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Evaluation of Supplier Selection Factors on Project Delivery in the Nigerian Construction Industry

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ABSTRACT

Supplier selection plays a crucial role in ensuring efficient project delivery in the construction industry. However, many construction firms in Nigeria struggle with delays, cost overruns, and quality issues due to ineffective supplier management. This study evaluates the impact of supplier selection factors on project delivery within the Nigerian construction industry. Suppliers play a critical role in ensuring the timely delivery of essential materials and services, and their selection can significantly influence project timelines, costs, and overall quality. The population of this study consisted of workers in the construction industry. The sample consisted of 133 workers who have been engaged in line of activities for construction work in selected Southeast states of Nigeria. Despite the recognized importance of supplier selection, the specific factors that affect project delivery in Nigeria remain underexplored. The research focuses on key supplier selection criteria such as reliability, cost, performance, and sustainability, examining their influence on construction project outcomes in Abia, Ebonyi, and Imo states in Southeast Nigeria. Using a mixed-methods approach, the study combines qualitative interviews and quantitative surveys from construction professionals, aiming to uncover how supplier reliability and performance impact project budget and quality. Frequency percentage table was used to provide answers to the research questions while the hypotheses were tested using Regression Analysis at 0.05 level of significance and a calculated degree of freedom (df). The findings suggest that while supplier reliability does not significantly predict quality project delivery, other factors such as effective project management and quality assurance processes play a more prominent role in ensuring successful outcomes. Similarly, the relationship between supplier performance and project budget cost was found to be insignificant. The research highlights the need for construction firms to focus on robust internal management strategies, supplier performance monitoring, and quality control measures rather than relying solely on supplier selection. The study concludes with practical recommendations for improving supplier selection processes and offers directions for future research to explore further nuances in supplier relationships and their effect on construction project success.

Key words : Supplier selection, project timely delivery, supplier reliability, project budget cost, supplier performance

1. INTRODUCTION

Suppliers play a key role in the success of a construction project by ensuring that essential materials, such as steel, concrete, and equipment, are available when needed. A delay in material delivery can cause project setbacks, so suppliers must work closely with the construction team to align deliveries with the project timeline. Supplier selection is a critical process in the construction industry, impacting project success and performance. [10], in their publication: Analyzing the Process of Supplier Selection Criteria and Methods, defined Supplier selection as the process by which firms identify, evaluate and contract suppliers. Effective supplier selection involves evaluating various factors such as price, quality, reliability and past performance. The main objective of supplier selection process is to reduce purchase risk, maximize overall value to the procuring entity, and develop closeness and long-term relationships between buyers and suppliers. Additionally, incorporating sustainability criteria in supplier selection has gained importance as noted by [27], due to increasing environmental concerns and regulatory requirements. This means evaluating suppliers not only on cost and quality but also on their environmental practices, social responsibility, and ethical standards. Supplier selection considers a multi-criteria decision-making [6] that involves processes such as identification, evaluation, and assessment of suppliers [3].

Project delivery is turning a plan or idea into a tangible result. It's the journey from concept to completion, where you take a vision and make it a reality**.** It refers to the comprehensive process of carrying out and completing projects such as the construction or renovation of a facility or building, among others**.** It requires careful planning, design, and construction measures from different actors. The project delivery system requires multiple roles, standards,

and a defined set of procedures to proceed. Project delivery in the construction industry involves managing various activities to ensure timely completion within budget and quality requirements. Recent studies by [1] emphasize the importance of project management methodologies like Building Information Modeling (BIM) and Lean construction in improving project delivery efficiency and reducing cost.

[4] noted that construction industry is a determinant of the country's technological and technical advancement, often regulating the growth of the country's infrastructural development that often directs to the country's advancement in terms of sustainability assurance. The construction industry typically works with a wide range of suppliers, each specializing in different materials or services essential to a project. Understanding the different types of suppliers helps in developing effective management strategies tailored to their unique roles. The respective suppliers are: Materials suppliers, Equipment suppliers, Service providers and Specialized suppliers.

Construction industry is the back bone of any developing countries', GDP mainly raises from construction projects; Bridges, Dams, Transportation, Railway tracks, Ports harbor, Housing schemes, Airport and many other Building structure came under umbrella of construction industry [20].

[24] reported that in the first quarter of 2023, the construction sector contributed about 11.79% to the nominal Gross Domestic Product (GDP) of the economy of Nigeria, higher than the 10.16% contributed to the fourth quarter of 2022.

However, [9] stated that the construction industry is characterized by complexity and fragmented supply chains, resulting in a high number of project participants with distributed responsibilities.

1.1 Definition and role of suppliers in the construction industry

Suppliers play vital role in the construction industry, the timely delivery of materials, equipment and services is essential for the successful completion of projects. Managing suppliers goes beyond simply selecting vendors; it involves meticulous planning, coordination and monitoring to ensure that all elements align with the project's timeline, budget and quality standards.

Every phase of a construction project depends on reliable suppliers, from the initial groundbreaking to the final touches. In an industry that often deals with unpredictable variables–weather, labor shortages and fluctuating material costs–effective supplier management can be the key to mitigating risks, controlling costs, and maintaining project efficiency [5].

Construction projects typically rely on a diverse supply chain, including multiple categories of suppliers, each responsible for delivering specific materials and services. A variety of raw materials such as cement, bricks, gravel, limestone, wood, and electrical appliances are required to construct a building. These materials are usually provided by different suppliers who have massive interests in the success of a project as success creates opportunities for them with new contracts [18]. Given the complexity of modern construction projects, management of suppliers is crucial to avoid delays, cost overruns or substandard materials that can lead to long-term issues.

Suppliers provide the materials and equipment needed for a construction project and work closely with the procurement team to ensure timely deliveries. They achieve this by aligning material deliveries with the project timeline and having contingency plans in place for potential delays [17].

1.2 Problem Statement

The Nigerian construction industry is crucial to the country's economic development, contributing significantly to its Gross Domestic Product (GDP). However, the industry faces various challenges that impede project delivery, including delays, cost overruns, and substandard quality, many of which can be traced back to issues related to supplier selection and management. Suppliers, who provide essential materials, equipment, and services, play a vital role in ensuring the success of construction projects. A lack of alignment between suppliers and project timelines, poor supplier performance, or unreliable material delivery can result in significant setbacks and negatively impact project outcomes.

Despite the recognized importance of supplier selection in construction, there is limited research focusing on the specific factors influencing supplier selection and their direct effect on project delivery within the Nigerian context. Key factors such as supplier reliability, cost-effectiveness, and quality are critical to achieving project success, yet the impact of these factors on construction project timelines, budgets, and overall performance remains underexplored. Additionally, the complexities and fragmented nature of Nigeria's construction supply chain further complicate the supplier selection process, often leading to inefficiencies and delays.

1.3 Purpose of the Study

The study evaluates supplier selection key factors on project delivery in selected states in the south east Nigeria

1.4 Research Objectives

The following specific objectives were set to:

i. Establish the influence of suppliers reliability on quality project delivery in selected states in the south east Nigeria.
ii. Explore the relationship between suppliers performance and project budget cost in selected states in the south east Nigeria.

1.5 Significance of the Study

The findings of this study will be beneficial to the following: the government, institutions, construction industry, consultants, and researchers.

2. LITERATURE REVIEW

2.1 The Concept of Supplier selection

Supplier selection is how businesses determine which vendors to partner with to provide necessary goods and services. The process includes finding suppliers, ensuring they are qualified, evaluating them and selecting which are the best fit for the business's needs [23]. Supplier selection is used in most industries to try to pick out the most valuable supplier for an organisation. This aspect is said to be one of the most important phases in the purchasing process [12]. Supplier selection does not only deal with finding the best service, the cheapest prices or the fastest deliveries [12].

[21] Researched on Supplier Selection, Evaluation, and Relationship Management, then argued that good suppliers not only ensures the quality of supplied products, but also affect the control of procurement costs. The system management of suppliers should be carried out from three aspects: supplier selection and development, supplier performance evaluation, and how to strengthen the relationship management with suppliers, so as to achieve a win-win situation between enterprises and suppliers.

2.2 The Concept of Project Delivery

Project delivery refers to the comprehensive process of carrying out and completing projects such as the construction or renovation of a facility or building, among others [8]**.** It requires careful planning, design, and construction measures from different actors. According to [16] Project delivery is the process of completing a project from start to finish. It includes all the steps necessary to complete the project, from planning and design to implementation and testing. It's a complex process that requires careful planning and execution.

2.3 The Concept of Supplier Reliability

Supplier reliability is crucial in the construction industry as it directly affects project timelines, cost management, and overall project quality. Supplier Reliability is the ability of a supplier to consistently supply an acceptable material at the required time [14]. Simply put, Supplier reliability is the supplier's ability to keep their promise. Reliable suppliers consistently provide materials on time, meet the required quality standards, and adapt to changing project demands. Evaluating supplier reliability helps contractors avoid costly delays, rework, and budget overruns. Below are key factors influencing supplier reliability backed by current references.

2.4 The Concept of Project Budget Cost

The project budget should be created before the kickoff phase of the project, it should begin during the development of the project plan. According to [26], the budget for a project is the combined costs of all activities, tasks, and milestones that the project must fulfill. A project budget represents an estimate of all the costs that will be generated during the project's implementation, such as labour costs, but also indirect costs such as subcontracting, travel expenses and material purchases. It is the total amount of money you will need to complete the project that should be approved by all the stakeholders involved. In the current year, the project budget costs in the construction industry remain significantly impacted by multiple factors, including fluctuating material prices, labour shortages, and inflation.

2.5 The Concept of Suppliers Performance

Supplier Performance is a critical factor in the successful delivery of construction projects, which influences timelines, costs and quality [25]. Establishing supplier performance metrics is an effective way to assess and compare different suppliers. It is a measure of how well a supplier is doing against their agreed KPIs. key performance indicators (KPIs) can include metrics such as on-time delivery, defect rates, response time, and customer satisfaction. By measuring these metrics and setting performance targets, organizations can evaluate suppliers objectively and identify areas for improvement. If a supplier consistently fails to meet delivery deadlines or has a high defect rate, it may indicate potential reliability and quality issues. Evaluating and managing supplier performance ensures that materials meet required standards, are delivered on time, and are priced competitively

2.6 Key Supplier Selection Factors/Criteria

A supplier selection criteria is a list of things that the organization will need to prioritize and will help the organisation to decide on which supplier or vendor they are going to select [19]. [15] suggest evaluating management capability; employee capabilities; cost structure; total quality performance, systems and philosophy; process and technology capability; sustainability and environmental compliance; scheduling and control systems; e-commerce capability; supplier's sourcing strategies; policies and techniques; longer-term relationship potential [15].

The most critical factors to evaluate suppliers fall under quality, cost/price, and delivery [15]. Aside from detailed specifications, here are some supplier selection criteria:

i. **Reliability** – a reliable supplier is a business partner that can greatly contribute to an organizations/business' success while, on the flip side, an unreliable and unpredictable supplier can spell trouble for organization/ business.
ii. **Cost** – make sure that the supplier's cost is within budget. Ensure also that savings made on lower costs will not compromise the quality and safety of the supplier's products. Another thing to consider is if there is a type of payment arrangement that's going to be ideal or agreeable to both parties in case an organization/business needs to do this in the future.
iii. **Experience and Reputation** – Past performance and reputation in similar projects or industries can provide insights into the supplier's ability to handle challenges and deliver results. References and review can be of value here.
iv. **Quality and safety of products** – this is the very basic and non-negotiable for any organization or business when looking for a supplier and something that the supplier should be consistent with.

v. **Flexibility** – the supplier's ability to adapt to possible changing business needs may come in handy should the organisation require some changes to its orders in the future.

vi. **Delivery (Location and Logistics)** – proximity to the project site can impact logistics cost, lead times, and overall project efficiency. A supplier, at the very least, is expected to deliver on time all the time and be reliable enough to inform the Procuring entity if there are going to be any foreseen delays.

According to [22] other criteria to consider are:

a. Communication and Responsiveness
b. Financially stable
c. Capacity
d. Payment terms
e. Risk management
f. Compliance and Ethics

The table 1 is an illustration of a supplier selection matrix using the necessary criteria.

Table 1: Supplier scorecard for selection

Vendor Scorecard Example

Criteria	Weight (%)	Vendor A	Vendor B	Vendor C
Price	30	8	9	7
Quality	40	7	8	9
Delivery Time	20	9	7	8
Customer Support	10	8	8	7
Total Score		**7.8**	**8.1**	**8.0**

Source: [10]

In the above illustration, Supplier B has the highest total score and would be the best choice based on the criteria and weightings.

The supplier selection matrix ensures a structured approach to selecting suppliers and minimizes the risk of overlooking critical factors [10].

3. RESEARCH METHODOLOGY

3.1 Study Area

This study covered selected construction firms in each of Abia, Ebonyi, and Imo states.

3.2 Research Design

Description of the research approach (quantitative, qualitative, or mixed methods). The researcher considered the sequential mixed methods design for the study. It was adopted because of the nature of the data that was obtained: qualitative and quantitative. According to [7] citing Creswell and Clark, mixed method research design involves a process of collecting, analysing, and mixing quantitative and qualitative data when carrying out one or various studies, in order to understand the research problems or questions. The aim of using a mixed method design is to give an improved understanding of the research problem or question; unlike when the two methods will be considered separately.

3.3 Sampling and Data Collection

3.3.1 Population

The population of the study for the questionnaire consists of professionals in the construction industry in Nigeria; they were chosen because of the crucial role they play in the selection of suppliers. The population size comprised of number of these stakeholders in selected states in the South East Nigeria who have been involved in construction projects. It was comprised of selected construction workers from selected construction firms in selected three (3) states in the South east Nigeria to have a total population of 200 as shown in table 2.

Table 2: Selected states within South East Nigeria

S.No	Selected States in South East	Population
1	Abia state	65
2	Ebonyi state	65
3	Imo state	70
TOTAL POPULATION		200

Source: Field work, 2025

3.3.2 Sample size and Sampling Technique

The sample size aims at making inferences about a population from a sample. Its determination is the act of choosing observation or replicates to include a statistical sample [13]. The survey population comprised of registered professionals in the construction industry that are based in Nigeria, namely Architects, Builders, and Quantity Surveyors; and the sample size was obtained using the Taro Yamane's formula [2]. The sample size comprised of respondents as calculated with formula 3.1

The Taro Yamane's formula is:

$$n = \frac{N}{[1+N(e)^2)]} \quad 3.1$$

Where n = sample size sought
N = Population size
e = Level of significance (0.05) or the error margin = 100% - 95% = 5% = 0.05

$$n = \frac{200}{[1+200(0.05)^2)]} = 133$$

Therefore sample size (n) = 133 as shown in table 3

Table 3 : Sampling of Selected South eastern states

S.No	Selected States in South East	Population
1	Abia state	41
2	Ebonyi state	41
3	Imo state	51
Sample Size (n)		133

Source: Field work, 2024

3.4 Data Analysis

The statistical tools were used in the analysis of data collected. The empirical discoveries from the questionnaire were analyzed using Simple frequency percentage table showing, while Regression Analysis was the analytical tool used in the study at 0.05 significance level and a calculated degree of freedom (df). As shown in the formulas 3.2, 3.3 and 3.4:

$$Y=a+bX \quad (3.2)$$

a and *b* are given by the following formulas:

$$a \text{ (intercept)} = \frac{\sum y \sum x^2 - \sum x \sum xy}{(\sum x^2) - (\sum x)^2} \quad (3.3)$$

$$b \text{ (slope)} = \frac{n \sum xy - (\sum x)(\sum y)}{n \sum x^2 - (\sum x)^2} \quad (3.4)$$

Where,
x and *y* are two variables on the regression line.
b = Slope of the line.
a = *y*-intercept of the line.
x = Values of the first data set.
y = Values of the second data set.

$$df = \text{number of groups} - 1 = \quad (3.5)$$

4. ANALYSIS AND DISCUSSION

4.1 Results of Demographic Data of Respondents

One hundred and thirty three (133) respondents completed the questionnaire. They were of various educational background and organizational status in the construction industry.

4.2 Results for Objective one and Research Question one:

RQ_1: To what extent does supplier reliability influence quality project delivery in selected constructions in selected states in the south east Nigeria?

Table 4: Supplier reliability and quality project delivery

Suppliers reliability does not influence quality project delivery			
	Frequency	Percentage	Cumulative Percentage
Strongly Disagree	02	1.50	1.50
Disagree	04	3.01	4.51
Neutral	10	7.52	12.03
Agree	65	48.87	60.90
Strongly Agree	52	39.10	100.00
Total	133	100.00	

Source: Field work, 2024

From table 4, it was shown that 1.5% of the respondents strongly disagreed that suppliers reliability does not influence quality project delivery, 3.01% of the respondents disagreed that suppliers reliability does not influence quality project delivery, 7.52% were neutral on it, 48.87 agreed that suppliers reliability does not influence quality project delivery while, 39.10 of the respondents strongly agreed that suppliers reliability does not influence quality project delivery.

4.3 Results for objective two and Research Question two:

RQ_2: What is the difference between project budget cost and suppliers performance in selected constructions in selected states in the south east Nigeria?

Table 5: Relationship between Project Budget Cost and Suppliers Performance

Ability to manage resources effectively so as to operate within project budget cost affects suppliers performance			
	Frequency	Percentage	Cumulative Percentage
Strongly Disagree	19	14.29	14.29
Disagree	21	15.79	30.08
Neutral	04	3.01	33.09
Agree	39	29.32	62.41
Strongly Agree	49	36.84	100.00
Total	133	100.00	

Source: Field work, 2024

Table 5 shows that 19 respondents representing 14.29% of the respondents strongly disagreed that there is difference between project budget cost and supplier performance, 21 respondents representing 15.79% disagreed that there is difference between project budget cost and suppliers performance, 4 respondents representing 3.01% chose to be neutral, 39 respondents representing 29.32% agreed that there is difference between project cost and supplier performance while, 49 respondents representing 36.84% of the respondents strongly agreed that there is difference between project budget cost and suppliers performance.

4.4 Impact of Supplier Selection Factors on Project Delivery

The result of the analysis with respect to hypothesis 1 showed that the F-statistic = 1.305, and the p-value is 0.256. This indicates that the model is not statistically significant (since $p > 0.05$), meaning that the independent variable (Supplier Reliability) does not significantly predict quality project Delivery. Since the p-value is greater than 0.05 level of significance, the researcher did not reject the null hypothesis thereby accepting the null hypothesis, by concluding that supplier reliability does not influence quality project delivery in selected projects of selected states in the south east Nigeria.

The result of the analysis with respect to hypothesis 2 showed that the F-statistic = 1.305, and the p-value is 0.287.

This indicates that the model is not statistically significant (since $p > 0.05$), meaning that the p-value for the F-statistic is greater than 0.05, indicating that the independent variable (Project Budget Cost)) does not significantly have a difference suppliers performance. Since the p-value is greater than 0.05 level of significance, the researcher did not reject the null hypothesis thereby accepting the null hypothesis, by concluding that there is no difference between project budget cost and suppliers performance in selected projects of selected states in the south east Nigeria.

4.5 Findings and Implications

4.5.1 Establish the influence of Suppliers' reliability on quality project delivery in selected states in southeast Nigeria:

The finding which shows that suppliers reliability does not influence quality project delivery highlights a critical gap in the effectiveness of existing construction procurement frameworks. This result means that supplier reliability (which could refer to factors like consistency, on-time delivery, or adherence to specifications) does not have a statistically significant impact on the quality of project delivery (final structure's quality, the project's success in meeting specifications, timelines, or customer satisfaction).

Supplier reliability plays a significant role in this balancing act. When suppliers are reliable, businesses can maintain leaner inventories, reduce holding costs, and increase customer satisfaction. Conversely, unreliable suppliers can lead to stockouts, excess inventory, and a loss of business. Understanding the impact of supplier reliability on inventory optimization is essential for any business looking to streamline its supply chain and improve its bottom line.

When evaluating supplier reliability, it is essential to consider multiple perspectives to gain a holistic understanding of their performance and stability. From the perspective of product quality, it is important to assess whether the supplier consistently delivers goods that meet construction specifications and adhere to industry standards. This can be determined by conducting regular quality audits, analyzing product samples, and monitoring clients and stakeholders feedback. A reliable supplier should exhibit a consistent track record of delivering high-quality products, as even a single instance of subpar quality could lead to customer dissatisfaction and damage firms reputation.

4.5.2 Explore the relationship between suppliers performance and project budget cost in selected states in the south east Nigeria.

The finding revealed that there is no significant relationship between project budget cost and suppliers performance. The model shows that Suppliers Performance is not a significant predictor of Project Budget Cost in this case. While the low Adjusted R2R^2R2 suggests a poor fit of the model, and the F-statistic p-value further supports this conclusion. The result shows that the project budget (that is, the financial resources allocated to the project) does not have a meaningful or statistically significant influence on the performance of suppliers. This means that: "that there is insufficient evidence to suggest that variations in the budget have a consistent, predictable effect on the supplier's performance, based on the data set and analysis method used."

Research has it that there are several reasons why project budget might not significantly affect supplier performance.

5. CONCLUSION

5.1 Summary of the Study

The result from the research which demonstrated that supplier reliability does not significantly predict quality project delivery suggests that quality outcomes are influenced by a broader set of factors beyond just the reliability of suppliers. While supplier reliability is certainly an important aspect of ensuring a smooth workflow, the overall quality of project delivery is likely to be more dependent on factors such as effective project management**,** quality control practices**,** supplier performance beyond reliability, and communication**.** Construction firms should therefore focus on improving quality through comprehensive project management strategies, supplier performance monitoring, and quality assurance measures rather than relying solely on supplier reliability.

The result which suggested that project budget is not a significant predictor of supplier performance suggests that other factors, such as the nature of supplier relationships, project management practices, or external influences, might play a more prominent role in determining how well suppliers perform on a given project.

In all, the research demonstrates that greater attention should be given to quality, services, organization relationship and cycle time than on reducing the cost alone. The focus on all those supplier selection factors supports the trend towards an increasing performance and/or result. Thus, suppliers should be chosen and retained based heavily on their capabilities to meet the selection criteria for the construction industry.

Notwithstanding research limitations, the findings presented in this study make several distinctive contributions to the normative literature by pointing to the important association between suppliers selection and the construction industry.

5.2 Contributions to Knowledge

The research findings would influence procurement strategies, encouraging construction firms to focus less on finding the "perfect" supplier and more on developing robust internal systems that can manage and adapt to external uncertainties.

The model asserting that Project budget cost does not significantly influence suppliers performance offers a unique contribution to project management and procurement theory. It will shift the focus from an over-reliance on supplier performance to stronger internal project management practices, better risk management, and more resilient project execution. This will lead to new insights into how project teams can manage budgets effectively, even when suppliers do not meet expectations.

5.3 Recommendations

Based on the findings and results of the research, it is possible to make the following recommendations for interested parties.

Construction firms should be aware that negotiation with suppliers alongside other elements should influence project success, and then these other elements like internal management, scope clarity, and external factors that outweigh the importance of negotiation with suppliers should be given serious considerations in projects.

Construction firms should focus on improving quality through comprehensive project management strategies, supplier performance monitoring, and quality assurance measures rather than relying solely on supplier reliability.

Construction firms should give due considerations to other vital factors, such as: the nature of supplier relationships, project management practices, public procurement due process or external influences, other than project budget cost alone as they might play more prominent role in determining how well suppliers perform on a given project.

Given the model's assertion of a weak relationship between negotiating with supplier and project delivery, there are several avenues for future research to better understand how supplier negotiations affect project delivery. Further exploration in this area could help refine our understanding of supplier's role in project management and provide practical insights for improving project outcomes.

5.4 Future Research Directions

Similarly, the unusual nature of this model, further research is needed to empirically validate or refute its claims. Here are also some key areas of focus for future research:

a. Research on the Role of Supplier Relationships in Long-Term Project Delivery
b. Investigating the Timing of Supplier Negotiations and Project Phases
c. The Role of Project Management Practices in Mitigating Supplier Issues
d. Exploring the Broader External Factors Impacting Both Negotiation and Delivery
e. Quantitative Studies on the Correlation Between Negotiation Factors and Project Success.
f. Investigating the Relationship Between Supplier Reliability and Project Success
g. Exploring the Role of Project Teams in Managing Supplier Issues
h. Quantifying the Impact of Supplier Reliability on Project Quality

REFERENCES

1. A. Akintoye, & M. Skitmore, (1993). Macro models of uk construction contract prices. *Civil Engineering Systems*, *10*(4), 279-299. https://doi.org/10.1080/02630259308970129
2. M. A. Anokye. Sample Size Determination in Survey Research, Journal of Scientific Research and Reports, 2020, 26(5):90-97
3. J. Chai, and E. W. Ngai. Decision-making techniques in supplier selection: Recent accomplishments and what lies ahead. *Expert Syst Appl, 2019,* 140:112903
4. M. H. Chaudhery, S. P. Mosae and N. Samiha. Source Reduction and Waste Minimization. *Science Direct, 2021*.
5. CIC Construction Group. Strong Supplier Management in Construction Boosts Efficiency and Cost Control, 2024. Available online at https://cicconstruction.com/blog/strong-supplier-management-in-construction-boosts-efficiency-and-cost-control/ [Accessed on 21st February, 2025]
6. S. S. Darvazeh, F. M. Mooseloo, H. R. Vandchali, E. B. Tomaskova and E. B. Tirkolaee. An integrated Multi-Criteria decision-making approach to optimize the number of leagile-sustainable suppliers in supply chain. *Environmental Science and Pollution Research*, 2022. DOI: 10.1007/s11356-022-20214-0
7. S. Dawadi, S. Shrestha, and R. A. Giri. Mixed-Methods Research: A Discussion on its Types, Challenges, and Criticisms. *Journal of Practical Studies in Education*, 2021, 2, 25-36. https://doi.org/10.46809/jpse.v2i2.20
8. L. Estrellas. A Guide to Project Delivery, 2024. [Online] Available at: https://safetyculture.com/topics/project-delivery/ [Accessed @ 21st May, 2024].
9. J. Feng and Z. Gong. Integrated linguistic entropy weight method and multi-objective programming model for supplier selection and order allocation in a circular economy: A case study. *J Clean Prod*, 2020, 277: 122597
10. K. Geldis. A vendor selection matrix ensures a structured approach to selecting vendors and minimizes the risk of overlooking critical factors 2024. Available online at https://www.graphiteconnect.com/blog/project-management-vendor-selection-process/ [Accessed on 5th November, 2024]
11. Hamed, Taherdoost, Aurélie, & Brard. Analyzing the Process of Supplier Selection Criteria and Methods. *Procedia Manufacturing*, 2019, 32 1024–1034
12. P. F. Johnson, M. R. Leenders and A, E. Flynn. Purchasing and supply management McGraw-Hill/Irwin, 2011. 15TH ed. ISBN-13 978-0078024092
13. C. R. Kothari. Research Methodology: Methods and Techniques. 2nd Edition, New Age International Publishers, New Delhi, 2024
14. I. Masudin, I. Habibah, R. Wardana, D. Restuputri, and S. S. Shariff. Enhancing Supplier Selection for Sustainable Raw Materials: A Comprehensive Analysis Using Analytical Network Process (ANP) and TOPSIS Methods. Logistics, 2024, 8. 74. 10.3390/logistics8030074.

15. R. M. Monczka, R. B. Handfield, L. C. Giunipero, and J. L. Patterson. *Purchasing & supply chain management*. Cengage Learning, 2021. 7th ed.
16. O. Muscad. Project Delivery: A Comprehensive Guide on Turning Over Projects Successfully. Datamyte Inc. 2024
17. Planyard. Construction Financial Glossary, Supplier Definition 2024. Available on line at https://planyard.com/construction-glossary/supplier#:~:text=A%20supplier%20provides%20the%20materials%20and%20equipment%20needed,on%20time%20and%20meet%20the%20required%20quality%20standards. [Accessed on 21st February, 2025]
18. M. Rahman. Stakeholders in the construction industry, Business Environment & Strategy, 2022. Available online at https://www.howandwhat.net/stakeholders-construction-industry/ [Accessed on 21st February, 2025]
19. Safety Culture, 2024. Supplier Selection Process. Available online at: https://safetyculture.com/topics/supplier-selection/supplier-selection-process/
20. F. Shaikh, M. Shahbaz, S. Din, and N. Odhano. The Role of Collaboration and Integration in the Supply Chain of Construction Industry. Civil Engineering Journal, 2020, 6. 1300-1313. 10.28991/cej-2020-03091549.
21. Z. Shi and J. Zhang. Forward-Selected Panel Data Approach for Program Evaluation," *Journal of Econometrics*, 2023, 234(2), 512-535. [arXiv: 1908.05894] [supplement] [3rd-party:py:mlsynth] [R package]
22. Z. Stevic. Evaluation of supplier selection criteria in agricultural company using fuzzy AHP method, 22nd International Science Conference Strategic Management and Decision Support Systems in Strategic Management, 2017, 607-612.
23. R. D. Symms. Supplier selection: Narrowing the field to find the perfect fit. *Responsive formerly RFPIO*. 2024. Available at: https://www.responsive.io/blog/supplier-selection/
24. The National Bureau of Statistics report, 2023. Available online at https://www.nigerianstat.gov.ng/elibrary [Accessed on 22nd February, 2025]
25. S. Tuononen. Developing Supplier Evaluation and Performance Measurement System. M.Sc Thesis, 2023.
26. I. Viter. Creating a Project Budget - A Complete Guide, Forecast, 2024: Available at https://www.forecast.app/blog/how-to-create-a-project-budget [Accessed on 25th May, 2024].
27. E. K.. Zavadskas, A. Mardani, Z. Turskis, A. Jusoh and K. M. Nor. Development of TOPSIS Method to Solve Complicated Decision-Making Problems — An Overview on Developments from 2000 to 2015. International Journal of Information Technology & Decision Making, 2021. Vol. 15, No. 03, pp. 645-682 (2016)