in table 4.1.

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Table 1: Percentage Analysis of Respondents Response Rate

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of copies of the questionnaire administered</td>
<td>45</td>
</tr>
<tr>
<td>Total number of copies of the questionnaire returned</td>
<td>40</td>
</tr>
<tr>
<td>Response Rate ( \frac{40 \times 100}{45} )</td>
<td>88.3%</td>
</tr>
<tr>
<td>Non response rate 100% - 88.27% (40 copies)</td>
<td>11.7%</td>
</tr>
<tr>
<td>Total (%)</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 1 shows that a total of forty-five (45) copies of the questionnaire were distributed, out of which, forty (40) were fully completed and returned while five (5) copies were either not returned or invalid for analysis.

Presentation of Research Questions

The research question centered on the analysis of the relationship between strategic leadership and project management sustainability amongst projects managed by architecture firms in Enugu, Nigeria. The results obtained from the Likert-scale questionnaire distribution are shown in the weighted mean Tables 4.2 and 4.3 in accordance with the objectives of the study.

Table 2: Visionary Project Coordination and Resource Efficiency of Construction Projects in Enugu State, Nigeria

<table>
<thead>
<tr>
<th>S/No</th>
<th>Options</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Weighted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Independent Variable – Visionary Project Coordination</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Firm anticipates future market trends, technological advancements, and societal changes that could impact the project's outcomes during project planning</td>
<td>8</td>
<td>16</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Managers incorporate flexibility to adapt to changing circumstances while staying true to the project's visionary goals</td>
<td>14</td>
<td>19</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Dependent Variables – Resource Efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Futuristic vision of the firm has streamlined processes to eliminate inefficiencies, reduce resource consumption, and enhance productivity</td>
<td>8</td>
<td>16</td>
<td>3</td>
<td>11</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Flexibility of management considers the incorporation of renewable energy sources and energy-saving technologies wherever possible.</td>
<td>8</td>
<td>17</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

In Table 2, visionary project coordination was rated high in construction project management firms in Enugu going by the weighted mean of 3.7, while respondents also acknowledged that to an extent the firms have achieved optimal resource efficiency as indicated by a weighted mean of 3.5.

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Table 3 Innovative Thinking and Waste Reduction in Construction Projects in Enugu State, Nigeria

<table>
<thead>
<tr>
<th>S/No</th>
<th>Options</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>Weighted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Establish the relationship between innovative thinking and waste reduction</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>5.0</td>
</tr>
<tr>
<td>1</td>
<td>Independent Variable – Innovative Thinking</td>
<td>11</td>
<td>18</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>2</td>
<td>Firm provides resources and opportunities for continuous learning and exposure to diverse ideas. Managers promote experimentation and provide a safe environment for taking calculated risks on project sites</td>
<td>2</td>
<td>9</td>
<td>8</td>
<td>21</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Dependent Variables – Waste Reduction</td>
<td>4</td>
<td>18</td>
<td>3</td>
<td>9</td>
<td>6</td>
<td>3.7</td>
</tr>
<tr>
<td>4</td>
<td>Firm innovativeness has led to the design of processes and implementation of products that generate minimal waste</td>
<td>18</td>
<td>17</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 suggests that innovative thinking is above average in the construction project management firms under study (3.2), while acknowledging a higher outcome of waste reduction (3.7). The next section uses this data to analyze the relationship between the variables.

Test of Hypothesis One

Hypothesis one states that relationship between visionary project coordination and resource efficiency of construction projects in Enugu State, Nigeria is significant. This was tested with Spearman correlation analysis in Table 4:

Table 4 Correlation Measures

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Visionary project coordination</th>
<th>Resource efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient</td>
<td>1.00</td>
</tr>
<tr>
<td>Visionary project coordination</td>
<td>Sig. (2-tailed)</td>
<td>.</td>
</tr>
<tr>
<td>Resource efficiency</td>
<td>Correlation Coefficient</td>
<td>.849**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>40</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS 19.0

Table 4 is the correlation matrix on the relationship showing the correlation coefficients, significant values and the number of cases. The correlation coefficient shows 0.849, and this value indicates that correlation is significant at 0.00 level (2-tailed). Thus, visionary project coordination has a significant positive effect on resource efficiency in construction projects by Architecture firms in Enugu State, Nigeria (r = .849; p<.001).

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Test of Hypothesis Two

Hypothesis two states that significant relationship exists between innovative thinking and waste reduction in construction projects in Enugu State, Nigeria. Spearman correlation was used in testing the hypothesis at 5% of significance as highlighted in Table 5.

### Table 5: Correlation Measures on relationship between innovative thinking and waste reduction

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Innovative thinking</th>
<th>Waste reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td><strong>Spearman Coefficient</strong></td>
<td><strong>Waste Reduction</strong></td>
</tr>
<tr>
<td>Innovative thinking</td>
<td>1.000</td>
<td>.817**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Waste reduction</td>
<td><strong>Spearman Coefficient</strong></td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.</td>
</tr>
<tr>
<td>N</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

Source: SPSS 19.0

Table 5 is the correlation matrix on the correlation between both variables showing the correlation coefficients, significant values and the number of cases. The correlation coefficient shows 0.817, and this value indicates that correlation is significant at 0.00 level (2tailed). Thus, innovative thinking has significant effect on waste reduction in construction projects by Architecture firms in Enugu State, Nigeria (r = .849; p<.001).

### Discussion of Results

The first objective of the study was to determine the effect of visionary project coordination on resource efficiency in construction projects by firms in Enugu State, Nigeria. The results indicate a significant positive effect. The result supports the work of [31, 34] who found significant positive relationships between the variables. However, the study disagreed with [32] who found a weak and insignificant positive relationship between the variables in Nigeria. The second objective of the study was to determine the effect of innovative thinking on waste reduction in construction projects by firms in Enugu State, Nigeria. The results indicate a significant positive relationship between the variables. This finding aligns with the empirical view of [33].

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

This was made with respect to the objectives of the study

i. Visionary project coordination had a significant positive effect on resource efficiency in construction projects Enugu State, Nigeria (r = .849; p<.001).

ii. Innovative thinking had significant effect on waste reduction in construction projects by construction firms in Enugu State, Nigeria (r = .849; p<.001).

The findings suggest that vision alone is not enough to drive resource efficiency and waste reduction in construction projects, it has to be combined with innovative thinking to find ways of achieving continuous sustainability of the projects. On the basis of the research findings, the study concluded that strategic leadership had a significant positive relationship with project management sustainability in Enugu, Nigeria. Based on the findings and contributions of this study, the following recommendations were made:

(i) Project managers should anticipate, prepare and clearly communicate present and future developments to project staff to ensure that the goal of sustainable initiatives such as recycling and reuse are implemented in construction projects.

(ii) Strategic project leaders should cultivate and sustain an environment of psychological safety and continuous learning to ensure that staff are committed to new ideas that would enhance the project’s contribution to general environmental wellbeing.

### Contribution to Knowledge

The study makes important theoretical and empirical contributions to existing knowledge. It contributes to knowledge by extending the measurement of strategic leadership to include visionary project coordination and innovation of construction project managers in a developing economy. Likewise, it also indicated a significant positive relationship between a psychological safe environment and achievement of sustainability initiatives in construction project environments. It is anticipated that this has helped increase the body of knowledge on the discourse and set the tone for policy and practical implementations.

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