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# Influences Upsetting Excellent Performance of Building Projects in North-Eastern Nigeria

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**Abstract**

This research focuses on appraising the excellent performance of building projects and in particularits importance especially in developing countries where building construction works are basically manual. The principal aim of this research is to identify the influences upsetting excellent performance of building projects, to evaluate the sternness indices of the factors, and to determine the relationship between the two and recommend measures to reduce its significance on project outcome. Fifty (50) questionnaires were administered to professional staff comprising of Architects, Quantity Surveyors, Builders, Project Managers and Structural Engineers engaged in building projects but only thirty-six (36) of them were returned.T-Test was used to compute factors for the analysis. The study identified: quality training/meeting, conformance to plan and specification, unavailability of competent staff, quality of equipment and raw materials, client interference, slow decision making by client, improper planning, shortage of labour and technical personnel, improper designing, inadequate contractor experience, poor site management and supervision, lack of coordination to solve problem, poor financial control on site, inadequate consultant experience, inadequate site investigation, and inadequacy of design and specification were identified as the factors that affected the quality of performance of building projects and related to clients, consultants and contractors. It is therefore recommended that policy makers, researchers and practitioners look at improving the human resource base through continuous professional and skill development. Again, monitoring systems should be improved at various district offices for the implementation of good construction procedure with the aim of ensuring quality practices. More importantly, design should be re-evaluated before the actual construction through pre-construction conference in order to do away with unnecessary design that will not ensure quality.

**Keywords:** quality performance (QP), T-Test, Factors affecting quality performance, building project.

## 1. Introduction

Great achievements attained by societies can be attributed to the roles played by the construction industries (Jin et al., 2017; Boadu et al., 2020).

the activities of the construction industries (Ofori, 2015; Ejohwomu et al., 2017). Several variables affect the performance of the construction industry (Aliyu et al., 2015;Oni et al., 2019). Poor workmanship during site operation and negligence were identified as some of the unethical

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practices at construction stage while compromising of final accounts, employee re-assignment, covering up project failure are some of the ethical issues at the closure of a project (Windapo, Cattell, 2013; Oluwatosin, Amos, 2016; UNCTAD, 2020). Studies have shown that the most important factors affecting project quality performance are: delays because of materials shortage; unavailability of resources; low level ofproject leadership skills; escalation of material prices; unavailability of highly experienced and qualified personnel; and poor quality of available equipment and raw materials (Adnan et al., 2012; Deneckere, Quint, 2022). Hence the requirement for recognizing the crucial measures of performance that are used commonly in the field of building construction and that construction organizations need to develop systems and processes to measure in order to satisfy a wide variety of clienteles (Jin et al., 2017; Maseko, 2018; Omotayo et al., 2022).

The aim of this research is to evaluate the factors affecting quality performance of building projects in Bauchi metropolis with the view to providing solutions to the glitch.

## 2. Materials and methods

### Research Design

This study was conducted through Surveys, an oriented methodology used to investigate populations by selecting samples to analyze and discover occurrences. The design provides numeric descriptions of some part of the population. It was adopted in this study because it considers issues such as economy of design, rapid data collection and ability to understand a population from a part of it.

### Study Area

The study covers selected contractors, consulting firms and clients in Bauchi metropolis.

### Target population

For the purpose of this study, the populations were clients, consultants and contractors operating within the capital city of Bauchi. The client is the employer of all other parties in the building industry.

### Sampling techniques

The technique used for this study was simple random sampling. This technique selects a sample without bias from the target/accessible population.

### Method of Data collection

### Primary Sources

This is the raw and unprocessed data which was received directly from the target respondents where structured response questionnaire such as Likert Scale, was used and the format used was basically ticking of the appropriate options to make ease of response.

### Secondary Sources

These include textbooks, journals, magazines, newspapers etc

In using the technique, all documents related to the issue under study were carefully reviewed.

### Method of Data Analysis

The first set of data collated was nominal in nature as such; frequencies and simple percentages were used in analyzing them. Subsequently, they were presented in tables and charts. However, the second set of the collated data was ordinal in nature which justified the use of the following techniques.

Analysis T-Test was the method used to determine the level of importance for each criterion. The higher the value, the higher the level of criteria and consequently the higher being a factor affecting quality performance.

T-Test was used for the computation. The respondents were asked to give their perceptions in group of questions on five-point scale (1 for the strongly agree to 5 for the strongly disagree), which reflects their assessment regarding the factors in the questionnaire. The weighted average score has been widely used in construction research for measuring attitudes with respect to surveyed variables. The weighted average score was calculated for each factor by the use of T-test.

Where:

1. For the "Strongly Agree" response;
2. For the "Agree" response;
3. For the "Undecide" response;

4. For the "Disagree" response;
5. For the "Strongly Disagree" response.

The Statistical Package for Social Sciences (SPSS) program was used to analyze all sections and assisted in the presentation and layout. The respondents' data was finally presented using descriptive methods for easy interpretation and to enable comparisons

## 3. Results

**Table 1.** Result of the Administered Questionnaires

| | | Profession ofQualification ofExperience of theType of the respondents respondents Respondents Organization | | | |
|---|---|---|---|---|---|
| N | Valid | 36 | 36 | 36 | 36 |
| | Missing | 14 | 14 | 14 | 14 |

A total of fifty (50) questionnaires were administered and thirty-six (36) of them were returned completed.

**Table 2.** Respondents Demographics Data

| | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | Architect | 11 | 30.6 | 30.6 | 30.6 |
| | Quantity surveyor | 14 | 38.9 | 38.9 | 69.4 |
| | Builder | 10 | 27.8 | 27.8 | 97.2 |
| | project manager | 1 | 2.8 | 2.8 | 100.0 |
| | Total | 36 | 100.0 | 100.0 | |

Demographic information of each respondent has been collected in the survey questionnaire. The information includes profession, qualification, level of experience, and type of organization.

Table 4 shows that 30.6 % of the respondents are architects, 38.9 % are quantity surveyors, 27.8 % are builders and 2.8 % are project managers10

**Table 3.** Qualification of Respondents

| | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | HND | 9 | 25.0 | 25.0 | 25.0 |
| | BSc | 13 | 36.1 | 36.1 | 61.1 |
| | PGD | 8 | 22.2 | 22.2 | 83.3 |

| | | | | | |
|---|---|---|---|---|---|
| | MSc | 6 | 16.7 | 16.7 | 100.0 |
| | Total | 36 | 100.0 | 100.0 | |

Table 3 above provides information relating to the qualifications of the respondents in the quantity surveying profession. As shown in this Table, 36.1 % of the respondents had earned B.sc, 25 % had HND, and 22 % had PGD, while only 16.7 %, had MSc.

**Table 4.** Experience of Respondents

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | less than 5 years | 11 | 30.6 | 30.6 | 30.6 |
| | 5-10 years | 17 | 47.2 | 47.2 | 77.8 |
| | 11-15 years | 8 | 22.2 | 22.2 | 100.0 |
| | Total | 36 | 100.0 | 100.0 | |

Table 4 shows the experience of respondents 47.2 % have 5-10 years of experience, 30.6 % have less than 5 years of experience and 22.2 % have 11-15 years of experience.

**Table 5.** Type of Organization

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Client | 10 | 27.8 | 27.8 | 27.8 |
| | Consultant | 13 | 36.1 | 36.1 | 63.9 |
| | Contractor | 13 | 36.1 | 36.1 | 100.0 |
| | Total | 36 | 100.0 | 100.0 | |

Table 5 shows the type of organization, 36.1 % of the respondents are consultant, again 36.1 % of the respondents are contractor and 27.8 % are clients.

**Table 6.** Project Related Factors

| Factors | Mean | Rank | T | significant |
|---|---|---|---|---|
| Quality Training /Meeting | 2.194 | 1 | 11.286 | .000 |
| Conformance to plan and specification | 1.750 | 4 | 13.024 | .000 |
| Unavailability of Competence Staff | 1.917 | 3 | 11.888 | .000 |
| Quality of Equipment and raw materials | 1.944 | 2 | 9.232 | .000 |

The table indicates that quality training/meeting was ranked first, quality of equipment and raw materials was ranked second, unavailability of competent staff ranked third and then conformance to plan and specification was ranked fourth.

**Table 7.** Client Related Factors

| Factors | Mean | Rank | T | significant |
|---|---|---|---|---|
| Client Interference | 2.500 | 1 | 12.677 | .000 |
| Slow decision making by clients | 2.389 | 2 | 13.656 | .000 |
| Improper Planning | 1.889 | 4 | 8.996 | .000 |
| Shortage of Labour and Technical Personnel | 2.194 | 3 | 10.443 | .000 |

**Table 8.** Contractor Related Factors

| Factors | Mean | Rank | T | significant |
|---|---|---|---|---|
| Improper design | 1.583 | 4 | 9.534 | .000 |
| Inadequate contractor experience | 1.861 | 3 | 12.417 | .000 |
| Poor site management and supervision | 2.000 | 2 | 12.550 | .000 |
| Poor financial control on site | 2.222 | 1 | 8.919 | .000 |

The table indicates that poor financial control on site was ranked first, poor site management supervision was ranked second, inadequate contractor experience ranked third and then improper design was ranked fourth.

**Table 9.** Consultant Related Factors

| Factors | Mean | Rank | T | significant |
|---|---|---|---|---|
| Lack of cooperation to solve problem | 1.806 | 4 | 9.487 | .000 |
| Inadequate consultant experience | 1.861 | 3 | 10.964 | .000 |
| Inadequate site investigation | 2.000 | 2 | 15.875 | .000 |
| Inadequacy of design and specification | 2.139 | 1 | 10.498 | .000 |

The table indicates that inadequacy of design and specification was ranked first, inadequate site investigation was ranked second, inadequate consultant experience ranked third and then lack of cooperation to solve problem was ranked fourth.

## 4. Discussion

The findings indicates that delay in honoring payment progressively, underestimation or overestimation of the project cost, and delay in the approval of major changes in the work scope were among the three major causes of delays in construction projects which is corroborated by Fashina et al, (2021). Other observations were lack of adequate sanction by the standard assurance organization, non-implementation of National Building Code were among the topmost factors affecting quality management on construction sites in Oyo State as expounded by Oni et al (2019), were equally observed by the current effort. Labour, building materials, construction methods, equipment, site management greatly influences performance, Aliyu (2015), these factors were also observed as deterrents in construction projects. The research also agrees with the findings of Ibironke and Elamah (2011), when they observed that planning and scheduling deficiencies, fraudulent practice and kickback and absence of clear evaluation standards are the major factors affecting time, cost and quality in construction project.

## 5. Conclusion

Data for the research was collected using questionnaire. The information collected covered

perception of clients, consultants and contractors regarding the factors affecting quality performance of building projects and ways to improve them. Data obtained from the survey was analyzed using the T-test. The major factors affecting quality performance of building projects were identified and ranked. The top four most important factors affecting quality performance are: quality training/meeting, conformance to plan and specification, unavailability of competent staff, quality of equipment and raw materials. To improve the quality performance of building projects, effective planning, progress payments, minimizing change orders and early review and approval of designs among others are some of the essential factors to be considered by clients, consultants and contractors.

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