

# **ASSESSING THE IMPLEMENTATION OF PROJECT QUALITY MANAGEMENT PLAN IN BUILDING PROJECTS IN RIVERS STATE**

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## **Abstract**

This study investigates the implementation of Project Quality Management Plan (PQMP) in building projects in Rivers State, Nigeria. The construction industry plays a vital role in the economic development of the region, with a large proportion of the workforce engaged in construction-related activities. The Quality Management Plan (QMP) is crucial in ensuring that projects meet established standards of time, cost, and quality. The study aims to evaluate the application of QMP documents in the construction sector of Rivers State, identifying key factors affecting their successful implementation. Data were collected through a survey of built environment professionals, using attendance registers from various professional institutes in the state to derive the sample size based on Taro Yamane's method. Random sampling was used to select the respondents. The findings reveal that poor planning, political interference, and the use of unskilled contractors are the most significant factors impeding the effective application of PQMP, with Relative Importance Index Values of 0.807, 0.794, and 0.776, respectively. The study highlights the importance of proper planning, the involvement of skilled contractors, and the strict adherence to government policies for building approvals to improve the application of PQMP in the state. The research concludes that enhancing the implementation of PQMP is essential for improving the quality and sustainability of building projects in Rivers State.

**Keywords:** Project Quality Management, Building Projects, Rivers State, Construction Industry, Quality Assurance

## **1.0 Introduction**

The construction industry accounts for a significant portion of the world's Gross Domestic Product (GDP). In the developing world, the construction sector provides a substantial source of employment to the majority of poor citizens of those countries. In this connection, the sector offers a sound basis for revenue collections that enable governments collect direct and indirect taxes to provide public services. In developing countries, the biggest customer of the private construction industry is the government (Okpala & Aniekwu, 1988).

In order to plan and manage a successful project, the three parameters of time, cost and quality should be considered. Hughes and Williams (1991).

The Quality Management Plan (QMP) is an integral part of any project management plan. The purpose of the Quality Management Plan is to describe how quality will be managed throughout the lifecycle of the project

(Bamisile, 2004). It also includes the processes and procedures for ensuring quality planning, assurance, and control are all conducted.

The implementation of project quality and management plan (PQMP) for building projects in Rivers State is necessary because, it concerns various parties in many ways

Use of non-professionals and quacks; Use of untested products and materials; Vanguard of 7<sup>th</sup> august 2013, is the case of a two storey building under construction along Akpajo road, Elelenwo which caved in. Another case as reported by Moses Boyo of star connect media, was the collapse of Rivers NBA Law Centre on May 8, 2016 to mention but a few. Hence the study seeks to ascertain the level of applicability of Project Quality Management Plan to building projects in Rivers State.

### **1.1 Research Aim and Objectives**

The study is aimed at examining the application of Quality Management Plan (QMP) documents to building projects in Rivers State, with a view to accessing factors affecting application of the Quality Management Plan (QMP) to building projects in the study area.

### **1.2 Research Questions**

- What are the factors affecting the implementation of project quality management plan to building projects in the study area?

### **1.3 Overview of the Study Area (Rivers State)**

Rivers State is one of the 36 states of Nigeria, with a population of 5,185,400 people according to the last census (NPC, 2006), and a land mass of 11,077km<sup>2</sup>. Its capital city, Port Harcourt is economically significant as the Center of Nigeria's oil industry.

### **2.0 Materials and Methods**

The literature review findings informed survey components of this research work and this includes a review of journals, articles, textbooks, and other published and unpublished materials which were considered relevant to the stated aim of this research work. The study is descriptive in nature and designed to obtain information from operatives concerning Quality Management practices and the effect of quality on building production processes. This research engaged desk review of related literature covering a period of 17 years (2002-2019). The study adopted survey research design, with the help of structured questionnaire to the Professionals, Contractors and Artisans (both skilled and unskilled) that operate in Rivers State, Nigeria. By adopting survey research the authors believed that it is proper as accumulation of information will not be more than one case and at a particular point in time to gather a group of quantitative or quantifiable information regarding at least two or more variables.

The population of this study comprises 2670 Built Environment Professionals made up of 135 Builders, 850 Architects, 530 Quantity surveyors, and 1155 Engineers. These figures were gotten from the various professional institutes' attendance register in the study area.

The sample size of this study is three hundred and forty-eight (348) which was derived using Taro Yamane method of calculating sample size. Mathematically illustrated as:

$$n = N / (1 + N(e)^2)$$

Where:

**n** signifies the sample size **N** signifies the population of study

**e** signifies margin error (which could be: 0.10; 0.005 or 0.01)

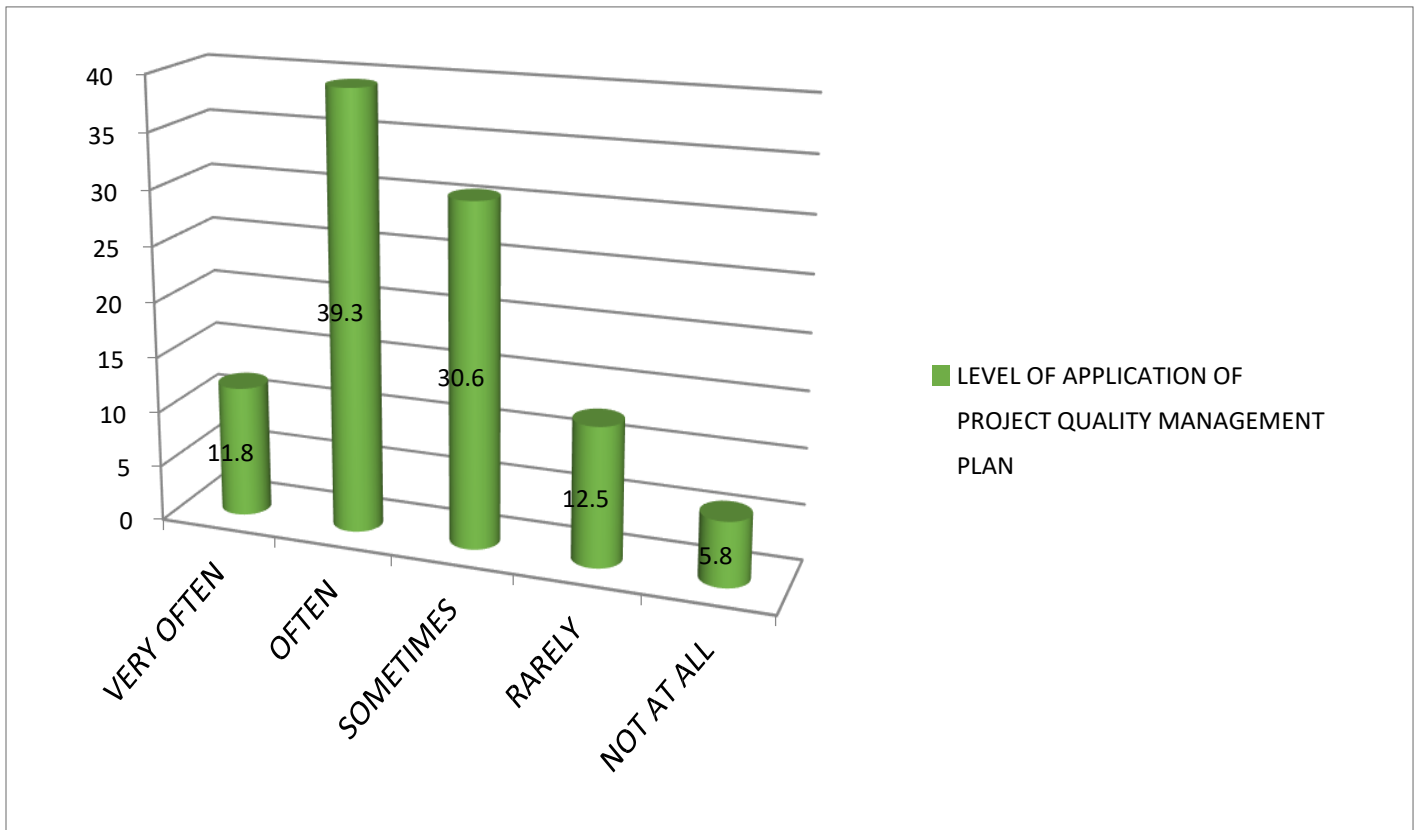
Out of the three hundred and forty-eight (348) questionnaires distributed, three hundred and thirty (330) were retrieved and they were used for data analysis done below and the remaining eighteen (18) unreturned was as a result of limited time to reach the respondents after it has been sent out. The data obtained were presented and analyzed by Relative Important Index.

### 3.0 Results 3.1 Presentation of Data

**Table 1:** Extent of Application of Project Quality Management Plan

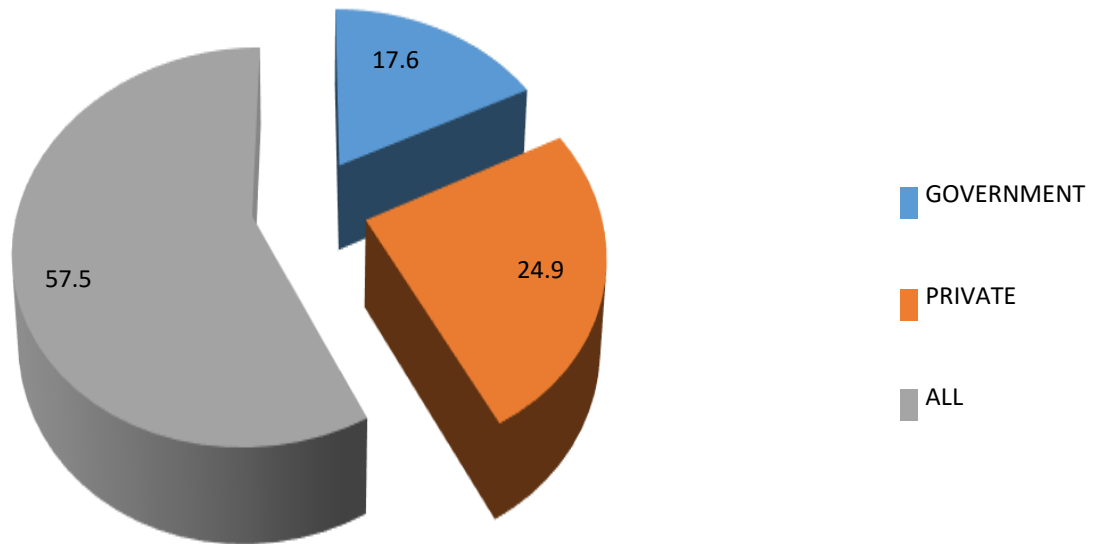
Options	Response	Percentage (%)
Very often	39	11.8
Often	130	39.3
Sometimes	101	30.6
Rarely	41	12.5
Not at all	19	5.8
<b>TOTAL</b>	<b>330</b>	<b>100</b>

**Figure 1:** Level of Application of Project Quality Management Plan

**Table 2:** Type of project to which PQMP is applied

Options	Response	Percentage (%)
Government	58	17.6
Private	82	24.9
All	190	57.5
<b>TOTAL</b>	<b>330</b>	<b>100</b>

**Figure 2:** Percentage of Projects to Which PQMP Is Being Applied



Relative Importance Index –RII, of the factors uses the formula below:

$$RII = \frac{\sum W}{A \times N}$$

Where,

**W** = the weight given to each factor by the respondents,

$$\sum W = (S_5 \times f_5) + (S_4 \times f_4) + (S_3 \times f_3) + (S_2 \times f_2) + (S_1 \times f_1)$$

(i.e.,  $S_5$  = Likert scale 5, and  $f_5$  = its frequency) **A** = the highest weight (i.e. 5 in this case), and **N** = the total number of respondents.

**Table 3:** Relative Importance Index –RII, of the factors affecting the Implementation of PQMP

Factors	5	4	3	2	1	W	RII	RANK
Government policies	111	110	50	39	20	1243	<b>0.753</b>	5
Organizational Structure	40	190	90	32	28	1122	<b>0.680</b>	11
Partial commitment	89	91	90	30	30	1169	<b>0.708</b>	9
Communication	80	100	78	52	20	1158	<b>0.702</b>	10
Too much paper work	50	20	70	140	50	870	<b>0.527</b>	13
Decline in craftsmanship	77	71	81	51	50	1064	<b>0.645</b>	12
<u>Training</u>	<u>140</u>	<u>50</u>	<u>90</u>	<u>30</u>	<u>20</u>	<u>1250</u>	<b>0.758</b>	4
Project manager's ignorance and lack of knowledge	90	100	80	40	20	1190	<b>0.721</b>	8
Use of unskilled contractors	140	90	50	20	30	1280	<b>0.776</b>	3
Use of incompetent contractors	122	120	20	8	60	1226	<b>0.743</b>	6
Poor planning	160	81	49	20	20	1331	<b>0.807</b>	1
Poor scheduling	100	80	90	50	10	1200	<b>0.727</b>	7
Politics	150	90	50	10	30	1310	<b>0.794</b>	2

### 3.2 Data Analysis

The study shows what is obtainable in the study area about the applicability of project quality management plan (PQMP).

Table 3 which is one of the objectives of the study to verify to what extent the factors stated affect the implementation of project quality management plan. Poor planning, politics, and use of unskilled contractors are seen as the top three most influential ranking factors with corresponding Relative Importance Index Values of 0.807, 0.794, and 0.776, which ranked 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> affecting the implementation of project quality management plan to building projects in the study area.

### 3.3 Discussion of Findings

Poor planning, politics, and the use of unskilled contractors are the most influential factors affecting the implementation of project Quality management Plan (PQMP) in Rivers State. These have negatively affected the output of building construction projects.

#### 4.0 Conclusion

Application of project Quality management Plan (PQMP) is essential to ensure an efficient quality control system at the construction site and take corrective actions, when necessary.

The implementation project Quality management Plan (PQMP) has a number of benefits including: client satisfaction, improved quality of products and services, promotion of corporate image. It also has several indirect benefits to identify, which give opportunities to review business goals and assess how well the organization is meeting those goals, identify processes that are unnecessary or inefficient, and then remove or improve them, improves self-morale by identifying the importance of their output to the project.

#### 4.1 Recommendations

- 1) Projects should be properly planned to include the Project Quality Management Plan in order to achieve a quality delivery of construction projects.
- 2) Skilled contractors especially Builders should be given the desired opportunity to manage the building production process in order to achieve a safer and quality project.
- 3) Government at all level should demand for Project Quality Management Plan as part of construction documents required for building approvals.

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