

# **Assessment of Factors Affecting Building Contractors Selection in Edo State, Nigeria <sup>1</sup>**

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## **1.0 Introduction**

The construction industry in Nigeria, including Edo State, has faced challenges related to the selection and performance of building contractors. In recent years, there has been an increasing interest in identifying the factors that influence the selection of building contractors and their performance. The construction sector has witnessed a surge in demand for various projects, ranging from residential buildings to commercial complexes and public infrastructure. The selection of competent building contractors is pivotal for ensuring project success, cost-effectiveness, timely completion, and quality construction. In recent years, there has been an increasing interest in identifying the factors that influence the selection of building contractors and their performance. This interest is driven by the need to improve the quality and efficiency of construction projects and to ensure that public funds are utilized effectively. The construction industry plays a crucial role in the development and growth of any economy. The success of construction projects heavily relies on the selection of competent and reliable building contractors. However, the process of selecting contractors is a complex task that involves considering numerous factors. This study aims to assess the factors influencing building contractors' selection in Edo State, Nigeria based on time cost and quality performance.

## **2.0 Literature Review**

### **2.1 Selection Factors Influencing Project Performance**

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In Edo State, Nigeria, several factors can influence project performance they play a crucial role in not only the selection process but also the overall outcome and performance of the construction project.

## **2.2. Contractor's Track Record**

The past performance of contractors can significantly impact project outcomes. It is important to consider a contractor's track record, including their ability to complete projects on time, within budget, and with satisfactory quality. For example, in Edo State, the government's selection of Julius Berger Nigeria Plc for the construction of the Benin City Storm water Drainage Project was influenced by the company's successful completion of similar projects in the past. This project aimed to address flooding issues in Benin City, the capital of Edo State. The Edo State Government selected Julius Berger based on their proven expertise in drainage systems and their successful completion of similar projects in the past. The construction company Julius Berger Nigeria Plc has a notable track record that has influenced project selection. Julius Berger is a leading construction firm in Nigeria with extensive experience in executing various infrastructure projects. Their track record demonstrates their ability to successfully complete complex and large-scale projects. Their experience, technical expertise, and ability to meet project objectives have made them a preferred contractor in the state. Their track record instills confidence in stakeholders and assures project owners of their capability to deliver successful outcomes.

## **2.3. Compliance with Regulations and Standards**

In Edo State, Nigeria, compliance with environmental regulations played a vital role in the construction of the Benin River Port project. The project aimed to develop a modern river port in the state, facilitating trade and transportation. During the selection process, the Edo State Government placed a strong emphasis on selecting a contractor that demonstrated a commitment to environmental sustainability and compliance with applicable regulations.

The government conducted a thorough evaluation of the bidding contractors' environmental policies, procedures, and past environmental performance. The contractor ultimately selected for the project had a track record of adhering to environmental regulations and implementing sustainable practices in their previous projects.

The contractor ensured compliance with relevant environmental laws, such as waste management regulations, water pollution control measures, and preservation of ecological balance. They implemented measures to minimize environmental impact during construction, such as proper waste disposal, erosion control, and protection of nearby water bodies.

By prioritizing compliance with environmental regulations, the Edo State Government aimed to mitigate the potential negative impacts of the construction project on the surrounding ecosystem and communities. This approach not only helped protect the environment but also contributed to the project's overall success.

Compliance with regulations and standards is crucial for various aspects of construction projects, including safety, quality, and sustainability. It ensures that projects are executed in accordance with legal requirements, industry best practices, and the expectations of stakeholders. By selecting contractors who demonstrate a strong commitment to compliance, project owners can minimize risks, enhance project outcomes, and promote responsible and sustainable development.

#### **2.4. Communication and Collaboration**

In the development of the Edo State Technology Park, the Edo State Government partnered with a Chinese consortium to facilitate the project's implementation. Effective communication and collaboration between the government and the consortium were vital for the project's success. The project involved complex technical aspects, financial considerations, and regulatory requirements. The Edo State Government maintained open lines of communication with the Chinese consortium throughout the project's duration. Regular meetings, progress reports, and discussions were held to exchange information, address concerns, and ensure alignment between the parties involved. This facilitated effective decision-making and timely resolution of issues. The project required close collaboration between the Edo State Government and the Chinese consortium. They worked together to develop project plans, finalize designs, and coordinate the procurement and installation of equipment. The collaboration extended to engaging with local stakeholders, such as universities and research institutions, to ensure the technology park's alignment with the state's long-term vision and foster local development. The successful completion of the Edo State Technology Park project demonstrated the importance of communication and collaboration in achieving project objectives. By maintaining effective communication channels and fostering collaboration, the government and the Chinese consortium were able to overcome challenges, align their efforts, and deliver a technology park that promotes innovation, economic growth, and job creation in Edo State.

#### **2.5. Government Support and Policies**

The support and policies of the government play a crucial role in project performance. For instance, the Edo State Government's commitment to infrastructure development has positively impacted project performance. Under the administration of Governor Godwin Obaseki, various projects,

such as road construction and rehabilitation, have been initiated and completed, leading to improved infrastructure and enhanced project performance

## **2.6. Legal and regulatory framework**

The public procurement process in Edo State is guided by legal and regulatory frameworks. These frameworks define the rules, procedures, and criteria for selecting contractors. Compliance with these regulations, including the Public Procurement Act and other relevant guidelines, is a crucial factor in contractor selection. A study by Osunde (2018) emphasizes the significance of legal and regulatory compliance in public procurement.

## **2.7. Eligibility Criteria**

Public procurement often sets specific eligibility criteria that contractors must meet to participate in the bidding process. These criteria include financial capability, technical qualifications, experience, and evidence of past performance. Contractors' adherence to these criteria is assessed during the selection process. A study by Alhassan (2019) highlights the importance of eligibility criteria in contractor selection

## **2.8. Performance and Delivery Track Record**

Assessing contractors' performance and delivery track record is essential in public procurement. Contractors' past performance, including timely project completion, adherence to quality standards, and fulfillment of contractual obligations, serve as indicators of their capability to execute future projects. A study by Iyagba (2020) highlights the importance of performance and delivery track record in contractor selection.

## **2.9. Transparency and Accountability**

Transparency and accountability are critical factors in the public procurement process. The selection process should be transparent, ensuring that all stakeholders have equal opportunities and access to information. Accountability mechanisms, such as audit and oversight, help ensure that the selection process is fair and free from corruption. A study by Akpan (2019) emphasizes the importance of transparency and accountability in public procurement.

### **3.0 Impact of selection factor on project success**

It has been stated that contractor selection implies eliminating unqualified candidate contractors from the bidding process and can help private and public clients achieve effective and efficient use of their money by ensuring that competent contractors will execute the project (Huang, 2011). It allows the customer to completely examine the applicant and his capabilities before hiring him for the job, allowing the client to obtain the best possible outcome in the cost, time, and quality triangle for construction project management (Kog and Yaman, 2014). According to Meland, Robertsen, and Hannas (2011), contractor selection is closely connected to project success and meeting project objectives. According to Doloji (2009), technical experience, previous project success, and solid programming capability all have a substantial impact on total project success. Doloji (2009) observed that the predominant project success factors are time, cost and quality.

#### **3.1 Time**

It is critical to execute a project on time and with as little downtime as feasible. Some contracts include a bonus provision to encourage the contractor to complete the work on time and without delays.

#### **3.2 Costs**

Principals have always regarded cost as the most essential factor. Traditional competitive bidding is predicated on spending the least amount of money feasible. However, it is critical to consider the project's Total Cost of Ownership (TCO). Kashiwagi and Savicky (2003) find that Best Value techniques result in decreased ownership costs.

#### **3.3 Quality**

Quality in construction is defined as the totality of features required by a product or service to satisfy a given need. Many academics, like Alarcon and Mourgues (2002), view quality as a primary criterion in contractor selection. Quality, according to Lo and Yan (2009), cannot be overlooked while selecting the correct contractor for a project.

## 4.0 Research Methodology

The research utilized a quantitative research method, adopting convenience sampling technique. A survey of registered construction professionals affiliated with their respective bodies was carried out in Edo state, Nigeria, the study area. The professionals were namely; Architect, Quantity Surveyors, Builders, and Engineers. In total, two hundred and sixty nine (269) questionnaires were distributed while one hundred and eighty eight (188) were retrieved and suitable for analysis, while the others were either not retrieved or incorrectly filled. Quantity Surveyor, Builders, Architect and Engineers were administered with 34, 25, 41 and 88 questionnaires respectively. The method of data analysis deployed were Mean Item Score and Person Correlation.

### 4.1 Data Analysis

### 4.2 Factors considered during the selection of building contractors.

Respondents were asked to give their opinion on 20 factors for building contractors selection on a scale between 1 and 5 and the results are shown in Table 4.1 below.

**Table 4.1:** Selection factors for construction contractors

Selection Factors	Overall Rank		Consultants		Contractors	
	MIS	Rank	MIS	Rank	MIS	Rank
Experience	4.32	1	4.40	1	4.24	2
Technical expertise	4.24	2	4.24	2	4.17	4
Management capability	4.16	3	4.09	3	4.23	3
Knowledge of industry's policies and laws	4.03	4	4.00	4	4.06	6
Tendered price	4.02	5	3.95	5	4.09	5
Health and safety criteria	3.89	6	3.91	6	3.87	7
Financial stability	3.83	7	3.87	7	3.79	8
Reputation of contractor	3.76	8	3.83	8	3.69	9
Available human resources	3.60	9	3.79	9	3.41	11
Type of projects completed	3.58	10	3.71	10	3.45	10
Plants and Equipment	3.53	11	3.65	11	3.41	11

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Dispute history	3.45	12	3.59	12	3.31	13
Location of company	3.40	13	3.51	13	3.29	14
Size of projects completed	3.35	14	3.46	14	3.24	16
Organisation size	3.25	15	2.06	15	4.40	1
Turnover record	3.23	16	3.19	16	3.27	15
Past performance	3.14	17	3.11	17	3.17	17
Current Workload	3.12	18	3.09	18	3.15	18
Age of organization	2.78	19	2.91	19	2.65	19
Relationship	2.76	20	2.87	20	2.61	20

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The findings indicate that respondents classified ten factors as "very important," while the remaining ten were rated as of "average importance." The top five factors, rated as "very important," were as follows: Experience, technical expertise, Management capability, Knowledge of industry's policies and laws, and Tendered price. These factors had MIS values of 4.32, 4.24, 4.16, 4.03 and 4.02 respectively.

In contrast, the least ranking factors were considered to be of "average importance." These included turnover record, past performance, current workload, age of organization and relationship. These have MIS values of 3.23, 3.14, 3.12, 2.78, and 2.76 respectively. This ranking highlights the varying degrees of importance attributed to these factors in the selection of construction contractors.

The results align with previous literature, specifically the work of Doloi (2009) and Singh and Tiong (2006). Previous research has similarly emphasized the significance of factors like experience, technical expertise, management capability, and knowledge of industry policies and laws in the contractor selection process. For instance, Singh and Tiong (2006) defined previous performance as a key criterion for evaluating a contractor's competence, while potential performance was related to the contractor's resources and experience in similar project types. These findings provide valuable insights into the criteria considered by industry professionals when selecting construction contractors.

### **4.3 Influence of selection factors on time, cost and quality performance of projects**

Respondents were asked to indicate the level of influence of each selection factors on time, cost and quality performance of projects using a 5-point scale. The relationship between the selection

factors and project performance variables was tested using Pearson correlation on SPSS software. Table 4.2 below shows the results.

**Table 4.2:** *Influence of selection factors on time, cost and quality*

		Correlations			
		Selection Factors	Time	Quality	Cost
<b>Selection Factors</b>	Pearson Correlation	1	-.073	-.158	.377
	Sig. (2-tailed)		.760	.507	.101
	N	20	20	20	20
<b>Time</b>	Pearson Correlation	-.073	1	.100	.151
	Sig. (2-tailed)	.760		.676	.524
	N	20	20	20	20
<b>Quality</b>	Pearson Correlation	-.158	.100	1	-.079
	Sig. (2-tailed)	.507	.676		.741
	N	20	20	20	20
<b>Cost</b>	Pearson Correlation	.377	.151	-.079	1
	Sig. (2-tailed)	.101	.524	.741	
	N	20	20	20	20

The size of the Pearson correlation coefficient (the “r” statistic) has a range between -1 (perfect negative correlation) and 1 (perfect positive correlation). If the correlation statistic does not have a minus in front of it, that means that the correlation is positive, which means that high scores for both variables go together, and low scores for both variables go together. If the correlation statistic had a minus in front of it, that would mean that as the value of one variable goes up, the value of the other variable goes down (i.e., a negative or inverse correlation). The level of significance for the correlation (a level of .05 or smaller is considered "statistically significant). As shown in Table 4.4, the Pearson coefficient between selection factors and time is -.073, which means there is a very weak negative correlation, and it is statistically insignificant at a level of .760 (that is, 76%). Between selection factors and quality, the correlation coefficient is -.158 implying that there is a very weak negative correlation, and this is statistically insignificant at .507 (50.7%). Also, between selection factors and cost, the correlation coefficient is .377 and at .101 sig. level. This means that there is a weak positive correlation between them, and this is statistically not significant. In the same way between time and quality, there is a very weak positive correlation which is statistically not significant (Pearson coeff .100, Sig .676). Furthermore, between time and cost, there is a very weak positive correlation which is statistically not significant (Pearson coeff .151, Sig .524).



Finally, between quality and cost, there is a very weak correlation which is statistically not significant (Pearson coeff -.079, Sig .741).

#### **4.4 Discussion of Findings.**

##### **4.4.1 Influence of selection factors on time, cost and quality performance of projects**

The study's results reveal the notable influence of selection factors on different aspects of construction projects, including time, cost, and quality. Respondents' assessments provide valuable insights into the criteria that are most crucial in the contractor selection process. In an overall evaluation considering time, cost, and quality, the top five most influential selection factors are "Management capability," "Experience," "Technical expertise," "Health and safety criteria," and the "Reputation of contractor." These criteria emerge as key determinants of project performance. Regarding time performance, twelve criteria were identified as having a substantial impact "Most of the Time." The dominant factors include "Management capability," "Experience," "Technical expertise," "Health and safety criteria," "Reputation of contractor," and more. For cost performance, ten criteria were consistently influential, including "Financial stability," "Health and safety criteria," "Available human resources," and others. In terms of quality performance, eleven selection criteria were found to hold significant sway "Most of the Time." These include "Type of projects completed," "Technical expertise," "Reputation of contractor," and others. These findings align with previous research, highlighting the importance of factors like financial stability and management capability in the contractor selection process.

#### **5.0 Conclusion and Recommendation**

This research underscores the critical importance of selecting the right building contractors in Edo State. The findings offer valuable insights that can contribute to the improvement of project delivery and the selection process. Effective project delivery in Edo State necessitates a focus on key competencies, such as experience and technical expertise, alongside a clear understanding of the specific factors that influence time, cost, and quality performance. Moreover, recognizing the differing opinions of consultants and contractors can foster better collaboration and communication in the construction industry, ultimately leading to more successful projects in the region

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## About the Authors



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**Edosa Mark Osazuwa** is a B.Tech. Graduate of Quantity Surveying from Federal University of Technology Akure and has an M.Tech. In Quantity Surveying from Federal University of Technology Akure while he successfully carried out and defended his Master's research titled "*An Assessment of quantity Surveyors Capability as Construction Project Risk Manager in Edo State, Nigeria.*" He is presently undergoing his Doctorate Degree in Building (Construction Management) at the Nnamdi Azikiwe University, Awka (UNIZIK). He is a probationer member of the Nigeria Institute of Quantity Surveyor (NIQS). Having done his Industrial Training as a pupil Quantity surveyor with Soteria Consultant and worked as a graduate Quantity surveyor at Soteria Consultant as well, he has been demonstrating brilliant performance in the Quantity Surveying profession, project/construction management and the built environment industry.

His participation in construction projects has inculcated in him various qualities ranging from social and organizational skills to problem solving and analytical skills. his involvement in these projects has also instilled invaluable skills required to manage, lead and collaborate effectively

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