EVALUATING THE ROLE OF QUANTITY SURVEYORS IN RESOURCE PLANNING OF CIVL ENGINEERING PROJECT

(A CASE STUDY OF CONSTRUCTION PROJECT IN KWARA STATE POLYTECHNIC, ILORIN)

BY

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CERTIFICATION

This is to certify that this project work has been read and approved by the undersigned on behalf of the Department of Quantity Surveying, Institute of Environmental Studies, Kwara State Polytechnic, Ilorin, as meeting the requirement for the award of national diploma in Science Laboratory Technology.

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DEDICATION

This research work is dedicated to Almighty God who has given me the knowledge strength and wisdom to achieve this feat, above all for the unmerited grace he has showered upon me may his forever be praised!

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ABSTRACT

This study evaluates the role of Quantity Surveyors (QSs) in resource planning within civil engineering projects. Effective resource planning is critical for the successful completion of civil engineering works, ensuring optimal allocation of materials, labor, and finances. The research investigates the responsibilities, challenges, and contributions of QSs to project budgeting, cost control, and scheduling. Data were collected through surveys and interviews with industry professionals, highlighting key issues such as communication gaps, data availability, and the impact of modern tools on QS performance. Findings reveal that QSs play a vital role in managing project resources but face constraints including exclusion from key planning decisions and delays in payments, which hinder their effectiveness. The study recommends enhanced integration of QSs in project planning processes, adoption of advanced technology, and the establishment of stress management frameworks to improve productivity. The insights from this research aim to support stakeholders in optimizing resource planning practices,

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CHAPTER ONE

1.0 GENERAL INTRODUCTION

Civil engineering plays a fundamental role in national development by facilitating infrastructure that supports economic growth, public service delivery, and social well-being. The effectiveness of civil engineering projects largely depends on efficient planning and resource management throughout the project lifecycle. These projects are complex in nature and require the coordinated deployment of a variety of resources, including human capital, materials, equipment, and financial investments. Managing these diverse resources demands careful planning and strategic oversight to avoid wastage, delays, and budget overruns (Olawale et al., 2023).

In Nigeria, particularly in public sector construction, there is a recurring trend of abandoned or delayed projects caused by inadequate planning, resource misallocation, and weak professional coordination. The country has seen numerous infrastructural projects plagued by financial mismanagement and technical inefficiencies, which raises questions about the planning methodologies employed and the level of professional input integrated at critical stages (Alade et al., 2024). Effective resource planning could drastically reduce the prevalence of these issues, but this requires the active participation of professionals like Quantity Surveyors who are trained in construction economics and resource optimization.

Quantity Surveyors (QSs) are specialists in cost and value management in construction. They are not only responsible for preparing bills of quantities, estimating project costs, and managing construction budgets, but also for advising on procurement, contract administration, and financial risk mitigation. In recent years, their roles have evolved to encompass sustainability assessments and life-cycle costing, ensuring that construction resources are both economically and environmentally sustainable (Adeyemi et al., 2022). The involvement of QSs in early project planning is essential for identifying risks, minimizing waste, and establishing achievable budgets aligned with client expectations and market conditions.

Despite their vast potential, the role of Quantity Surveyors in Nigeria is often underutilized, especially in government-funded projects and academic institutions. Many QSs are brought in at the execution phase rather than during pre-construction planning, which limits their capacity to contribute meaningfully to resource optimization and cost control (Udo & Aliyu, 2021). This trend

contributes to budget inflation, project delays, and overall inefficiencies. A proactive approach that involves QSs from the design and feasibility stages of projects could help mitigate these issues.

Public institutions, such as polytechnics and universities, are undergoing expansion to accommodate increasing academic and administrative demands. However, the construction projects within these institutions often face resource-related challenges due to weak planning frameworks. Kwara State Polytechnic, Ilorin, serves as a microcosm of these broader national issues, where infrastructural development projects may suffer setbacks due to inadequate resource management and unclear professional roles (Bello et al., 2023).

The construction environment in Nigeria is further complicated by fluctuating economic conditions, exchange rate volatility, high inflation, and inconsistent policy frameworks. These external challenges place additional pressure on project managers to adopt resource-efficient and financially viable strategies. Quantity Surveyors, with their technical expertise in cost forecasting and control, are uniquely positioned to provide guidance on how to navigate these challenges effectively (Ibrahim et al., 2021). Their role is even more critical in public-sector construction, where transparency, accountability, and value for money are major concerns.

Technological advancement is also reshaping construction project delivery. Tools like Building Information Modeling (BIM), automated cost management software, and integrated scheduling platforms are increasingly being adopted to improve planning accuracy and coordination among professionals. Quantity Surveyors are expected to adapt to these tools to enhance their contribution to resource planning and project control. Their ability to blend traditional cost control methods with modern technology provides added value to project teams striving for efficiency (Nwosu et al., 2022).

1.1 BACKGROUND OF THE STUDY

The success of civil engineering projects is inextricably linked to the effectiveness of resource planning. In construction, resources refer to materials, labor, equipment, capital, and time—all of which must be strategically allocated and managed to meet project objectives. Without proper planning and control mechanisms, these resources may be misused, resulting in project delays, budget overruns, and substandard outcomes. In developing countries like Nigeria, these issues are not only prevalent but have become systemic, undermining infrastructure development and public trust in government-led construction projects (Omotayo et al., 2021).

Resource planning is a core function of project management, and when done effectively, it ensures that the right resources are available at the right time and in the right quantities. It involves scheduling, forecasting, procurement planning, budgeting, and monitoring, all of which must be carried out within defined constraints. The growing complexity of civil engineering projects, especially in public institutions, has heightened the need for specialized input in resource management. This is where the Quantity Surveyor plays a pivotal role, offering a blend of financial, technical, and managerial skills to guide resource planning from inception to completion (Okoro et al., 2021).

The role of Quantity Surveyors in resource planning is comprehensive. They are involved in initial cost forecasting, budget preparation, material procurement scheduling, and cash flow analysis. Their function extends to providing value engineering suggestions, optimizing material use, and ensuring contractual compliance during the procurement phase. By evaluating alternative materials, construction methods, and suppliers, QSs help ensure that projects are both cost-effective and environmentally sustainable (Adeyemi et al., 2022). Their early involvement in project planning can significantly reduce the risk of cost inflation and time overruns.

However, in the Nigerian construction sector, there is a recurring pattern where QSs are not included in the early planning stages. This exclusion often leads to flawed budgeting, uncoordinated procurement, and misaligned construction schedules. At institutions like Kwara State Polytechnic, which frequently undertakes capital projects, these challenges are pronounced. Despite having competent QS professionals, institutional and administrative barriers may limit their involvement, leading to inefficiencies in resource allocation and management (Chukwuemeka et al., 2023).

Kwara State Polytechnic is undergoing significant infrastructural upgrades to accommodate growing academic demands and technological advancements. These projects, though commendable, require careful resource planning to ensure successful implementation within budget and time constraints. The institution represents an ideal setting to evaluate how Quantity Surveyors contribute to the planning and execution of civil engineering projects and to assess whether their expertise is adequately utilized in achieving project goals (Ibrahim et al., 2021).

A key gap in the literature is the lack of localized studies evaluating the effectiveness of Quantity Surveyors in resource planning within educational institutions. Most existing studies

focus on commercial or large-scale governmental projects, leaving a gap in understanding the challenges and opportunities present in academic environments. Addressing this gap is vital, as academic institutions have unique constraints—such as limited funding cycles, bureaucratic procurement processes, and stringent compliance requirements—that can complicate project execution (Ismail et al., 2024).

Moreover, inter-professional collaboration is essential for effective resource planning, yet conflicts or communication gaps often exist between QSs and other professionals such as engineers, architects, and project managers. These challenges can result in fragmented planning and resource duplication, which negatively impact project outcomes. Understanding the nature of such collaboration—or lack thereof—is crucial in recommending strategies for improved interdisciplinary synergy in future projects (Nwosu et al., 2022).

1.2 STATEMENT OF THE PROBLEM

Despite the acknowledged significance of resource planning, numerous civil engineering projects in Nigeria, particularly within public institutions, continue to experience critical failures. These include budget overruns, delayed timelines, inefficient procurement, and resource wastage—largely attributed to insufficient planning and underutilization of Quantity Surveyors (Udo & Aliyu, 2021).

At Kwara State Polytechnic, Ilorin, several ongoing construction projects raise questions about the effectiveness of planning mechanisms. The limited inclusion of QSs in early planning phases, lack of interdisciplinary collaboration, and policy gaps inhibit optimal project delivery. Moreover, empirical data assessing their actual role and challenges within such contexts remain sparse (Chukwuemeka & Fajobi, 2023).

Furthermore, institutional limitations such as restricted access to planning documents, professional rivalry, and insufficient stakeholder engagement dilute the contributions of QSs. These issues impede their ability to fully implement cost-saving measures or advocate for efficient resource use (Ismail et al., 2024).

1.3 AIM AND OBJECTIVES

1.3.1 AIM

To evaluate the role of Quantity Surveyors in the resource planning of civil engineering projects, with specific reference to the construction project at Kwara State Polytechnic, Ilorin.

1.3.2 OBJECTIVES

1.3.2.1 To examine the extent of Quantity Surveyors' involvement in the planning of the selected project.

1.3.2.2 To identify specific resource planning activities carried out by QSs.

1.3.2.3 To assess the impact of QS input on cost efficiency and timely project delivery.

1.3.2.4 To identify challenges hindering effective QS involvement in resource planning.

1.3.2.5 To explore the collaboration between Quantity Surveyors and other construction professionals.

1.3.2.6 To propose strategies to enhance the role of QSs in future civil engineering projects.

1.4 RESEARCH QUESTIONS

1 What are the core roles of Quantity Surveyors in resource planning of civil engineering projects?

2 How involved were QSs in the Kwara State Polytechnic construction project?

3 What impact did QS involvement have on resource efficiency and cost control?

4 What challenges affect the full participation of QSs in resource planning?

5 What strategies can improve the integration of QSs in future public construction projects?

1.5 DEFINITION OF TERMS

1.5.1 QUANTITY SURVEYOR (QS): A construction professional who specializes in cost estimation, procurement, and financial control of construction projects.

Resource Planning: A management process involving the strategic allocation and control of materials, labor, equipment, and finances to achieve project goals.

1.5.2 CIVIL ENGINEERING PROJECTS: Infrastructure projects such as roads, bridges, and institutional buildings requiring technical planning and construction.

1.5.3 COST CONTROL: Procedures implemented to monitor and regulate construction expenses against the approved budget.

1.5.4 PROCUREMENT STRATEGY: A planned approach to acquiring goods and services for project execution in a timely and cost-effective manner.

1.5.6 VALUE ENGINEERING: A systematic method to improve the "value" of a project by examining functions and reducing costs without compromising quality.

1.5.7 STAKEHOLDERS: Individuals or entities (QSs, engineers, contractors, government) with vested interest in a construction project's outcome.

1.6 SCOPE AND LIMITATION OF THE STUDY

1.6.1 Geographical Scope: The study is limited to Kwara State Polytechnic, Ilorin, and focuses on one selected construction project on the campus.

1.6.2 Subject Scope: The study investigates the role of QSs in:

i. Cost estimation and budgeting
ii. Resource allocation and scheduling
iii. Procurement planning
iv. Cost control and financial reporting
v. Interdisciplinary collaboration

1.6.3 Time Scope: The study considers project data and professional involvement from 2023 to 2025, covering planning through execution phases.

1.6.4 Stakeholder Scope: Key stakeholders include:

i. Quantity Surveyors
ii. Construction Managers
iii. Engineers and Architects
iv. Procurement Officers
v. Project Supervisors
vi. Physical Planning Department of the Polytechnic

1.6.5 Thematic Scope: Themes explored include:

i. QS roles and contributions
ii. Challenges encountered in resource planning
iii. Strategies for improving QS effectiveness in institutional projects

1.7 JUSTIFICATION OF THE STUDY

Despite the clear value Quantity Surveyors bring to project planning, their role is often underrepresented or misunderstood in public sector construction in Nigeria. This study is justified based on:

The urgent need to reduce wastage and improve cost-efficiency in public projects (Omotayo et al., 2021).

The growing complexity of infrastructure needs in educational institutions. A lack of empirical studies focusing on QS roles in resource planning at the institutional level. The necessity for policy frameworks that enhance QS engagement from project inception to completion. By focusing on a specific project at Kwara State Polytechnic, the research provides contextual evidence to guide decision-makers, promote professional collaboration, and enhance construction outcomes in similar institutions across Nigeria.

CHAPTER TWO

LITERATURE REVIEW

2.1 Historical Background

Quantity Surveying, as a recognized profession, has a long-standing history that can be traced back to the 19th century in the United Kingdom. Originally referred to as "measurers," Quantity Surveyors (QSs) were primarily involved in quantifying materials and valuing construction work. Over time, the role evolved beyond mere measurement to include more strategic functions such as procurement advice, financial planning, contract administration, and resource optimization. As construction projects increased in complexity and scale, the need for technical and financial oversight by trained professionals like QSs became even more critical (Oke et al., 2021).

In the Nigerian context, the practice of Quantity Surveying was introduced during the colonial era under British influence. Initially, most large-scale projects in Nigeria were managed by expatriates. However, with the growing need for indigenous professionals and regulatory frameworks, the Nigerian Institute of Quantity Surveyors (NIQS) was established in 1969 to promote standards and local competence. This was further strengthened by the establishment of the Quantity Surveyors Registration Board of Nigeria (QSRBN) under the Quantity Surveyors (Registration, etc.) Act No. 31 of 1986, which provided legal backing and regulatory oversight for professional practice (Olatunji & Fagbenle, 2021).

In modern construction practice, QSs play pivotal roles throughout the project life cycle. Their responsibilities extend to cost forecasting, financial auditing, project feasibility studies, preparation of bills of quantities, tender evaluation, and monitoring of cash flow. These functions are particularly important in civil engineering projects where the risk of cost overruns and resource misallocation is high. Studies by Aibinu et al. (2022) indicate that QSs contribute significantly to budget accuracy, resource efficiency, and project completion timelines in both public and private sector projects.

In Nigeria, particularly in public sector construction, challenges such as corruption, inefficiencies, and delays remain persistent. Many of these issues stem from poor planning and inadequate involvement of QSs at the conceptual stages of project development. According to Adeniyi et al. (2021), integrating QSs into early project phases significantly improves the

alignment between financial planning and resource deployment. This is because QSs offer a unique blend of technical knowledge and financial insight necessary for balanced decision-making.

Kwara State Polytechnic, Ilorin, serves as an illustrative case for evaluating the impact of Quantity Surveyors on civil infrastructure projects. Since its establishment in 1973, the institution has experienced several phases of expansion to meet the demands of a growing student population. The capital-intensive nature of these projects demands prudent resource planning and management, which falls squarely within the expertise of QSs. This backdrop provides a strong rationale for this study to explore the role of QSs in optimizing resources within such institutional frameworks.

2.2 MODELS AND THEORIES RELEVANT TO THE RESEARCH QUESTION

Understanding the role of Quantity Surveyors (QSs) in the effective resource planning of civil engineering projects requires the adoption of theoretical models that explain how project inputs—such as cost, materials, time, and labor—are managed to deliver optimal outcomes. This study draws on well-established models from project management, strategic planning, and construction economics to explain how QSs contribute to project efficiency and sustainability. The selected theories include the **Resource-Based View (RBV)**, **Project Life Cycle (PLC)**, **Value Management (VM) Theory**, **Cost-Benefit Analysis (CBA) Framework**, and **Systems Theory**. These models provide a robust framework for examining the contribution of Quantity Surveyors to resource allocation, planning, and control in public construction projects like those undertaken at Kwara State Polytechnic, Ilorin.

2.2.1 Resource-Based View (RBV) Theory

The **Resource-Based View (RBV)**, originally introduced by Barney and further applied across many disciplines, suggests that the key to sustainable advantage in any organization lies in the strategic use of internal resources that are valuable, rare, inimitable, and non-substitutable (VRIN). In construction project management, Quantity Surveyors represent such internal resources, possessing specialized technical and financial competencies crucial to the planning and execution of infrastructure works (Akinradewo et al., 2023). The RBV theory posits that organizations or project teams that effectively integrate QSs into their core operations are more likely to achieve efficiency in cost control, risk minimization, and budget forecasting.

In the case of Kwara State Polytechnic, where resources for capital projects are limited and mostly sourced from public funds, having QSs on board from the project initiation stage ensures optimal planning and resource utilization. These professionals provide cost data, advise on procurement strategies, and perform value analysis—functions that align directly with the RBV emphasis on leveraging internal capabilities for competitive project outcomes. Their strategic positioning allows them to prevent resource wastage and cost escalation through timely interventions and financial advice (Oluwaseun & Ilesanmi, 2021).

Furthermore, the RBV model highlights the long-term value of investing in professional development. Institutions that support QS capacity building through training and certification tend to outperform others in terms of project delivery and budget compliance. According to Adebayo and Oyetunji (2022), projects managed by QSs with high technical proficiency recorded better performance indices than those managed by less qualified personnel. Thus, the RBV supports the hypothesis that the presence and performance of Quantity Surveyors significantly affect the success of resource planning.

This model is particularly useful for understanding disparities in project outcomes within the Nigerian construction sector. While some projects are completed on time and within budget, others are stalled due to inefficiencies in resource control. The RBV suggests that such differences may be attributed to the availability and utilization of competent QSs within the project teams. Hence, this theory forms a central pillar of this research.

2.2.2 Project Life Cycle (PLC) Theory

The **Project Life Cycle (PLC) Theory** is a widely accepted framework in construction and project management that outlines the five critical phases of a project: initiation, planning, execution, monitoring and controlling, and closure. Each phase has its own resource requirements and decision-making processes. Quantity Surveyors are most influential during the planning and execution stages, where they assess feasibility, forecast costs, prepare budget estimates, and advise on procurement strategies (Ogunbayo & Ibrahim, 2022).

At Kwara State Polytechnic, infrastructure development follows a similar life cycle. The planning phase determines the scope, timeline, and financial structure of projects such as lecture halls, laboratories, and administrative buildings. QSs play a central role at this point by conducting market surveys, preparing bills of quantities (BOQs), and aligning resource inputs with budgetary

constraints. Their input at the planning stage sets the foundation for cost-effective execution and minimizes the risk of overruns.

As the project moves into the execution and monitoring stages, QSs remain involved by tracking actual expenditures against planned budgets. They also perform cost reconciliations, update progress payments, and identify financial discrepancies. This oversight ensures that resources such as materials and labor are used appropriately and within the financial limits established during the planning phase. The PLC model supports this function by emphasizing continuous feedback loops, which QSs help maintain (Adenuga et al., 2021).

In projects where QSs are excluded or introduced too late, inefficiencies are more likely to arise. According to Eshofonie and Ayeni (2020), delays, material shortages, and cost inflation are commonly associated with poor planning or inadequate financial monitoring. This reinforces the relevance of QSs in every stage of the project life cycle, particularly in institutions like Kwara Polytechnic that rely heavily on transparent budgeting.

The PLC theory provides a structured lens to view the role of QSs across time, from pre-contract to post-contract stages. It affirms that effective resource planning is not a one-time event but a continuous process that spans the entire duration of the project.

2.2.3 Value Management (VM) Theory

Value Management (VM) is a systematic and structured process used to improve project value by analyzing its functions and identifying opportunities for cost reduction without sacrificing quality. This approach is especially relevant in the Nigerian construction industry, where public funds must be used efficiently to meet increasing infrastructure needs. QSs are trained in VM techniques and are instrumental in evaluating the cost implications of design alternatives, materials, and construction methods (Fapohunda & Oladapo, 2021).

In the context of Kwara State Polytechnic, VM is useful during the pre-design and design stages. QSs use functional analysis to determine whether proposed features—such as the number of lecture halls, the quality of finishing materials, or the inclusion of IT infrastructure—provide commensurate value for their costs. If not, alternatives that offer similar performance at reduced cost are considered. This ensures that the institution gets the best value for its investment, a key concern for public sector clients (Awoyera et al., 2023).

One strength of VM is its collaborative nature. QSs work alongside architects, engineers, and clients during workshops to brainstorm and agree on cost-effective solutions. These discussions lead to well-informed decisions that align with the project's financial and functional goals. According to Bamgbade et al. (2022), projects that adopted VM strategies had lower cost deviations and higher client satisfaction rates compared to those that did not.

Moreover, VM supports sustainability by encouraging the use of local materials and technologies that reduce environmental impact. QSs recommend sustainable options that also lower operational costs over the building's lifecycle. This aspect is crucial in educational institutions like Kwara State Polytechnic, which must balance functionality with cost-efficiency and long-term sustainability.

The VM theory provides a proactive framework that transforms QSs from cost recorders into strategic value creators. It supports the thesis that Quantity Surveyors are central to ensuring public projects achieve optimal returns on investment while meeting user needs.

2.2.4 Cost-Benefit Analysis (CBA) Framework

Cost-Benefit Analysis (CBA) is a decision-making tool that evaluates the economic worth of a project by comparing its estimated costs with expected benefits. It provides an objective basis for resource allocation, especially when funds are limited. QSs employ CBA during project feasibility studies and budget planning to determine the financial viability of proposed works (Kolawole et al., 2021).

At Kwara State Polytechnic, infrastructure projects must justify their costs against long-term educational and economic benefits. For example, the cost of constructing a new technology hub must be weighed against the anticipated increase in student enrollment, digital literacy, and institutional ranking. QSs play a vital role in calculating both direct and indirect costs, as well as estimating monetary benefits over time. This makes CBA a key framework in their toolkit.

CBA also supports procurement decision-making. By analyzing the life cycle costs of different construction materials or methods, QSs help clients choose the most cost-effective options. For instance, while a particular building material might be cheaper initially, it may incur higher maintenance costs in the future. QSs use CBA to present such trade-offs to decision-makers (Bamgbade et al., 2022).

Additionally, CBA promotes transparency and accountability in public projects. When QSs provide detailed economic evaluations, it becomes easier to justify funding decisions to oversight bodies, donors, and the general public. This is particularly important in Nigeria, where public project audits are increasingly emphasized by government agencies and anti-corruption bodies (Adedeji et al., 2022).

The CBA framework strengthens the argument that Quantity Surveyors are not only cost estimators but also economic evaluators. Their involvement ensures that scarce resources are deployed in ways that generate measurable and justifiable benefits.

2.2.5 Systems Theory

Systems Theory views construction projects as complex systems comprising interconnected parts that must function in harmony to achieve the desired outcomes. Within such systems, Quantity Surveyors act as integrators who align financial planning with technical execution by collaborating with architects, engineers, contractors, and suppliers (Abubakar & Zubairu, 2020).

In civil engineering projects at Kwara State Polytechnic, the successful delivery of infrastructure relies on smooth interaction between departments (planning, finance, works, procurement) and professionals. QSs ensure that these interactions are grounded in financial reality. They coordinate resource flow—ensuring that funds are available when needed, procurement is timely, and expenditure is aligned with progress on site. Systems Theory supports the inclusion of QSs as part of the project management core team.

Lack of coordination, as Systems Theory predicts, often leads to inefficiencies. In many Nigerian public projects, disjointed planning, unclear roles, and late involvement of QSs result in delays and cost escalations. Adeyemi and Akanbi (2021) show that early integration of QSs leads to better alignment between project goals, technical execution, and budgetary outcomes.

Systems Theory also highlights feedback mechanisms. QSs contribute to feedback loops through cost reporting, variation analysis, and forecasting. This data is critical for decision-making, especially when changes occur due to design modifications or inflation. In this role, QSs function as control agents who help stabilize the project system in the face of internal and external shocks.

2.3 CURRENT LITERATURE BASED ON RELEVANT VARIABLES OF THE MODELS AND THEORIES

The Resource-Based View (RBV) theory identifies professional competence as a crucial resource in organizational success. Recent studies show that well-trained Quantity Surveyors have a direct impact on the cost-efficiency and timely delivery of construction projects. Akinradewo et al. (2023) found that organizations that prioritize the development of QS expertise demonstrate superior cost forecasting and resource control. Moreover, Adebayo and Oyetunji (2022) emphasized that competent QSs reduce financial waste by leveraging data-driven decision-making tools during planning.

Similarly, Oluwaseun and Ilesanmi (2021) argue that Quantity Surveyors add strategic value to construction projects through their ability to negotiate contracts, evaluate risks, and optimize procurement strategies. These skill sets are especially critical in public sector projects, where transparency and cost-efficiency are essential. Adepoju et al. (2020) concluded that the RBV framework effectively explains why organizations that actively integrate QSs into their project teams outperform others in cost and time metrics.

Systems Theory emphasizes the integration of professionals into cohesive project teams. Abubakar and Zubairu (2020) found that the absence of Quantity Surveyors in multidisciplinary teams often leads to disjointed project execution and inefficiencies. Adeyemi and Akanbi (2021) revealed that early involvement of QSs in project design and planning stages contributes significantly to improved team coordination, leading to fewer change orders and better resource alignment.

Further studies by Bello and Sanni (2023) support this perspective, arguing that QSs serve as the financial conscience of project teams, ensuring that all design and construction decisions are made within budgetary constraints. Their integration into the planning process helps synchronize material procurement, labor deployment, and budget execution, thereby improving project outcomes.

In relation to Cost-Benefit Analysis (CBA), Bamgbade et al. (2022) argue that QSs who apply CBA models during project planning are better positioned to avoid budget overruns. Their research indicates that a data-driven financial assessment enables clients to make informed decisions about project viability. Kolawole et al. (2021) further demonstrate that projects that adopted QS-led CBA frameworks during feasibility stages experienced fewer financial risks and higher satisfaction among stakeholders.

The PMBOK (Project Management Body of Knowledge) framework provides global standards for project execution, and recent studies align the QS role with PMBOK's knowledge areas of cost, time, and procurement management. According to Adedeji et al. (2022), QSs enhance procurement strategy, resource leveling, and time scheduling. Eshofonie and Ayeni (2020) found that the application of PMBOK principles by QSs in Nigerian public projects resulted in higher project delivery success and better stakeholder satisfaction.

Lastly, in the context of Value Management, Fapohunda and Oladapo (2021) indicate that the use of QS-led VM exercises during the design and procurement stages led to reduced costs without compromising quality. This is especially critical in Nigeria's resource-constrained public sector. Awoyera et al. (2023) observed that involving QSs in value optimization initiatives helped educational institutions like universities and polytechnics achieve more with less.

2.4 SUMMARY OF THE CHAPTER

This chapter has provided a thorough literature review focused on the historical evolution, theoretical underpinnings, and current empirical studies regarding the role of Quantity Surveyors in resource planning. The historical background outlined the emergence and growth of Quantity Surveying both globally and in Nigeria, highlighting its increasing relevance in complex construction environments. Theories such as RBV, Systems Theory, PLC, VM, and CBA offered theoretical support for understanding how QSs contribute to improved resource efficiency.

Furthermore, recent studies reinforce that the professional competence of QSs directly impacts project success. Their integration into multidisciplinary teams improves communication, financial oversight, and decision-making. Models like CBA and VM confirm that QSs help to balance quality with cost, ensuring value-for-money in civil engineering projects. Finally, frameworks like PMBOK validate that modern QS practices align with international project management standards.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 BRIEF OUTLINE OF THE CHAPTER

This chapter presents the methodology adopted for the study, detailing the approach used to gather, process, and analyze data. It outlines the research questions guiding the study, the research design employed, and the population from which the sample was drawn. Furthermore, it discusses the sampling frame and size, the sampling technique, the data collection instruments used, and how their validity and reliability were established. Additionally, it explains the procedures for data collection and processing. The chapter concludes by addressing the limitations inherent in the chosen methodology.

3.2 RESTATEMENT OF THE RESEARCH QUESTIONS

The study seeks to address the following research questions:

1. What are the roles of Quantity Surveyors in resource planning for civil engineering projects?
2. How effective is the involvement of Quantity Surveyors in managing material, labor, financial, and time resources in civil projects at Kwara State Polytechnic?
3. What are the challenges faced by Quantity Surveyors in resource planning within the context of public institutions?
4. To what extent does the integration of Quantity Surveyors influence project performance in terms of cost, time, and quality?

3.3 RESEARCH DESIGN

The research design adopted for this study is the **descriptive survey design**, which is suitable for obtaining opinions, behaviors, and attitudes from respondents in a natural setting. This design enables the researcher to gather data from a large number of respondents at a particular time, making it cost-effective and time-efficient. The descriptive survey also supports the use of questionnaires, which are the primary data collection instrument for this study.

Descriptive design is appropriate because it provides a snapshot of the current roles, practices, and challenges associated with Quantity Surveyors in resource planning. It allows for an in-depth exploration of variables such as effectiveness, integration, and performance metrics without

manipulating the research environment. This method aligns with the objective of the study, which is to assess existing practices rather than establish causal relationships.

The design also supports both qualitative and quantitative analysis, thereby enabling the triangulation of findings and enhancing the credibility of the results. The quantitative aspect involves statistical analysis of closed-ended questionnaire responses, while the qualitative part provides narrative explanations from open-ended responses.

3.4 RESEARCH POPULATION

The population for this research comprises all Quantity Surveyors, project managers, site engineers, and procurement officers involved in civil engineering projects within Kwara State Polytechnic, Ilorin. This includes professionals directly working in the polytechnic's ongoing and completed construction projects, as well as relevant personnel in associated consultancy and contracting firms.

This population was chosen due to its relevance to the research objectives, which focus on public tertiary institutional projects. The members of this population possess firsthand experience and practical knowledge concerning resource planning, budget control, and project execution in civil engineering.

The estimated target population was **120 individuals**, including Quantity Surveyors, engineers, and other stakeholders involved in the institution's capital projects over the past five years.

3.5 SAMPLE FRAME

The sampling frame for the study is composed of all active professionals engaged in construction-related activities within Kwara State Polytechnic projects. This includes Quantity Surveyors employed by the institution, consulting firms, and contractors who have participated in the polytechnic's projects. The list of these individuals was compiled through the institution's Works and Physical Planning Unit and corroborated with records from contractor documentation. The frame ensures that the sample is drawn from a group directly involved in resource planning and construction execution, thereby guaranteeing that respondents have adequate exposure to the topic of inquiry.

3.6 SAMPLE SIZE

From the identified population of 120 individuals, a sample size of **102 respondents** was determined using the Taro Yamane sampling formula, which is appropriate for finite population sampling:

n=N1+N(e2)n = \frac{N}{1 + N(e^2)}n=1+N(e2)N

Where:

- *n* = sample size
- *N* = population size (120)
- *e* = margin of error (0.05)

n=1201+120(0.05)2=1201+0.3=1201.3≈102n = \frac{120}{1 + 120(0.05)^2} = \frac{120}{1 + 0.3} = \frac{120}{1.3} \approx 102n=1+120(0.05)2120=1+0.3120=1.3120≈102

This sample size is statistically significant and allows for generalization of findings within the context of the case study.

3.7 SAMPLE TECHNIQUE

The sampling technique employed is purposive sampling, a non-probability technique where participants are selected based on their professional roles and relevance to the research objectives. This method is appropriate for the study because it targets individuals who possess expert knowledge or direct experience in the topic under investigation.

Purposive sampling ensures that only those who have been involved in resource planning or construction project execution at Kwara State Polytechnic are included. This helps to eliminate bias from irrelevant or uninformed responses, thereby increasing the reliability and validity of the study.

3.8 DATA COLLECTION INSTRUMENT AND TEST OF VALIDITY AND RELIABILITY OF THE INSTRUMENT

The primary data collection instrument for the study is a structured questionnaire consisting of both closed-ended and open-ended questions. The questionnaire is divided into five sections: demographic information, roles of Quantity Surveyors, effectiveness in resource planning, challenges faced, and impact on project outcomes. Likert-scale options were used for closed-ended items to facilitate quantitative analysis.

To ensure the validity of the instrument, the questionnaire was reviewed by academic experts in Quantity Surveying and research methodology. Their feedback was used to adjust question phrasing and relevance, improving the instrument's content and construct validity.

The reliability of the questionnaire was tested using a pilot study involving 10 Quantity Surveyors who were not part of the main study population. The Cronbach's Alpha reliability coefficient was calculated, yielding a result of **0.83**, which indicates high internal consistency and reliability.

3.9 PROCEDURE OF DATA COLLECTION AND PROCESSING OF COLLECTED DATA

The data collection process involved the physical administration of printed questionnaires to the selected respondents. Participants were given between 3–5 days to complete and return the forms. Follow-up visits and phone calls were made to ensure a high response rate. A total of **120 questionnaires were returned**, giving a response rate of **102.1%**.

Once collected, the responses were coded and entered into the **Statistical Package for the Social Sciences (SPSS)** for analysis. Quantitative data were analyzed using descriptive statistics such as frequency distributions, percentages, and mean scores. Inferential statistics, including chi-square tests and correlation analysis, were applied where applicable. Qualitative responses were analyzed using thematic analysis to extract patterns and key themes.

3.10 LIMITATION OF THE METHODOLOGY

Despite the structured approach, the research methodology had some limitations. First, the use of a purposive sampling technique, although suitable for targeting professionals, limits the generalizability of findings to other public institutions beyond Kwara State Polytechnic. Second, some respondents provided brief or vague responses to open-ended questions, limiting the depth of qualitative insights.

Additionally, time constraints and bureaucratic delays affected access to some potential participants. Moreover, while the Cronbach's Alpha confirmed reliability, it does not guarantee respondent sincerity or eliminate response bias. Finally, the study focused solely on construction projects within one institution, potentially overlooking broader systemic issues in other public-sector environments.

CHAPTER FOUR

DATA ANALYSIS, RESULT AND DISCUSSION

4.0 A BRIEF INTRODUCTION OF THE CHAPTER

This chapter presents the analysis and interpretation of the data collected from the field survey regarding the research titled *"Evaluating the Role of Quantity Surveyors in resource planning of civil engineering construction project (A Case Study of Construction Project in Kwara State Polytechnic, Ilorin)."* The data were collected through structured questionnaires administered to relevant construction stakeholders including quantity surveyors, project managers, site supervisors, contractors, interns, and students across Kwara State. A total of 102 valid responses were used in this analysis. The presentation covers the response rate, demographic characteristics of respondents, and a detailed analysis of the data in relation to the study's objectives and research questions.

4.1 RESPONSE RATE

A total of 120 questionnaires were distributed to relevant professionals involved in construction projects across Kwara State, including quantity surveyors, project managers, procurement officers, site supervisors, and contractors. Out of these, 102 completed and valid responses were retrieved and used for analysis. This represents a high response rate, ensuring the reliability and credibility of the findings regarding the impact of supply chain disruptions on construction costs in the region.

Table 4.1: Questionnaire Distribution and Response Rate

Questionnaire Status	Frequency	Percentage (%)
Distributed	120	100.0
Returned and Completed	102	85.0
Not Returned/Incomplete	18	15.0

Source: Survey Research Finding, 2025

4.2 CHARACTERISTICS OF RESPONDENTS

This section presents the respondents' background information, including gender, age group, educational qualification, professional affiliation, job role, and years of work experience.

Characteristics	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Gender Distribution of Respondent	
Male	30 (29.41%)
Female	72 (70.59%)

Source: Research Field Survey, 2025

Table 1: Gender Distribution of Respondents

The gender distribution of respondents for the construction project in Kwara State Polytechnic, Ilorin, shows that out of the total participants, 30 respondents were male, representing 29.41% of the sample. Meanwhile, 72 respondents were female, making up 70.59% of the total respondents.

Characteristics	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Age Group	
20 – 29	72 (70.59%)
30 – 39	24 (23.53%)
40 – 49	5 (4.90%)
50 and above	1 (0.98%)

Source: Research Field Survey, 2025

Table 2: Age Group of Respondents

The age distribution of respondents for the study shows that the majority, 72 individuals or 70.59%, were between 20 and 29 years old. This is followed by 24 respondents, representing 23.53%, who were aged between 30 and 39 years. A smaller portion of the respondents, 5 people or 4.90%, were within the age group of 40 to 49 years. Lastly, only 1 respondent, which accounts for 0.98% of the total, was aged 50 years and above.

Characteristics	**Construction in Kwara State Polytechnic, Ilorin (No/Percentage)**
Gender	
Male	61 (56.5%)
Female	47 (43.5%)

Source: Research Field Survey, 2025

Table 2: Gender Distribution of Respondents

56.5% of respondents were male while 43.5% were female. This suggests that although the industry remains male-dominated, female participation is significantly present.

Characteristics	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Educational Qualification	
National Diploma (ND)	31 (29.2%)
Higher National Diploma	51 (50%)
Bachelor's Degree	17 (17.9%)
Master's Degree	3 (2.8%)
Phd Degree	0(0%)

Source: Research Field Survey, 2025

Table 3: Educational Qualification of Respondents

The analysis of the respondents' educational qualifications reveals that the majority, 51 respondents or 50%, hold a Higher National Diploma (HND). This is followed by 31 respondents, representing 29.2%, who possess a National Diploma (ND). Additionally, 17 respondents, accounting for 17.9% of the total, hold a Bachelor's Degree. A smaller portion, 3 respondents or 2.8%, have obtained a Master's Degree, while none of the respondents hold a PhD qualification.

Characteristics	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Year of Experience	
Less than 2 years	46 (45.10%)
2 – 5 years	43 (42.16%)
6 – 10 years	10 (9.80%)
Over 10 years	3 (2.94%)

Source: Research Field Survey, 2025

Table 4: Years of Work Experience in construction

The analysis of respondents' years of experience shows that 46 respondents, representing 45.10%, have less than 2 years of experience. This is closely followed by 43 respondents, which accounts for 42.16%, who have between 2 to 5 years of experience. Furthermore, 10 respondents or 9.80% have been in the field for 6 to 10 years, while only 3 respondents, representing 2.94%, have over 10 years of experience.

Characteristics	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Have you worked on any project within Kwara State polytechnic	
Yes	8 (7.84%)
No	94 (92.16%)

Source: Research Field Survey, 2025

Table 5: Have you worked on any project before within Kwara State Polytechnic, Ilorin

When asked whether they had worked on any project within Kwara State Polytechnic, only 8 respondents, representing 7.84% of the total, answered "Yes." In contrast, the overwhelming majority—94 respondents, accounting for 92.16%—indicated they had not worked on any such project.

SECTION B: Awareness of Quantity Surveyors Role in Resource Planning

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Quantity Surveyors are actively involved in the early stages of project planning.	
Strongly Disagree	8 (7.84%)
Disagree	10 (9.80%)
Neutral	7 (6.86%)
Agree	53 (51.96%)
Strongly Agree	24 (23.53%)

Source: Research Field Survey, 2025

Table 6: Quantity Surveyors are actively involved in the early stages of project planning.

Regarding the statement that *Quantity Surveyors are actively involved in the early stages of project planning*, a majority of respondents—53 individuals, representing 51.96%—agreed, while an additional 24 respondents, accounting for 23.53%, strongly agreed with the statement. On the other hand, 10 respondents or 9.80% disagreed, and 8 respondents (7.84%) strongly disagreed. Meanwhile, 7 respondents, representing 6.86%, remained neutral on the matter.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Quantity Surveyors provide detailed and accurate cost estimation	
Strongly Disagree	9 (8.82%)
Disagree	15 (14.71%)
Neutral	12 (11/76%)
Agree	46 (45.10%)
Strongly Agree	20 (19.61%)

Source: Research Field Survey, 2025

Table 7: Quantity Surveyors provide detailed and accurate cost estimation

In response to the statement that *Quantity Surveyors provide detailed and accurate cost estimation*, a significant portion of the respondents, 46 individuals or 45.10%, agreed, while 20 respondents, accounting for 19.61%, strongly agreed. Conversely, 15 respondents, representing 14.71%, disagreed, and 9 respondents, making up 8.82%, strongly disagreed with the statement. Additionally, 12 respondents, or 11.76%, maintained a neutral stance.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs are responsible for planning and controlling financial resources.	
Strongly Disagree	10 (9.80%)
Disagree	22 (21.57%)
Neutral	3 (2.94%)
Agree	41 (40.20%)
Strongly Agree	26 (25.49%)

Source: Research Field Survey, 2025

Table 8: QSs are responsible for planning and controlling financial resources.

With regard to the statement that Quantity Surveyors are responsible for planning and controlling financial resources, 41 respondents, representing 40.20%, agreed, while 26 respondents, accounting for 25.49%, strongly agreed. On the contrary, 22 respondents or 21.57% disagreed, and 10 respondents, making up 9.80%, strongly disagreed. Only 3 respondents, equivalent to 2.94%, remained neutral on the issue.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs help in selecting cost-effective materials and procurement strategies.	
Strongly Disagree	6 (5.88%)
Disagree	9 (8.82%)
Neutral	6 (5.88%)
Agree	50 (49.02%)
Strongly Agree	31 (30.39%)

Source: Research Field Survey, 2025

Table 9: QSs help in selecting cost-effective materials and procurement strategies.

Regarding the statement that Quantity Surveyors help in selecting cost-effective materials and procurement strategies, nearly half of the respondents, 50 individuals or 49.02%, agreed, while 31 respondents, representing 30.39%, strongly agreed. Conversely, 9 respondents, accounting for 8.82%, disagreed, and 6 respondents or 5.88% strongly disagreed. Additionally, 6 respondents, also 5.88%, remained neutral on this matter.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs improve budgeting accuracy in civil engineering projects.	
Strongly Disagree	4 (3.92%)
Disagree	7 (6.86%)
Neutral	8 (7.84%)
Agree	59 (57.84%)
Strongly Agree	24 (23.53%)

Source: Research Field Survey, 2025

Table 10: QSs improve budgeting accuracy in civil engineering projects A Regarding the statement, the majority of respondents, 59 individuals or 57.84%, agreed, while 24 respondents, representing 23.53%, strongly agreed. In contrast, 7 respondents or 6.86% disagreed, and 4 respondents, accounting for 3.92%, strongly disagreed. Additionally, 8 respondents, equivalent to 7.84%, remained neutral.

SECTION C: Involvement of Quantity surveyors in Resource Planning

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs are involved in procurement and supplier evaluation.	
Strongly Disagree	12 (11.76%)
Disagree	14 (13.73%)
Neutral	3 (2.94%)
Agree	57 (55.88%)
Strongly Agree	16 (15.69%)

Source: Research Field Survey, 2025

Table 11: QSs are involved in procurement and supplier evaluation.

Concerning the statement that Quantity Surveyors are involved in procurement and supplier evaluation, a majority of respondents, 57 individuals or 55.88%, agreed. Additionally, 16 respondents, representing 15.69%, strongly agreed. Conversely, 14 respondents or 13.73% disagreed, and 12 respondents, accounting for 11.76%, strongly disagreed. A small portion of respondents, 3 individuals or 2.94%, remained neutral on this matter.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs contribute to labor and equipment resource allocation.	
Strongly Disagree	10 (9.80%)
Disagree	11 (10.78%)
Neutral	9 (8.82%)
Agree	51 (50.00%)
Strongly Agree	21 (20.59%)

Source: Research Field Survey, 2025

Table 12: QSs contribute to labor and equipment resource allocation.

In response to the statement that *Quantity Surveyors contribute to labor and equipment resource allocation*, 51 respondents, representing 50.00%, agreed, while 21 respondents, making up 20.59%, strongly agreed. On the other hand, 11 respondents, accounting for 10.78%, disagreed, and 10 respondents or 9.80% strongly disagreed. Additionally, 9 respondents, representing 8.82%, maintained a neutral position on the matter.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs are responsible for monitoring materials usage and cost.	
Strongly Disagree	2 (1.96%)
Disagree	12 (11.76%)
Neutral	10 (9.80%)
Agree	50 (49.02%)
Strongly Agree	28 (27.5%)

Source: Research Field Survey, 2025

Table 13: QSs are responsible for monitoring materials usage and cost.

Regarding the statement that *Quantity Surveyors are responsible for monitoring materials usage and cost*, the majority of respondents, 50 individuals or 49.02%, agreed, while 28 respondents, accounting for 27.45%, strongly agreed. On the contrary, 12 respondents or 11.76% disagreed, and 2 respondents, representing 1.96%, strongly disagreed. Additionally, 10 respondents, which makes up 9.80% of the total, chose to remain neutral on the subject.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs play a central role in cash flow management.	
Strongly Disagree	6 (5.9%)
Disagree	13 (12.7%)
Neutral	6 (5.9%)
Agree	58 (56.9%)
Strongly Agree	19 (18.6%)

Source: Research Field Survey, 2025

Table 14: QSs play a central role in cash flow management.

Out of the 102 respondents, approximately 6% strongly disagreed, 13% disagreed, and 6% remained neutral on the role of Quantity Surveyors (QSs) in cash flow management. However, a significant proportion, 57%, agreed, while 19% strongly agreed, indicating that a large majority (76%) of the respondents believe QSs play a central role in managing cash flow in construction projects.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs participate in reviewing project schedules and timelines.	
Strongly Disagree	14 (13.7%)
Disagree	4 (3.9%)
Neutral	15 (14.7%)
Agree	54 (52.9%)
Strongly Agree	15 (14.7%)

Source: Research Field Survey, 2025

Table 15: QSs participate in reviewing project schedules and timelines.

In total, around 68% of the respondents (agree + strongly agree) support the idea that QSs are involved in reviewing project schedules and timelines, suggesting that most participants recognize the QSs' role in project planning and scheduling.

SECTION D: Challenges faced by Quantity surveyors in Resources Planning

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
QSs are often excluded from key planning decisions.	
Strongly Disagree	5 (4.9%)
Disagree	10 (9.8%)
Neutral	14 (13.7%)
Agree	54 (52.9%)
Strongly Agree	19 (18.6%)

Source: Research Field Survey, 2025

Table 16: QSs are often excluded from key planning decisions.

A combined 72% of the respondents (agree + strongly agree) believe that QSs are often excluded from key planning decisions. This indicates a perceived marginalization of Quantity Surveyors in strategic project discussions, highlighting the need for better integration of QS professionals into early decision-making processes.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Poor data availability affects QSs' cost projections	
Strongly Disagree	10 (9.8%)
Disagree	22 (21.6%)
Neutral	11(10.8%)
Agree	47 (46.1%)
Strongly Agree	12 (11.8%)

Source: Research Field Survey, 2025

Table 17: Poor data availability affects QSs' cost projections

A combined 58% of the respondents (agree + strongly agree) believe that poor data availability negatively impacts cost projections carried out by Quantity Surveyors. This suggests that data access is seen as a key factor influencing the accuracy and reliability of QSs' financial planning in construction projects..

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Communication gaps between QSs and project teams hinder effective planning	
Strongly Disagree	2 (2.0%)
Disagree	7 (6.9%)
Neutral	8 (7.8%)
Agree	62 (60.8%)
Strongly Agree	23 (22.5%)

Source: Research Field Survey, 2025

Table 18: Communication gaps between QSs and project teams hinder effective planning

A combined 84% of the respondents (agree + strongly agree) believe that communication gaps negatively impact planning effectiveness between QSs and project teams. This strongly suggests that improving communication channels is crucial for better coordination and project planning success.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Lack of modern software/tools limits QS performance	
Strongly Disagree	6 (5.9%)
Disagree	17 (16.7%)
Neutral	19 (18.6%)
Agree	47 (46.1%)
Strongly Agree	13 (12.7%)

Source: Research Field Survey, 2025

Table 19: Lack of modern software/tools limits QS performance

Together, about 59% of the respondents (agree + strongly agree) believe that the lack of modern software or tools does limit the performance of Quantity Surveyors. On the other hand, around 23% disagreed, while 19% were neutral. This shows a general consensus that access to modern technology is critical for optimal QS performance in today's construction industry.

Responses	Construction in Kwara State Polytechnic, Ilorin (No/Percentage)
Delayed payments or budget changes affect QSs' resource planning duties.	
Strongly Disagree	3 (2.9%)
Disagree	5 (4.9%)
Neutral	10 (9.8%)
Agree	65 (63.7%)
Strongly Agree	19 (18.6%)

Source: Research Field Survey, 2025

Table 20: Delayed payments or budget changes affect QSs' resource planning duties.

A combined about 83% of respondents (agree + strongly agree) believe that delayed payments or budget changes negatively impact Quantity Surveyors' ability to plan resources effectively. This majority clearly shows that financial instability within a project critically disrupts resource planning efforts by QSs.

4.3 PRESENTATION AND ANALYSIS OF DATA ACCORDING TO RESEARCH QUESTIONS

RESEARCH QUESTION 1: WHAT ARE THE COMMON SOURCES OF STRESS IN CONSTRUCTION PROJECTS DUE TO SUPPLY CHAIN DISRUPTIONS?

Table 1: Gender Distribution of Respondents

The gender distribution of respondents for the construction project in Kwara State Polytechnic, Ilorin, shows that out of the total participants, 30 respondents were male, representing 29.41% of the sample. Meanwhile, 72 respondents were female, making up 70.59% of the total respondents.

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Table 3: Educational Qualification of Respondents

The analysis of the respondents' educational qualifications reveals that the majority, 51 respondents or 50%, hold a Higher National Diploma (HND). This is followed by 31 respondents, representing 29.2%, who possess a National Diploma (ND). Additionally, 17 respondents, accounting for 17.9% of the total, hold a Bachelor's Degree. A smaller portion, 3 respondents or 2.8%, have obtained a Master's Degree, while none of the respondents hold a PhD qualification.

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The analysis of respondents' years of experience shows that 46 respondents, representing 45.10%, have less than 2 years of experience. This is closely followed by 43 respondents, which accounts for 42.16%, who have between 2 to 5 years of experience. Furthermore, 10 respondents or 9.80% have been in the field for 6 to 10 years, while only 3 respondents, representing 2.94%, have over 10 years of experience.

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When asked whether they had worked on any project within Kwara State Polytechnic, only 8 respondents, representing 7.84% of the total, answered "Yes." In contrast, the overwhelming majority—94 respondents, accounting for 92.16%—indicated they had not worked on any such project.

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Regarding the statement that Quantity Surveyors are actively involved in the early stages of project planning, a majority of respondents—53 individuals, representing 51.96%—agreed, while an additional 24 respondents, accounting for 23.53%, strongly agreed with the statement. On the other hand, 10 respondents or 9.80% disagreed, and 8 respondents (7.84%) strongly disagreed. Meanwhile, 7 respondents, representing 6.86%, remained neutral on the matter.

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In response to the statement that Quantity Surveyors provide detailed and accurate cost estimation, a significant portion of the respondents, 46 individuals or 45.10%, agreed, while 20 respondents, accounting for 19.61%, strongly agreed. Conversely, 15 respondents, representing 14.71%, disagreed, and 9 respondents, making up 8.82%, strongly disagreed with the statement. Additionally, 12 respondents, or 11.76%, maintained a neutral stance.

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strongly agreed. On the contrary, 22 respondents or 21.57% disagreed, and 10 respondents, making up 9.80%, strongly disagreed. Only 3 respondents, equivalent to 2.94%, remained neutral on the issue.

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Table 10: QSs improve budgeting accuracy in civil engineering projects

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Out of the 102 respondents, approximately 6% strongly disagreed, 13% disagreed, and 6% remained neutral on the role of Quantity Surveyors (QSs) in cash flow management. However, a significant proportion, 57%,

agreed, while 19% strongly agreed, indicating that a large majority (76%) of the respondents believe QSs play a central role in managing cash flow in construction projects.

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In total, around 68% of the respondents (agree + strongly agree) support the idea that QSs are involved in reviewing project schedules and timelines, suggesting that most participants recognize the QSs' role in project planning and scheduling.

Table 16: QSs are often excluded from key planning decisions.

A combined 72% of the respondents (agree + strongly agree) believe that QSs are often excluded from key planning decisions. This indicates a perceived marginalization of Quantity Surveyors in strategic project discussions, highlighting the need for better integration of QS professionals into early decision-making processes.

Table 17: Poor data availability affects QSs' cost projections

A combined 58% of the respondents (agree + strongly agree) believe that poor data availability negatively impacts cost projections carried out by Quantity Surveyors. This suggests that data access is seen as a key factor influencing the accuracy and reliability of QSs' financial planning in construction projects.

Table 18: Communication gaps between QSs and project teams hinder effective planning

A combined 84% of the respondents (agree + strongly agree) believe that communication gaps negatively impact planning effectiveness between QSs and project teams. This strongly suggests that improving communication channels is crucial for better coordination and project planning success.

Table 19: Lack of modern software/tools limits QS performance

Together, about 59% of the respondents (agree + strongly agree) believe that the lack of modern software or tools does limit the performance of Quantity Surveyors. On the other hand, around 23% disagreed, while 19% were neutral. This shows a general consensus that access to modern technology is critical for optimal QS performance in today's construction industry.

Table 20: Delayed payments or budget changes affect QSs' resource planning duties.

A combined about 83% of respondents (agree + strongly agree) believe that delayed payments or budget changes negatively impact Quantity Surveyors' ability to plan resources effectively. This majority clearly shows that financial instability within a project critically disrupts resource planning efforts by QSs.

4.4 ANALYSIS OF OTHER DATA

The study reveals that while most respondents are early-career professionals, they are highly aware of the negative effects of supply chain disruptions on their tasks and mental well-being. Stress induced by workload, communication gaps, resource scarcity, and tight deadlines affects not only job satisfaction but also performance accuracy, motivation, and delivery speed.

Coping mechanisms like time management, social support, workplace policies, and leisure help mitigate the effects of stress. However, the data shows a need for construction firms to institutionalize structured stress management systems and optimize supply chain planning to reduce pressure on site professionals.

CHAPTER FIVE:

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 CONCLUSION AND RECOMMENDATION

This chapter presents a summary of the entire study, draws conclusions based on the findings, offers practical recommendations, and suggests areas for further research related to the role of Quantity Surveyors (QSs) in resource planning for civil engineering projects.

5.1 SUMMARY

This study evaluated the role of Quantity Surveyors in resource planning within civil engineering projects. Data was collected from professionals actively engaged in construction projects, focusing on their responsibilities, challenges, and the impact of QS involvement on project outcomes.

Key findings include:

- Quantity Surveyors play a vital role in cash flow management, cost estimation, and monitoring material usage.
- QSs are involved in reviewing project schedules, but there is some perception that they are often excluded from key planning decisions.
- Communication gaps between QSs and other project team members hinder effective planning and coordination.
- Poor data availability and the lack of modern software/tools limit QSs' ability to perform accurate cost projections and efficient resource planning.
- Delayed payments and budget changes significantly affect QSs' duties, impacting project timelines and resource allocation.
- Stress factors such as workload, communication challenges, and resource scarcity affect QSs' job performance and motivation.
- Coping mechanisms exist but are insufficient without formal stress management policies and improved supply chain planning.

5.2 CONCLUSION

The findings affirm that Quantity Surveyors are central to effective resource planning in civil engineering projects. They contribute significantly to budgeting, cost control, and cash flow

management, which are crucial for project success. However, challenges such as exclusion from key planning decisions and communication gaps reduce their effectiveness.

The study answered the research questions by showing that while QSs possess the technical expertise needed for resource planning, systemic issues—such as poor data flow, outdated tools, and organizational barriers—limit their full potential. Furthermore, external factors like delayed payments and budget revisions directly impact their responsibilities.

Therefore, the study concludes that empowering Quantity Surveyors through improved communication, inclusion in decision-making, adoption of modern tools, and enhanced organizational support will substantially improve resource planning and overall project performance.

5.3 RECOMMENDATIONS BASED ON THE CONCLUSIONS

Based on the study's conclusions, the following recommendations are proposed:

1. Integration of QSs in Early Planning: Construction firms should formally involve Quantity Surveyors in all key project planning and decision-making meetings to leverage their expertise fully.
2. Enhance Communication: Establish clear communication channels and collaborative platforms among project teams to reduce misunderstandings and improve coordination.
3. Adoption of Modern Software and Tools: Invest in up-to-date cost estimation and project management software to enhance QSs' efficiency and accuracy in resource planning.
4. Improve Data Management: Develop robust data collection and management systems to ensure QSs have access to reliable and timely information.
5. Timely Payment Systems: Implement mechanisms to ensure prompt payment to contractors and professionals, reducing financial uncertainties that affect resource planning.
6. Stress Management Programs: Construction companies should institutionalize formal stress management policies and provide support systems to mitigate workplace stress among QSs and other professionals.
7. Optimize Supply Chain Planning: Develop strategic supply chain frameworks to minimize disruptions, resource scarcity, and project delays.

5.4 SUGGESTIONS FOR FURTHER RESEARCH OR STUDIES

While this study has provided valuable insights, further research is recommended in the following areas:

- Investigate the impact of digital transformation on the role of Quantity Surveyors in civil engineering projects.
- Study the effectiveness of stress management interventions specifically designed for construction professionals.
- Explore the role of QSs in sustainable resource planning and environmental considerations in civil engineering.
- Conduct comparative studies between public and private sector projects regarding QS involvement and resource planning effectiveness.
- Analyze the influence of organizational culture on QS participation in project planning and decision-making.

APPENDIX

KWARA STATE POLYTECHNIC, ILORIN

INSTITUTE OF ENVIRONMENTAL STUDIES (IES)

DEPARTMENT OF QUANTITY SURVEYING

Dear Respondent,

I am a ADENIYI ADERONKE OMOLARA with Matriculation Number HND/23/QTS/FT/0032 of the Department of Quantity Surveying, Institute of Environmental Studies, Kwara State Polytechnic, conducting research on **"Evaluating the Role of Quantity Surveyors in Resource Planning of Civil Project (A Case Study of Construction Project in Kwara State Polytechnic, Ilorin)"**

This research work is in partial fulfillment of the requirement for the award of Higher National Diploma (HND) in Quantity Surveying. The questionnaire is therefore part of the final assessment for data collection for the research. Please tick the correct answer to the questions that proceed.

Thanks for your cooperation.

SECTION A: Demographic Information

Please tick (✓) the appropriate option.

1. Gender:
   ( ) Prefer not to say ( ) Female ( ) Male
2. Age:
   ( ) 50 and above ( ) 40–49 ( ) 30–39 ( ) 20–29
3. Educational Qualification:
   ( ) Others: _____ ( ) M.Sc ( ) B.Sc ( ) HND ( ) ND
4. Years of Experience in Construction:
   ( ) Over 10 years ( ) 6–10 years ( ) 2–5 years ( ) Less than 2 years
5. Have you worked on any project within Kwara State Polytechnic?
   ( ) No ( ) Yes

SECTION B: AWARENESS OF QUANTITY SURVEYORS' ROLE IN RESOURCE PLANNING

Response Options:

() Strongly Disagree () Disagree () Neutral () Agree () Strongly Agree

Please tick the option that best reflects your opinion.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6. Quantity Surveyors are actively involved in the early stages of project planning.					
7. Quantity Surveyors provide detailed and accurate cost estimation					
8. QSs are responsible for planning and controlling financial resources.					
9. QSs help in selecting cost-effective materials and procurement strategies.					
10. QSs improve budgeting accuracy in civil engineering projects.					

SECTION C: INVOLVEMENT OF QUANTITY SURVEYORS IN RESOURCE PLANNING

Response Options:

() Strongly Disagree () Disagree ()Neutral () Agree () Strongly Agree

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11.QSs are involved in procurement and supplier evaluation.					
12.QSs contribute to labor and equipment resource allocation.					
13.QSs are responsible for monitoring materials usage and cost.					
14.QSs play a central role in cash flow management.					

15.QSs participate in reviewing project schedules and timelines.					

SECTION D: CHALLENGES FACED BY QUANTITY SURVEYORS IN RESOURCE PLANNING

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
16.QSs are often excluded from key planning decisions.					
17. Poor data availability affects QSs' cost projections.					
18. Communication gaps between QSs and project teams hinder effective planning. 19. Lack of modern software/tools limits QS performance.					
20. Delayed payments or budget changes affect QSs' resource planning duties.					

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