

**INVESTIGATING THE FACTORS MILITATING AGAINST SUCCESSFUL
BUILDING CONSTRUCTION PROJECT DELIVERY IN IMO STATE**

**BY
EMEREIBE, SETH CHIBUZO
REG NO: 20084653578**

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CERTIFICATION

This is to certify that this project titled **Investigating The Factors Militating Against Successful Building Construction Project Delivery In Imo State** was written by **Emeribe Seth Chibuzo with Reg No. 20084653578** In partial fulfillment for the requirement of the award of Masters of Science Degree (M.Sc) in Project Management Technology.



.....
Prof. K. A. Okorocha
(Supervisor)

.....
15/08/23
Date



.....
Dr. I.I. Echeme
(HOD, PMT)

.....
11/10/2023
Date



.....
Prof. K. U. Nnadi
(Dean, SMAT)

.....
12/10/23
Date

.....
Prof. B.O. Esonu
(Dean PGS)

.....
Date



.....
Prof. C. C. Alugbuo
External Examiner

.....
Date

DEDICATION

This research work is dedicated to God Almighty for his divine providence and sufficient grace towards the successful completion of this programme.

ACKNOWLEDGEMENT

My sincere thanks go to the Almighty God who in his infinite mercies gave me life and wisdom to accomplish this task.

I am deeply grateful to my project supervisor, Dr. K. A. Okorochoa and the efforts of Prof. E.C. Ubani for their guidance and suggestions on the content and structure of this dissertation. Special thanks to the head, department of project management technology (HOD) of the federal university of technology, Owerri (FUTO), Dr. C. I. Anyanwu for his leadership quality. I wish to also extend my gratitude to Prof. C. C. Nwachukwu for his support, Prof. G.F. Okorofor, Prof. G.E. Nworah, Prof. B.C. Asiegbu, Dr. S. O. Okpighe, Dr. I. I. Echeme, Dr. B. Amade and all management staffs of the department. My gratitude goes to Lady Ijeoma Nnennaya Udensi for her good advice towards the successful completion of my course work.

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ABSTRACT

In this study we were able to investigate the factors militating against successful delivery of building construction projects in Imo State, with these we determined the level of correlation between these factors and building construction projects delivery, however survey design was deployed on a cross section of the five factors as determined. These included the following (i) Cost of securing government approval (ii) imposed development fees (iii) government policies (iv) price fluctuation and (v) funding gap. Primary data was collected from stakeholders in the construction subsector through the use of a well-structured questionnaire. 157 copies of questionnaire were distributed while 113 copies were returned. Multiple Regression Analysis technique was used after data collection. Upon the analysis, the study revealed a significant correlation between building construction project delivery (with cost and schedule criteria as proxies) and the identified factors (with Funding gap (X_1 : 0.393), Cost of securing government approval (X_2 : 0.340), Imposed development fees (X_3 : 0.283) Government policies (X_4 : 0.458), Price fluctuation (X_5 : 0.464) as proxies). In line with findings from the study, it was concluded that these factors were significant for the successful delivery of building construction projects in Imo State. In conclusion, the study recommends that for there to be effective building construction project delivery in Imo State, adequate efforts should be made to reduce the influence on price fluctuation of building materials.

Keywords: Time overrun, Cost overrun, Construction projects

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Building construction projects have assumed a central position in Imo State, given the massive building projects both ongoing and completed. Construction in this regard take the form of market construction, school buildings, church and hotel buildings, government and private estate development projects that are going on in every part of the state. Recent discussions among the development experts, (Apkanetal. 2017) seem to revolve around the attainment of development through the provision of shelter to the people, businesses, worship and academic pursuit to mention but a few. Various efforts have been made by individuals, governments and international organizations to develop the State through massive building construction projects in order to provide shelter as a platform for developmental activities. Thus, in a bid to ensure effective building construction, critical inquiry and discussion of these factors militating against building construction projects are paramount.

According to Tyron (2014), Nigeria today is littered with a lot of failed and abandoned building projects due to poor planning and implementation skills. The major aim of project management in building construction is the use of project management techniques and practices to ensure that projects are carried out within the specified time, budget and quality specifications as they are the main basis for judging project success (Akpan, etal., 2017).

According to Ikpo, (2016), a lot of factors may militate against construction projects, it however appears that human and economic related factors are more prominent in building construction projects as they integrate some unforeseen risks which over time have not been treated seriously despite the threats they pose on building project performance. Human beings are major players in building construction and have sometimes posed a major threat towards the timely completion of building projects as well as their quality achievements. Moreover,

human factor have been identified by many authors as critical for success or failure of construction projects Ikpo, (2016), Okorafor, (2008). They posited that human capital is the only factor of production that controls the other factors of production.

Economic nature of Imo State appears to be negatively influenced; there is need therefore to develop mechanism as well as adequate efforts to plan and implement successful building projects in Imo state and by extension to other states in the country. Many scholars have complained on the dwindling economic situation in the country and its effect on the development of the nation (Akpan etal, 2017). Arguments from various quarters have it that instability in the price of construction projects, and low income level of citizens of the State have direct bearing on the issue of the study Ikpo, (2016) & Tyron (2014). The question is whether these two are the only economic factors that affect building construction projects. Other authors believe that economic recession, high fiscal taxes also have negative bearing on building construction project performance Echeme, (2017), Madu, (2013), & Sadibo, (2001). The study is therefore set to investigate the factors confronting building construction projects in Imo state so as to determine the ways of tackling them with a view to suggesting possible solutions to improve the performance of building projects in Imo State.

1.2 Problem Statement

Several researches on the factors militating successful implementation have focused majorly on human related factors. In spite of the quality of the researches and the result produced, building construction projects particularly in Imo State continue to suffer delay and in most cases, result to abandonment. It has become imperative for researchers to look beyond human related factors with a view to proffering solutions to these problems. With this in place, this study seeks to provide answers to the following questions: (i). what are the factors militating against successful implementation of building construction projects in Imo State, Nigeria? (ii) what is the most critical constraint that affect building project delivery in Imo?

(iii) What is the correlation these factors and building construction project performance in Imo state?

This study therefore, is set to investigate these factors as stated and possibly suggest solutions that will enhance the performance of building projects in Imo State in particular and Nigeria at large. However there are gaps in this research which has over the years limited this study which very few people had embarked. These gaps included not having adequate information from government agencies on the actual data collected within this period of study. However with these we shall limit ourselves to primary data collected in the course of this work. We shall dwell more on information from our collated data with this period.

1.3 Research Objectives

The aim of this study is to examine the factors militating against successful building construction project delivery in Imo State. To achieve this, the following objectives were so identified below:

- i. To identify the factors militating against the implementation of building construction projects in Imo State.
- ii. To ascertain the most critical socioeconomic factors that affect building construction project delivery in Imo State for management's decision
- iii. To determine the level of correlation between socio-economic factors and building construction projects delivery in Imo State.

1.4 Research Questions

- I. What are the factors militating against the implementation of building construction projects in Imo state.
- II. To what extent do these militating factors impacts socio-economic indices in construction project delivery in Imo state.

III. What is the magnitude and significant correlation between these socio economic factors and building construction project delivery in Imo state

1.5 Research Hypothesis

In order to achieve the objectives, the following hypotheses were formulated:

H₀₁: There is no significant relationship between the factors and successful building construction projects delivery in Imo state.

H₀₂: The relationship between the socio economic factor and building construction project delivery is negative

H₀₃ These critical socio economic factors are insignificant

1.5 Justification of Study

The high level of building project failure and the attendant effect on the socioeconomic development of Imo State is on the increase. The high cost of developing building structures and the attendant high rates of rent with low level of income earners have become a thing of worry. As result, majority of the citizens of the State live in uncompleted buildings, makeshift houses and slumps thereby attracting various diseases. This study came at the right time, since government and individual efforts in recent times have been channeled mostly to the provision of shelter. Shelters for residential and business purposes are the center discussion of development analysts in developing nations.

Therefore, the impact of this research work on building construction in our society can never be under-estimated as it possesses a lot of economic benefits.

This research is intended to provide clients, project managers, designers and contractors with necessary information needed to better manage and avert the stated problems in building construction.

It is therefore geared towards finding lasting solutions to human and economic problems already mentioned using appropriate project management procedures.

1.6 Scope of the Study

Geographical Scope: This study focuses only on the socio-economic factors militating against successful delivery of building construction projects in Imo State. Hence, effect of the factors on building construction projects in other States other than Imo State is not considered herein. Other sectors, such as oil and gas, banking, communication and the financial sub-sectors are also considered. This is done so as to generalize the application of the findings of this study beyond the context of research since they all carry out projects.

Content Scope: The study covers 2015-2020 periods only. This is chosen because the study being a cross-sectional research seeks to evoke participants' perception on the research topic as of the years. Variables examined in this study are funding gap, cost of securing government approval, imposed development fees, government policies and price fluctuation against project cost performance, project schedule performance and project quality performance as proxies for project performance.

Unit level of Analysis: The units of analysis are the cross-section of construction projects in Imo State, Nigeria. The study draws its data from selected projects carried out by different construction firms in the State. The units of observation however are members of staff of the construction firms whose perceptions of the variables are gathered. These level of staffs includes managers, project engineers and senior management team.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

This study has its footing on the study of systems as a holistic approach in solving real world problems with complex constraints. According to Nwachukwu (2016), the choice of systems theory is based on the constraining factors to project management success that has direct and indirect environmental elements in real estate construction industry. System approach according to Onyeador (1996) is a useful method for gaining better understanding of complex processes. It is essentially a way of thinking about complex processes so that the relationships of its parts and their influence upon one another and the effectiveness of the total process can be better understood, analyzed and be improved upon. In line with this system approach, Nwachukwu, (2016) relate to the overall project implementation process from conception through to the completion stages of the project; the second relate to the factors during the use of the facility as different from the success of project management efforts. Similarly, Morris et al (1987) developed a theoretical model on the evaluation of factors that constrain project management success in the construction industry. They emphasized mainly on direct and indirect factors of time, cost and quality as major factors that normally lead to project time overrun: their study on direct factors mentioned materials delay in developing the model. Although they mentioned materials delay but they saw it as a weak factor to delays in construction projects.

However, this study is based on the models developed by Pinto and Sleivin (1987) and Schwelbe (2008) on the factors that influence project success either positively or negatively. The strength of the ten factors developed by Pinto and Sleivin (1987) and Schwelbe (2008) can be measured based on project achievement within cost, time and technical specifications coupled with client acceptance. This is because project realization within time, cost,

specification and user acceptance are known criteria for judging project success. They recognized the role of top management as a key factor that guarantees project success. However, Kezner,(2003) added that a successful project implementation occurs if the project, comes on-time, on-budget, achieves all the goals originally set for it, and is adopted and used by the clients for whom the project is intended. It implies the successful achievement of time, cost and quality objectives, as well as the quality of the project process.

2.2 Conceptual Framework/Review

Conceptual framework as used in this study is a pictorial description of the variables that affect the successful realization of building construction projects. Therefore, this conceptual framework as applied herein describes the nature of relationship existing between the dependent and independent variables identified in this study. The dependent variable is the level of building construction delivery while the independent variables are the identified factors that constrain building construction projects in Imo State.

This is as shown in figure 2.3

2.2.1 Factors Confronting Building Construction Projects Delivery in Imo State

Building construction projects have numerous factors militating its successful delivery. Many authors have made various contributions in the past relating to this area of study, but this study have identified the following human and economic related factors based on the nature of the State and the problems faced by both the private and public experts in delivering building projects in Imo State.

2.2.1.1 Funding Gap

Government bureaucracy and all manner of delay experienced before funds are release have been a major problem facing the performance of most building construction projects in Nigeria. Variations in costs most times contribute to stoppages or delays in funding projects especially when it relates to construction materials. Ikpo, (2016), warned that building

construction projects hardly succeed if funds are release in a haphazard manner. He suggested prompt and adequate delivery of funds in order to achieve planned objectives for the satisfaction of the stakeholders. After preparing the schedule for a building, it is most a time breached because of the mode of payment observed by the firm or organization. Payment goes through a lot of processes before it gets to the builder or contractor. The time it takes for project fund to get to the builder is never included in the schedule prepared by the project manager and as such, delays the job and continues to as long as installment payments lasts.

2.2.1.2 Cost of securing government approval

The high cost of obtaining the government approval for building construction projects is another cog in the wheel of progress of building projects in Imo state and other states in Nigeria. In Imo state, those vested with the authority to approve projects most time demand kick-backs before certifying projects. The time and money taken to approve a building plan, fencing plan, etc. normally affect the smooth take off of the projects. The experience most times discourage housing developers from executing their projects and those who endured and completed the building projects end up renting it at a high price due to the high cost of construction. The activities of the employees of the State Planning Authorities should be monitored to avoid unnecessary interventions of the middle touts in the process of obtaining approval for building development.

2.2.1.3 Imposed Development Fees

In some communities, idle youths and elders gang up and illegally force intended builders and developers to pay huge amount of money as “development fee”. This fee differs in different communities and negatively contributes to delays and high cost of building projects in Imo state. Ekeanyanwu (2015) commented that immediately land is purchased, 10% to 15% of the cost is paid as youth fee, while the type of building determines the development fee to be paid to the community for development. This creates discouragement in the minds

of the would-be building developer or owner. This has led to the exhaustion of a great part of the budgeted capital before the completion of the building as the workers are constantly maltreated and the job frustrated at intervals until the whole ransom charged is paid.

2.2.1.4 Government Policies

The policies of government affect the activities of the construction industry in one way or the other. Unfortunately, the high level of instability in government policies have forced building experts to restrict their investment in building projects due fear of losing their investments to one form of government policy or the other (Okafor, 2016). Government should serve as an encouragement in the construction industry rather than threats to investors in building construction business.

2.2.1.5 Price Fluctuation

Frequent change in the prices of construction materials and labour cost create difficulty in estimating the actual project costs and durations. The fluctuation in the prices of building materials have in no small measure created an environment of mistrust and conflict between project owners and their contractors. The effect normally results in court cases and abandonment of projects. This is a constant occurrence in Imo state and its environs. Echeme (2009) have blamed this on high level of instability in Nigeria which is characterized by corruption and all manner of indiscipline among the government and the governed.

2.2.2 Success, Failure, Abandonment and Collapse of Building Projects

In the actualization of a project, it is very imperative to understand the above terms.

a. Project Success

According to Cleland *et al* (1975), a project is termed successful if it passes four success test criterion completed on time; the cost or money criterion – completed within budget; the effectiveness criterion – completed in accordance with the original set performance and

quality standards; and clients satisfaction criterion – accepted by the intended users or clients whether the client is internal or from outside the organization.

The above success criterion call for successful project implementation by the utilization of proven management techniques of planning, organizing, directing and control.

The issues on the life cycles management, time management, conflict resolution and management, networking and contracts management, project choice and project quality are key factors that contribute to project success.

Effective project choice, for example, which results in a good project selection, greatly improves the probability of project success especially when the project is executed in accordance with project management implementation guidelines.

The critical Path Method (CPM) and Programme Evaluation and Review Technique (PERT), for example, contribute a lot to project success as they foster a great discipline through definition of project scope, time scale/ schedule and cost (Akpan & Chizea, 2007). Empirical evidence, however, suggests that the importance of networking is far outweighed by the contribution of other projects tools, which include: work breakdown structure, life cycle planning, systems engineering, configuration management and status reports.

Networking contributes to better cost and schedule performance but not necessarily to better technical performance and better client acceptance. It is very paramount at the end of a project to meet its technical specification and at the same time attain a high level of satisfaction on the part of the clients, users and project team (Baker, 2008). The end project must perform satisfactorily in service.

b. Project Failure

Project failure is illustrated by a failure to achieve the four success criteria and is manifested by the lack of application of proven project management techniques. It does not mean that the project may not have been physically completed, the question, according to Ikpo, (2016) is:

when is the completion? Is there any time or cost overrun? Is the quality specified standard achieved? Can it stand the test of time? Is the client and end-user satisfied? If the answers to the above questions are in the affirmative, the project is termed successful but if negative, means it has failed.

c. Project Abandonment

Project abandonment is an unplanned suspension of an ongoing work or project at the execution stage such as refusal or failure to complete a contract after practical completion duration. One can find abandoned and failed projects all over our country Nigeria. Corrupt practices like bribing before one is awarded a contract and lack of technical know-how have greatly contributed to project abandonment today. Most contractors after bribing their way to securing a contract end up not having enough fund to execute it and instead of losing entirely abandon the job half way. Also, most people who claim to be builders end up eating the fund for projects without proper budgeting.

In addition to these, Echeme, (2009), and Ekeanyanwu, (2015) pointed out that difficulty in payment of contractors due to government bureaucracy, political instability, inability of sub-contractors to conform to schedule, increase in the scope of work, change in pre-contract consultants such as architects, ineffective project finance, change in original design, indiscriminate award of contracts without reference to funds availability, materials scarcity, poor planning, lack of resources and non-availability of effective project management skills as stated above, are the major reasons why projects fail and are abandoned today.

d. Building Collapse

The collapse of buildings has become popular in recent times. Last few years in Owerri, Lagos and Abuja for instance many building were reported to have crumbled to the floor claiming innocent lives and properties.

This has been as a result of:

- Poor supervision
- Greed on the part of contractors
- Insufficient resources
- Lack of technical know-how
- Also the inability of the urban development sector to properly check and ascertain that building structures conform to standards etc.

2.2.3 Project Life Cycle Concept and Organization

Project management takes place in an environment that is broader than that of the project itself; therefore work must be carried out in alignment with the organizational goals and managed in accordance with the established practice methodologies.

2.2.3.1 Project Life Cycle

A life cycle is a progression through a series of different stages of development.

Two methodologies are involved in completing a project.

- i. What you need to do the work (project).
- ii. The project management practices.

The project management makes use of the life cycle concept as a valuable tool for better understanding of the stages of a project and likely resources required for its successful implementation. The life cycle is used to pictorially explain the rise and demise of organizational phases in building of structures, production line and sales life cycle of a product. It is also one of the work and budgetary requirements of the project.

The basic life cycle concept holds for all projects and systems. Life cycle management is needed because the life cycle reflects every different management requirements at its various stages. In the beginning, for example, in terms of manpower –human resources – research

personnel predominate, subsequently, their role diminishes at the planning stage. The execution which is more of concrete work features more of engineers and finally marketing and sales personnel become more important. In a product development, for example, performance would be assessed by the degree to which the product meets the specification or goal for it.

The stages of a project life cycle is shown in Figure 2.1 below:

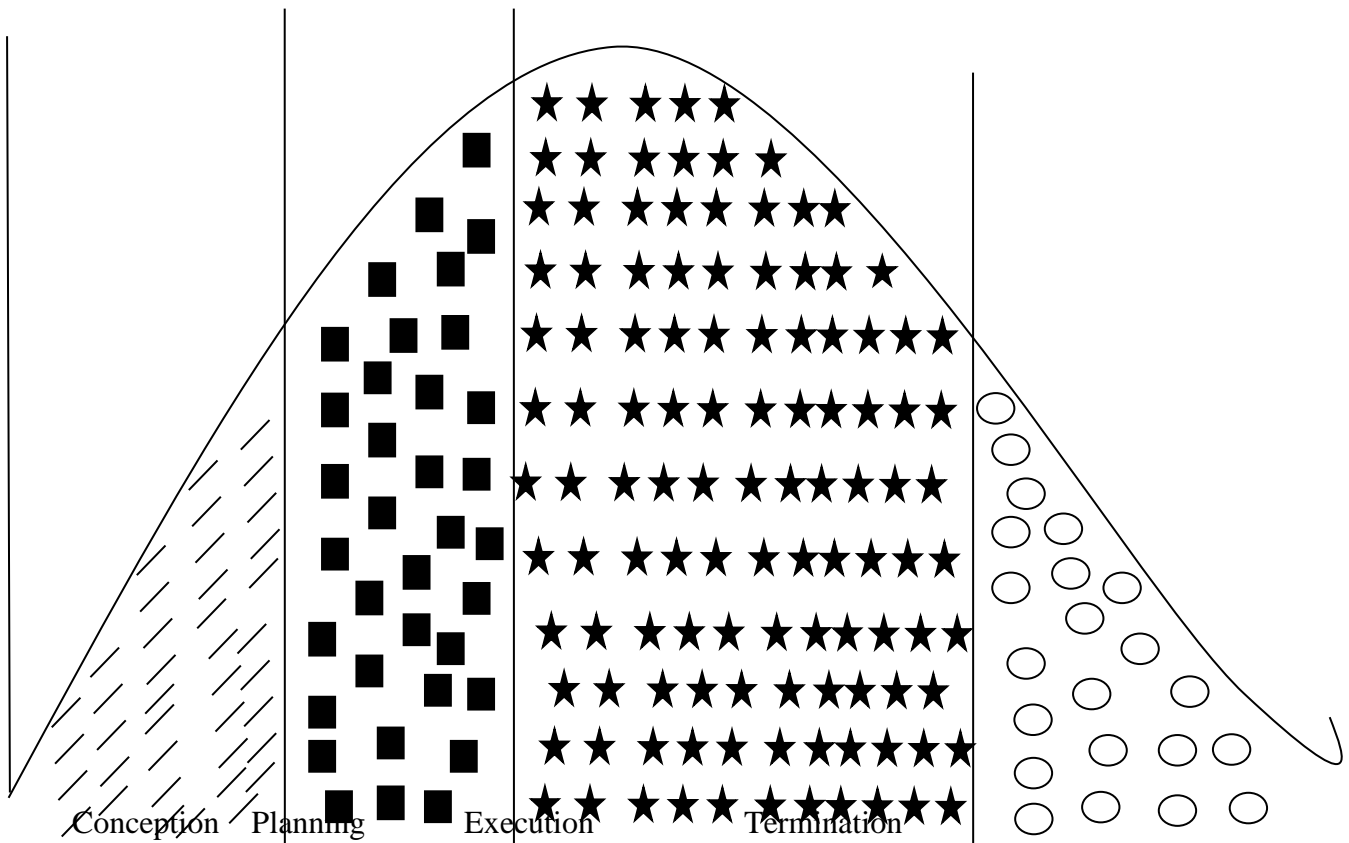


Figure 2.1: Life Cycle phases and Tasks accomplished by project phases

Source: Project Management Handbook , Jason.W (2007)

The detailed explanation of the activities of the phases is reflected in Table 2.1 below:

Table 2.1 Life Cycle Activities

CONCEPTION PHASE	PLANNING PHASE	EXECUTION PHASE	TERMINATION
* Identify need	* Implement schedule	* Procure materials	* Train functional personnel
* Establish feasibility	* Conduct studies and analyses	* Build and test tooling	* Transfer materials
* Identify Alternatives	* Design systems	* Develop support requirements	* Transfer responsibility
* Prepare proposal	* Build and test prototypes	* Produce system	* Release resources
* Develop basic budget and schedule	* Analyzes results	* Verify performance	* Reassign project team members
* Identify project team	* Obtain approval for construction	* Modify as required	

Source: Project Management Handbook (2007), Jason. W (2007)

It is pertinent to note that all projects irrespective of size and complexity can be mapped to the afore-mentioned cycle structure.

To enhance project success the following strategies or guidelines are recommended; as much as possible adopt the project management approach, project objectives should be clearly spelt out, clear objective create the conditions for the attainment of good results, project requirements should be clearly defined in terms of resources, time scale, technical approach and the required technology. The operators should develop the ability to manage change which is a major objective of the project management approach. Plan soundly, good information flow is necessary, there should be a clear definition of responsibilities, project

scope and knowledge of factors that can affect the project scope and pay critical attention to project financing.

In general, life cycle events vary with phases. Project size is quite different across the phases. The planning and the execution phase have by far the largest project teams. The level of bureaucracy parallels this pattern, with the greatest level corresponding to the greater sizes; the organizational climate is such that in the early and later phases it is more participative while it is different in the middle phases. Conflict entirely decreases consistently across the phases. Job satisfaction seems to be highest for the smallest, more organic organizations and lower for those organizations mostly mechanistic in nature (Adams 1990). In process, involving initial strategic actions and supporting tactical activities, there are further implications for project performance based on a consideration of strategic and tactical issues.

2.2.4 Other Constraining Factors that Militate against Building Construction Projects Performance

Aside the factors confronting building projects in Imo state which is our area of concentration in this review, other factors that pose serious threat to building construction in Nigeria and other developing countries include:

i.) Poor Planning and Implementation Skills

Many projects do end successfully, while many others are outright disasters. However, usually projects end up in the gray area on the project success scale. It is common to complete a project but over the deadline or over the budget or to have a dissatisfied client due to poor quality of output. These variations or overruns according to Okafor (2016) are mostly caused by engaging unskilled personnel in the planning and implementation process of projects. The skills of the people vested with the responsibility of project planning and implementation should be experts with proven records of success.

Inadequate project definition and planning has always been a problem in project execution. Many project managers think that they need to jump right into project by gathering business requirement. They think that if they do a good job with that, they are ready to run or the project. That is simply not true. In fact, you must complete a definition and planning process before you start gathering the business requirements.

Before the project work begins, one must make sure that the work is properly understand and agreed to by the project sponsor and key stakeholders. The project manager need to work with the sponsor and stakeholders to ensure that there is a common perception of what the project will deliver, when it will be complete, what it will cost, who will do the work, how the work will be done and what the benefits will be. The larger the project, the more important it is that this information be mapped out formally and explicitly. All projects should start with this type of output planning to prevent problems caused by different viewpoints on the basic terms of the project.

Usually a project needs to have a budget and deadline before the business requirements are completed. In many cases, if the definition and planning are not done ahead of time, the project team starts off with inadequate resources and time-and the project manager may not realize it until the project is already in progress. Many projects that could be successful are viewed as failures because they overshot their budgets and deadlines. This situation is often caused by the project manager committing to numbers that are too low, based on lack of up-front planning.

ii.) **Poor Certainty and Visioning Skills**

Before the commencement of any building project, it is very necessary to get a detailed job specification in order to plan well and make accurate projections on what it will take to realize the project.

In certainty, we have cost and time certainty. Cost certainty represents the probability of completing a project within the budget agreed between clients and contractors before the commencement of construction. Time certainty the reliability of completing projects on time compared with the plan are usually the top priorities for top construction clients (Daveport, 2017; Chinyio, 2012; Flanagan, 2009). This is because cost overruns and delays. Poor certainty and visioning has always posed a major problem in building construction and it is therefore the task of the project manager to minimize or eliminate surprises to clients (Winch, 2009).

iii.) **Poor Communication Skills**

Communication in building construction is a means by which operatives and other members of the building team are linked in order to achieve the goal of the project. Communication can be described as a two way process as information is not only sent but also received, understood and implemented (Adeleke, 2014).

In construction, communication could also be achieved through, letters, drawings, symbols, signs, posters and word through which members of an organization send and receive information and also transforms this information into a finished goal which is realized in a construction project and understand, apply and replicate their job specification is very paramount. Therefore, in a situation where there is breach or poor communication, it hampers effective project execution.

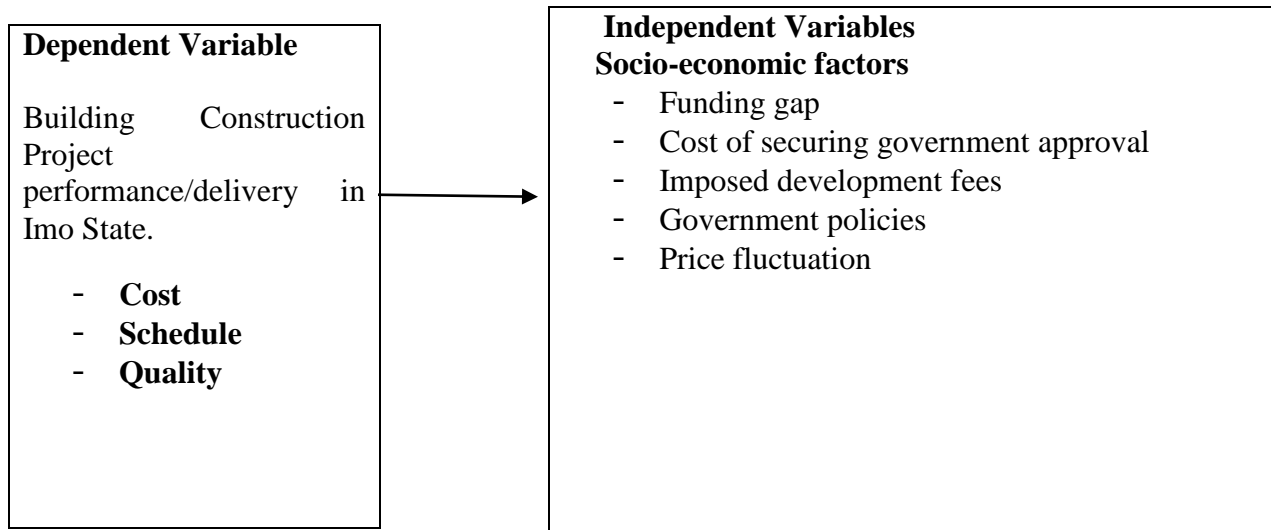


Fig 2.3: Conceptual Framework showing the Dependent and Independent Variables

2.2.4.1 Project Success Implementation Factors

According to Cleland, Pinto and Sleivin (1987), the process of project implementation involving the successful development and introduction of projects in the organization, presents an ongoing challenge for managers. The building implementation process is complex, usually requiring simultaneous attention to a wide variety of human, budgetary and technical variables. A project manager is often faced with difficult job characterized by role overload, frenetic activity, fragmentation and superficiality. A project manager in spite of all these has the responsibility for successful project outcomes without sufficient power, budget or people to handle all of the elements essential for project success. In addition, projects are often imitated in the context of a turbulent, unpredictable, and dynamic environment. A project manager would be well served by more information about those factors critical to project success. The project manager requires the necessary tools for him to focus attention on important areas and send different priorities across different project elements. It can be demonstrated that set of factors under the project manager's control can have a significant impact on project implementation success. The project manager should be better able to efficiently and effectively deal with many demands created by his job, channeling his energy more efficiently in attempting to successfully implement the project under development. His

controlling ability is demonstrated in the ten key factor model of the project implementation profile blow:

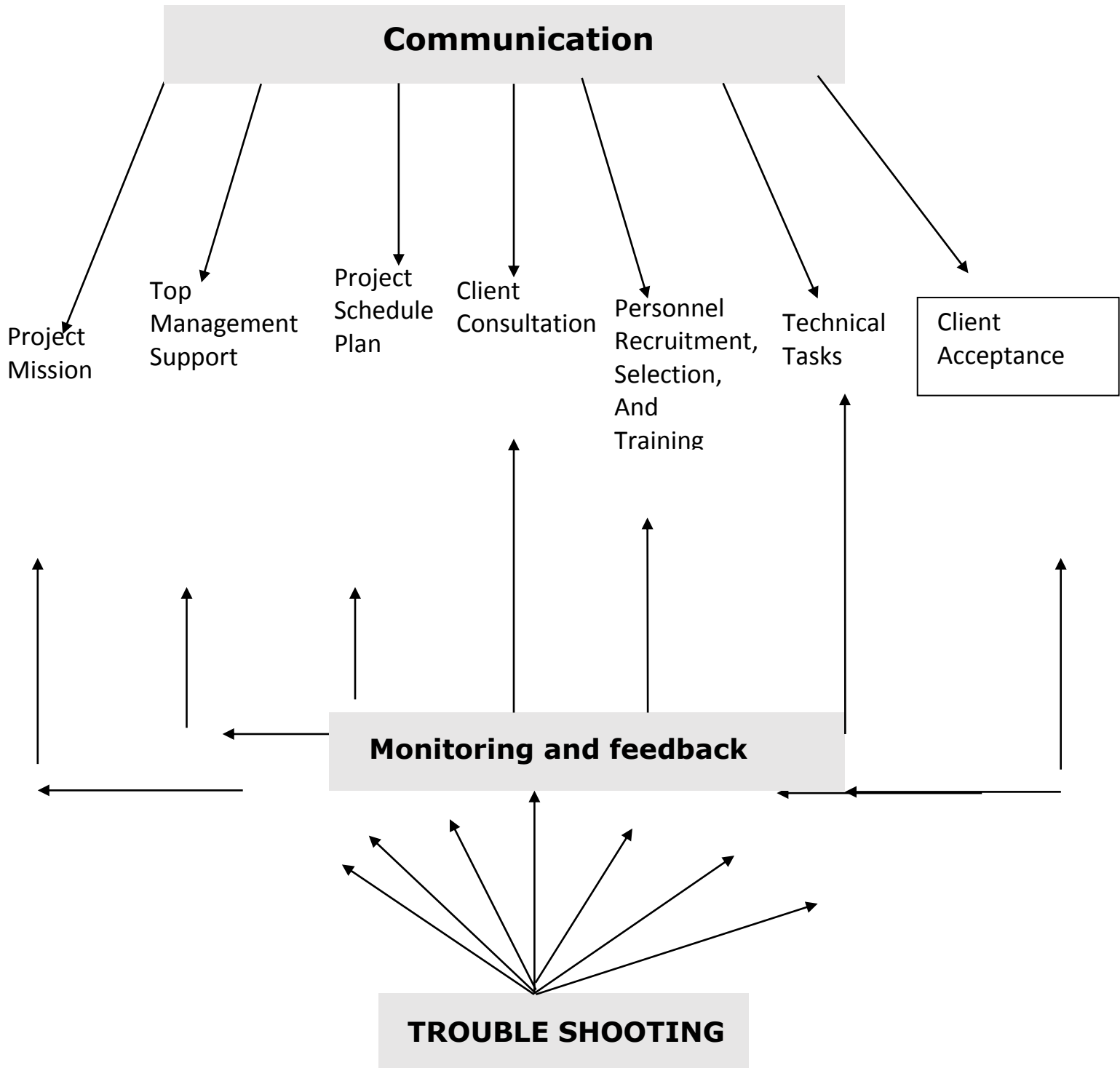


Figure 2.4: Ten Key Factors of Project Implementation Profile

Source: Project Management Handbook, Jason.W (2007)

Slevin et al (1986) studied many projects in their bid to evaluate factors that constraint success in project management; they articulated many factors but narrowed them down to what they christened ten key factors of project implementation profile a reflected pictorially above.

a. Communication

The need for adequate communication channel is extremely important in creating an atmosphere for successful implementation of a building project. Communication could best be described as the life wire of any project implementation success. There should be prompt communication to the building or project mission, good information flow with the top management, the building or project scheduled plan, always consulting the client, adequate communication to personnel issues like recruitment, motivation and training etc, good understanding of the technical task and staff, sequential monitoring of all work and processes given feedback the stakeholders, always active in communication with trouble shooting indicators, communicating with the client at all times sensitizing him with every issue that will enable him to accept the product after execution.

b. Project Mission

Project mission is the same as clearly defined goals and objectives. Project mission has been found to refer to the condition where the goals of the building project are clear and understood not only by the project team involved but by the other departments in the organization.

c. Top Management Support

Slevin, et al (1979) noted that management support of project especially building construction has long been considered of great importance in distinguishing between their ultimate success and failure. Beck (1979), sees project management as not only dependent on top management for authority, direction, and support, but as ultimately the conduct of

implementing top managements plan as goal for the entire project organization. The degree of ultimate acceptance or resistance to the project shows the degree of management support of the project.

d. Project Scheduled Plan

According to Pinto et al (1989) this refers to the importance of developing a detailed plan of the required stages of the implementation process. This is the origin of life cycle concept in building constructing projects.

e. Client Consultation

The need client consultation has been found to be increasingly important in attempting to successfully implement a building project. Manly, (1987) found out that the degree to which clients are personally involved in the implementation process will cause great variation in their support for the project.

f. Personnel Issues

Personnel issues include recruitment, selection and staff training for the building project. An important, but often overlooked aspect of the building implementation process concerns the nature of the personnel involved. In many situations, personnel for the building team are chosen by the client especially in the public section building construction with less than full regard for the skills necessary to actively contribute to the implementation success.

g. Technical Tasks

This is very important in that the people who understand the project must manage the implementation. Slevin (1987) writing on implementation risk analysis identifies two of the eight risk factors as being caused by technical incompatibility.

h. Monitoring and Feedback

Monitoring and feedback refer to building project control system or processes by which at each stage of the implementation, key personnel receive feedback on how the project is

comparing or conforming to initial projections in time management, cost, quality and materials.

i. Trouble Shooting

Problem always exist in almost every project especially building construction, they could be seen as conflicts which lead to the success or failure based on how it is being managed by the stakeholders. In fact, conflicts which lead to the success or failure based on how it is being managed by the stakeholders. In fact, conflict according to Nwachukwu, (2010) is seen as an indispensable force that propels the wheel of success in any building project implementation process.

j. Client Acceptance

This is the final stage in building project implementation process at which time the ultimate efficiency of the project is determined. For there to be a successful handover of the developmental product, there is need to carry the client along by prompt communication and feedback throughout the stages of the building project life cycle.

2.3 Empirical Review

Poor building construction project performance in terms of schedule and cost overruns do not just occur naturally, there are a number of factors during the construction process that when not managed properly can lead to schedule and cost overruns. Causes of schedule overruns are factors that lead to construction projects not being realized according to the planned scheduled time at the inception of project; while causes of cost overruns are factors that lead to project budget overshoot and actual project cost exceeding the planned project cost.

According to Ade and Babatunde (2015), there are six (6) major causes that would lead to poor construction project performance in the South-south Geopolitical Zone, the identified causes were ranked as follows: design error, poor site condition, delay in payment, financial

incapability of client, financial incapability of contractor and non-availability of subcontractor and supplier. Analysis of the factors using Relative Severity Index (RSI) technique, financial incapability of the client was ranked highest in the Niger Delta States.

While Hassan (2012) identified a total of 42 factors that causes poor performance of construction projects in Northern Part of Nigeria. The Factor Analysis result ranked the top ten causes as follows: technical incompetence, poor organizational structure, and failures of the enterprise, high cost of acquiring and securing land, inadequate project preparation, planning and implementation, delays in issuing information to the contractor during construction stage, lack of coordination at design phase, change in the scope of the project or in Government policies, tendering maneuvers by contractors, such as front-loading of rates, incomplete design at the time of tender, bad allocation of labour inside the site and delays in decisions making by government were ranked the top ten causes of construction project performance. The t-test result show that change in the scope of the project by clients is the most critical factor inhibiting construction project performance in the area.

Furthermore, Eshofonie (2008) revealed a total of 40 causes of construction project low performance in Ogun State, with the top ten causes being the following: cost of materials, incorrect planning, wrong method of estimation, contract management, fluctuation of prices of materials, previous experience of contractor, Absence of construction cost data, additional cost and project financing. After analysis with discriminate analysis methodology, it revealed that all the identified factors are significant to building construction project performance with fluctuation of material prices.

It is pertinent to indicate that construction project performance regarding schedule and cost are intertwined, and as such, a serious challenge in one will definitely affect the other. This fact is revealed in the work of Akinsiku and Akinsulire (2012) which shows that, financial or cash flow difficulties, financial difficulties faced by contractors and public agencies, frequent

change order and design, failure to pay for completed works, shortages of resources, considerable additional work, escalations of material prices, increases in the scope of work, delay in design work and late delivery of materials are the top ten causes of schedule and cost overruns on construction projects.

Based on the above review, the following factors were identified as critical to building construction projects in Imo state. They include: funding gap, cost of government approval, illegal development fees, instability in government policies, and constant price fluctuations.

2.4 Research Gap

The available literature reviewed in this study discussed factors that constrain construction projects, but this study is unique because it focused on building construction projects and the factors militating against its smooth implementation. Most of the researchers in this study have studied problem of construction projects in different parts of Nigeria, none have been able to investigate the problem as it relates to Imo State. This study adopted Multiple Regressions Analysis technique in the analysis of the factors identified whereas no previous study reviewed adopted the technique in data analysis. However, the individual and collective effects of the factors as it relates to building construction projects in Imo State have not been ascertained.

This study therefore intends to fill these existing gaps through a critical study and analysis of these factors and proffer solution that will improve the performance of building construction projects in Imo State in particular and Nigeria at large.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

Various research designs exist but this study adopted a survey design. It was designed to be observational and inferential. This is because this study involves field study. The observational design enabled the researcher to visit many construction and civil engineering firms within the study area in order to have a better understanding of the quality related problems most of the firms are facing and the associated factors.

The inferential design was adopted to know the extent to which multiple regression analysis model and correlation analysis method, which have gained the attention of many scholars in social science studies, can be applied in the analysis of the factors constraining building construction projects in Imo State, Nigeria. Based on this, questionnaire was designed using Likert's five point scale to solicit responses from the target respondents (participants) in building construction projects in order to gather firsthand information on the level of influence posed by these identified factors constraining building project delivery.

3.2 Population and Sampling Procedure

The population of the study covers all the professionals in building construction projects in Imo State. Considering the fact that all the professionals could not be sampled, a purposive sampling technique was applied in determining the population and the process results of fifty seven professionals. This was achieved by selecting at least fifty two professionals (respondents) operating at each of the three senatorial zones in Imo State. They comprise both private and public participants in building construction projects. They are categorized into contractors, architects, civil engineers, estate surveyors and clients. In addition, nine building construction projects were sampled. This was based on the availability of the necessary data needed to evaluate the performance of these projects with respect to time and

cost objectives since they are the major criteria for measuring project success. Additionally, these projects were cited by the sampled building construction professionals, hence the need to include them in the secondary data.

3.3 Sample Size

In determining the sample size for the study, the TARO YAMANE technique was applied.

The methodology is as stated below.

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

Where n = sample size to be determined

N = Population for the study = 157

e = error margin (level of significance) = 0.05²

1 = constant

Applying the above formula in determining the sample size for this study results in the following:

$$n = \frac{157}{1 + N(0.05)^2}$$

$$\begin{aligned} n &= \frac{157}{1 + 157(0.0025)} \\ &= 113 \end{aligned}$$

With this result, the sample size for this study is 113.

3.3.1 Method of Data Collection


The data for the study were collected through questionnaire and discussion with some experts in the area of building construction projects. Based on the problem identification gathered from the survey of different literatures, they were compiled and structured into questions that depict the issue of socioeconomic factors militating against building construction project delivery.

However, both primary and secondary sources are utilized for this study. This is to ensure adequate historical background is set for the study by way of comprehensive literature search, while the practical implication/realities of the subject matter is assessed by way of field survey for the collection of first-hand information from the key building construction stakeholders.

a. Primary Data

The primary data used in this study is questionnaire designed by surveying the Factors militating against building construction projects in Imo State. This process marked a framework for the study, after which some of the factors militating against building construction faced during construction execution stage highlighted by different authors guided the researcher in constructing a questionnaire for this purpose. The questionnaire was issued to major construction stakeholders in order to collect first-hand information from them which guided the findings to be made in this study.

The questionnaire used for this study incorporated the Likert Five Point Scale to facilitate an evaluation of responses between the minor to major ranges. Likerts scale allows the respondents to indicate their level of agreement or disagreement on the statements made in the questionnaire. The scale ranges from strongly agreed (SA) = 5 points, Agreed (A) = 4, Neither agree nor disagree (N) = 3, Disagreed (D) = 2, and Strongly Disagreed (SD) = 1. The table below depicts the format for the questionnaire.

Scale	SD				SA
	1	2	3	4	5

b. Secondary Data

Secondary sources of data for this study include the building performance data from Imo State Housing Cooperation, Ministry of Works, Housing and Rural Development, Private Estate Developers, Relevant literatures, journals, internet, etc.

3.4 Pilot Study

Pilot studies are conducted to pre-test the study instruments which are validated in the process (Kothari, 2004). The pilot study for this study was carried out in Owerri North Local Government Area of Imo State. The drafted questionnaire was administered thirty (30) respondents, four (4) from each category mentioned (contractors, architects, civil engineers, estate surveyors and clients) in the area. The data collected from them were analyzed and tested for validity and reliability of the research instruments.

3.4.1 Validity of Research Instrument

Nworuh (2007) opined that all data measuring instruments particularly in the social sciences contain some degree of errors no matter how precise and careful the efforts of the observation may seem to be. Our research instrument (via questionnaires) was duly evaluated by the research supervisor and its administration in the selected areas under study. Besides, the instrument was also sent to research professionals outside the pressure audience, and the result also confirms the genuineness and authenticity both in framing and content.

3.4.2 Reliability Test

Reliability referred to the degree to which it is measuring; meaning that instrument should generate similar results when repeated overtime. Several methods of ascertaining reliability of data exists, but for the purpose of this study, the test-retest method was adopted after the instrument has been retrieved from the sample used for the pilot study. Hence, the research questionnaire was administered to a certain group of the respondents, the result collected and after two weeks, the same questionnaire was also given to the same respondent group. The two results were correlated and a result of $r = 0.88$ confirms the reliability of the research data.

3.5 Method of Data Analysis

The method of data analysis employed in this study comprises both descriptive and inferential statistics. The inferential analysis involved Multiple Regression Analysis (MRA) techniques.

3.5.1 Descriptive Statistics

Descriptive statistics, which includes frequencies, percentages, pie-charts and bar-charts, were used to analyze the data obtained from respondents citing their experience in the building construction projects in Imo State.

3.5.2 Inferential Statistics

The data collected were analyzed and modeled using Multiple Regression Analysis (MRA) involving coefficient of multiple correlation (R), coefficient of determination (R^2), and the F-test. The result of the Multiple Regression Analysis was used to develop a model that will be used to make the conclusions and recommendations. The data analysis was thus conducted in following ways;

The tests of significance of the derived models were carried out through a combination of F – test and t – test. In doing this, we apply a regression model of the form:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n + e_0 \dots\dots\dots(3.1)$$

Where: Y = Building Construction Project delivery in Imo State, Nigeria (Dependent variable).

X₁, X₂, . . . X_n= identified constraining factors in the project performance (Independent variables).

b₀, b₁, b₂, . . . b_n = coefficients to be estimated. e₀ = Error margin in the estimation.

The regression coefficient (b_i) is estimated using the formula:

$$b_1 = \frac{\sum X_1 Y \sum X_2^2 - \sum X_2 \sum X_1 X_2}{\sum X_1^2 \sum X_2^2 - (\sum X_1 X_2)^2} \dots\dots\dots(3.2)$$

$$b_2 = \frac{\sum X_2 Y \sum X_1^2 - \sum X_1 \sum X_1 X_2}{\sum X_1^2 \sum X_2^2 - (\sum X_1 X_2)^2} \dots\dots\dots(3.3)$$

$$b_0 = Y - (b_1x_1 + b_2x_2) \dots\dots\dots(3.4)$$

The correlation coefficient (R) which measures the magnitude of the relationship between the dependent variable (Y) and independent variables (X₁, X₂,X_n) is determined using:

$$R = \frac{N \sum X_i Y_i - (\sum X_i) (\sum Y_i)}{\{ [N \sum X_i^2 - (\sum X_i)^2] [N \sum Y_i^2 - (\sum Y_i)^2] \}^{1/2}} \dots\dots\dots(3.5)$$

Also the coefficient of determination (R²) which measures the extent of variation in the dependent variable (Y) that is being explained by the variation in the independent variables (X_i) is given by:

$$R^2 = \frac{SSR}{SST} \dots\dots\dots(3.6)$$

Where SSR (Sum of Squares due to Regression) is given as:

$$SSR = \frac{\sum X_i Y_i - (\sum X_i)(\sum Y_i)}{N} \dots\dots\dots(3.7)$$

And

SST (Total Sum of Squares) is given by:

$$SST = \frac{\sum Y_i^2 - (\sum Y_i)^2}{N} \dots\dots\dots(3.8)$$

However, the Sum of Squares due to Error is given by:

$$SSE = SST - SSR \dots\dots\dots(3.9)$$

In testing the stated hypotheses, the F – test and t – test were used.

The F- test statistic is calculated using the formula:

$$F^*_{cal} = \frac{MSR}{MSE} \dots\dots\dots(3.10)$$

Where MSR (Mean Squares due to Regression) is given as:

$$MSR = \frac{SSR}{k} \dots\dots\dots(3.11)$$

where “k” is the number of independent variables.

Also the MSE (Mean Square due to Error) is given by:

$$MSE = \frac{SSE}{n-k-1} \dots\dots\dots(3.12)$$

where “n” is the number of observations or sample size.

All the above parameters are summarized in a table of Analysis of Variance (ANOVA) as follows:

Table 3.2 ANOVA for Multiple Regression

Source of Variation	Sum of square(SS)	Degree of Freedom (df)	Mean Square (MS)	F-ratio
Regression	$SSE = R^2 \Sigma Y^2$	K	$MSR = \frac{SSR}{K}$	$F^* = \frac{MSR}{MSE}$
Error	$SSE = SST - SSR$ $= \Sigma Y^2 (1 - R^2)$	n-k-1	$MSE = \frac{SSE}{n-k-1}$	
Total	$SST = SSR + SSE$ $= \Sigma y^2$	n-1		

Source: Nworuh, (2007): Test for Significance in Multiple Regression; *Fundamentals of Applied Quantitative Techniques for Management Decision*, Bon Associates – HRDC, Nigeria, pp. 90

3.5.3 Decision Rule for Testing Hypotheses

F – test:

Accept the null hypothesis (Ho) if $F^* < F_{1-\alpha}$; k, n-k-1 degree of freedom, otherwise the null hypothesis (Ho) is rejected. $F_{1-\alpha}$; k, n-k-1 is the critical value obtainable from the standard F – distribution table, and α = the chosen level of significance, which for the purposes of this study is 0.5 or 5%.

The F-Statistic will test the joint hypothesis that:

$$H_0: b_1=b_2=b_3.....b_k = 0$$

H_A : not all b_k are equal to zero.

t - test

The null hypothesis (H_0) i.e. $b = 0$ is accepted at α level of significance and $n-k-1$ degree of freedom, if $t^*_{cal} < t_{1-\alpha}$, $n-k-1$ degree of freedom. Otherwise the null hypothesis (H_0) is rejected. $t_{1-\alpha}$; k , $n-k-1$ is the critical value obtainable from the standard t – distribution table, and $\alpha =$ the chosen level of significance, which for the purposes of this study is 0.5 or 5%.

Alternatively, the null hypothesis is accepted if the p -value is less than 0.05 the level of significance.

3.6 Definition of the Variables (factors) Used for Analysis

- i. Funding gap (X_1),
- ii. Cost of securing government approval (X_2),
- iii. Imposed development fees (X_3)
- iv. Government policies (X_4)
- v. Price fluctuation (X_5)
- vi. Building Construction Project delivery in Imo State (Y)

CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.1 Analysis of Primary Data

These identified constraining factors were used as the basis for designing the questionnaire for collecting the primary data for further analysis on the effects of these militating factors on successful implementation of building construction projects in Imo State and Nigeria in general. The data collected from the respondents are presented and analyzed as follows:

4.1.1 Analysis of the Respondents Scores on the Effects of the Constraining Factors on Building Construction Projects in Imo State (Primary Data from Questionnaire Distributed)

The Statistics of questionnaire distribution and data collected were shown below in table 4.1.

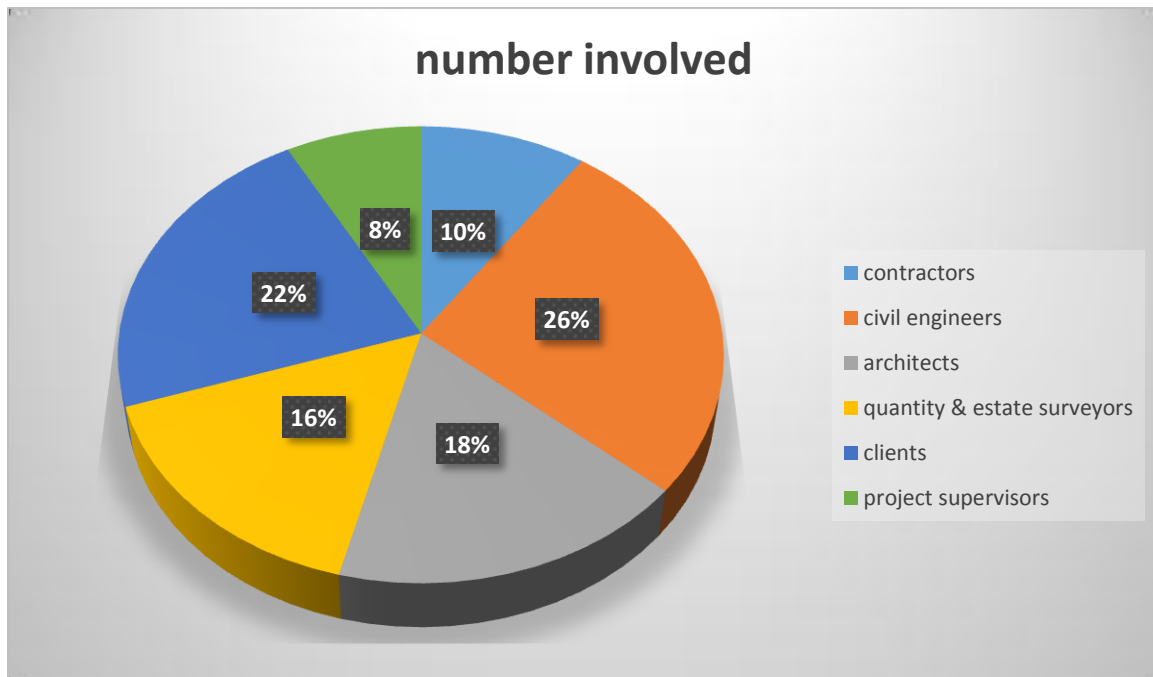
Table 4.1: Statistics of Questionnaire Distributed and Returned.

Category of Respondent	No. Distributed	No. Returned
Contractors	17	11
Civil Engineers	45	30
Architects	21	20
Quantity and Estate Surveyors	35	18
Clients	29	25
Project Supervisors	10	9
Total	157	113

(E. Chibuzor, Personal communication, Feb, 2020).

One hundred and twenty (157) sets of questionnaires were distributed to the respondents, one hundred and thirteen (113) were returned representing 72% of the total population. This

implies a high response rate. Therefore, one hundred and thirteen (113) of the respondents form the basis of our presentation and analysis.



Appendix II presents the summary of the one hundred and thirteen respondents, on their assessment of the effects of the factors militating against construction project delivery in Imo state, Nigeria.

Tables 4.2 and 4.3 below illustrate how Appendix II, which summarizes the scores of 113 respondents, were derived.

TABLE 4.2: Scores for X₁ to X₅ for Respondent 1

FACTORS	1	2	3	4	5	TOTAL
X1	5	5	5	5	5	25
X2	4	1	3	2	4	14
X3	5	4	3	3	3	18
X4	5	4	5	4	2	23
X5	4	2	4	4	3	17

(E. Chibuzor, Personal communication, Feb, 2020).

For example in the questionnaire (Appendix 1), each respondent was to indicate the degree of agreement or disagreement with five statements related to the independent variable, “funding gap” (X_1). The first respondent scored 5 for each of the five statements, giving a total score of 25. This is based the Likert summated scale in which the maximum score for each independent factor is 25 and minimum score is 5.

TABLE 4.3: Building Construction Project Delivery for Respondent 1.

Dependent Variable	QUESTIONS/SCORES										
	1	2	3	4	5	6	7	8	9	10	Total
Y	2	4	3	3	4	4	5	5	4	4	38

(E. Chibuzor, Personal communication, Feb, 2020).

Table 4.3 which is also based on the Likert’s scale has a maximum score of 50 and a minimum score of 10. The questions/statements from where the scores were derived are in the questionnaire; in Appendix I. Ten questions/statements on the factors against building construction project delivery in Imo State were considered adequate.

4.2.1 The Mean and Percentage Scores of Each of the Factors. (Y , X_1 to X_5)

Table 4.5 below, summarized from Appendix II, reveals that 27.017 is the average level of success achieved in delivery of building construction projects, given the effects of five key militating factors; Funding gap, Cost of securing Government approval, Development fees, Government policies and Price fluctuations, have strong influence on building construction project delivery in Imo state.

Table 4.4 the Descriptive Statistics Scores of the Factors (15 Respondents)

	Mean	Std. Deviation	N
Y	27.0177	4.14467	113
X1	17.6372	4.22801	113
X2	17.3982	4.66281	113
X3	17.4248	4.47973	113
X4	19.3009	3.93901	113
X5	18.3363	4.55837	113

4.2.2 The Correlation Matrix for Building Construction Project Delivery (Y) and the Independent Variables X₁ to X₅.

Table 4.5 (from Appendix III), reveals the degree of correlation between building construction project delivery and each of the five major predicted factors. The matrix also shows the coefficient of simple correlation between each pair of variables.

Table 4.5 the Correlation Matrix

		Y	X1	X2	X3	X4	X5
Pearson Correlation	Y	1.000	-.393	.340	-.283	.458	-.464
	X1	-.393	1.000	-.117	-.178	.348	-.152
	X2	-.340	-.117	1.000	.395	-.164	-.162
	X3	-.283	-.178	.395	1.000	-.163	-.178
	X4	.458	.348	-.164	-.163	1.000	-.072
	X5	-.464	-.152	-.162	-.178	-.072	1.000
Sig. (1-tailed)	Y	.	.000	.000	.001	.000	.040
	X1	.000	.	.108	.029	.000	.054
	X2	.000	.108	.	.018	.042	.044
	X3	.001	.029	.018	.	.042	.030
	X4	.000	.000	.042	.042	.	.039
	X5	.040	.054	.044	.030	.039	.
N	Y	113	113	113	113	113	113
	X1	113	113	113	113	113	113
	X2	113	113	113	113	113	113

X3	113	113	113	113	113	113
X4	113	113	113	113	113	113
X5	113	113	113	113	113	113

There is high degree of association between the building construction projects and each of the identified militating factors. The highest correlation (-0.464) exists between price fluctuation and building construction project delivery. This implies that the level of price fluctuation may have been so high that is negatively affected the level of success achieved in the delivery of building construction projects in Imo State and its environs.

4.2.3 The Regression of Building Construction Delivery on the Five-Factor Model of Socioeconomic Constraints

Table 4.6, shows the result of computerized-aid regression analysis.

Table 4.6 Result of Multiple Regression Coefficients of Y on X₁ to X₅

Mode		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.468	2.498		4.992	.000
	X1	-.254	.070	-.259	-3.639	.000
	X2	-.329	.060	-.370	-5.485	.000
	X3	-.330	.062	-.356	-5.304	.000
	X4	.511	.074	.486	6.874	.000
	X5	-.876	.071	-.396	-6.440	.000

a Dependent Variable: Y

The multiple regression model that can predict the level of building construction project delivery as derived by the analysis is as follows:

$$Y = 12.468 - 0.254X_1 - 0.329X_2 - 0.330X_3 + 0.511X_4 - 0.876X_5 \dots \dots \dots (4.1)$$

With the derived equation, we can estimate the level of building construction project delivery when the values of the five variables are known. The coefficients in the equation indicate the marginal effect of each of the factors on the delivery of building construction projects, when all the other factors are held constant. They represent the increase in Y, if each factor is increased one unit, while holding all the other factors constant.

Four factors (X_1 , X_2 , X_3 and X_5) exhibited negative effect on the delivery of building construction projects. This means that as the factors increase, the level of building project delivery decrease.

To illustrate, $X_2 = -0.329$ indicates that the level of building construction project delivery decreases by 0.329 for every one unit increase in Cost of obtaining Government approval, when all the other factors are held constant. We can make similar arguments for each of the remaining factors.

Only Government policies (X_4) have positive effect on the level of building construction project delivery in Imo State, Nigeria. This implies that as Government policies improve, building construction project delivery increases.

TABLE 4.7 Model Summary of the Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.846(a)	.657	.637	2.82158	2.118

a Predictors: (Constant), X_5 , X_4 , X_2 , X_3 , X_1

b Dependent Variable: Y

The multiple correlation coefficient (r) of 0.846 indicated a very strong positive relationship between building construction project delivery and the five major predetermined constraining variables.

The multiple coefficient of determination (r^2) of 0.657 indicates the proportion of the variance in the level of delivery of building construction projects explained by all the independent (explanatory) variables. An r^2 value of 0.657 indicates that funding gap, cost of obtaining government approval, development fees, government policies and price fluctuations jointly account for 65.7% of the variance in the success level of building construction projects in Imo State. A Durbin-Watson value of 2.118 is good and confirms the high level of correlation existing between building construction project delivery and the five identified militating factors.

The t-values in column 5 of Table 4.7 are quite large and significant and are used to test the significance of each of the five militating factors in the delivery of building construction projects.

Table 4.8 Analysis of Variance (ANOVA) for Multiple Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1072.106	5	214.421	26.933	.000(a)
	Residual	851.859	107	7.961		
	Total	1923.965	112			

a Predictors: (Constant), X5, X4, X2, X3, X1

b Dependent Variable: Y

From the ANOVA table above, the regression sum of square (SS) is 1072.106, the Mean Square (MS) is 214.421, and the F-ratio is 26.933.

The F-ratio which is quite large, and was applied in testing the significance of the inclusion of the five major militating factors in the model developed.

4.2.4 Testing the Significance of the Inclusion of All the Independent Variables in the Model

The F-statistic provided by the regression analysis is suitable for such test. It was used to test the significance of the inclusion all the independent variables (x_1 to x_5) in the derived model.

That is

$$H_0: b_1 = b_2 = b_3 = b_4 = b_5 = 0$$

$$H_1: \text{not all } b_k = 0; K = 1, 2, 3, 4, 5.$$

From the regression analysis, calculated F-test value is 26.933. At a level of significance of 5% then $F(5,107) = 3.48$. Since $F(5,9) = 3.48 < 26.933$, we reject H_0 , and accept H_A , and conclude that the inclusion of the five independent variables in the model is significant. So the model (4.1) is significant in predicting the level of building construction project delivery while considering the socioeconomic constraining factors like funding gap, cost of obtaining government approval, development fees, government policies and price fluctuations.

4.2.5 Hypotheses Testing

The dependent variable Y was regressed on each of the independent variables to determine the importance of each factor. The t-test statistics, which test the significance between means is effective when the standard deviation of the population is unknown, is used to test the significance of the independent variable in the model. We wish to estimate the extent to which each constraining factors contributes to level of building construction project delivery in Imo State. The correlation result in Table 4.10 and the t-test result in Table 4.10 modified from Table 4.6 were used for this purpose.

Table 4.9 Correlation Result between Building Construction projects and Economic Development

		EconDev	Building ConstrProj
EconDev.	Pearson Correlation	1	.458(**)
	Sig. (2-tailed)		.000
	N	113	113
Building ConstrProj	Pearson Correlation	.458(**)	1
	Sig. (2-tailed)	.000	
	N	113	113

** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis I: H_{01} : There is no significant relationship between building construction projects and economic development of Imo state.

The computer printout, Appendix III, shows that the r-cal value of 0.458 is significant, implying that there is a significant relationship between economic development of Imo State and building project delivery. We therefore reject H_{01} with a conclusion that there is significant relationship between building construction projects and economic development of Imo State.

Hypotheses II to IV were tested with the aid of the t-calculated values generated by the Multiple Regression Analysis (MRA) as exhibited in Table 4.10.

Table 4.10 t-test Result of Multiple Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.468	2.498		4.992	.000
	X1	-.254	.070	-.259	-3.639	.000
	X2	-.329	.060	-.370	-5.485	.000
	X3	-.330	.062	-.356	-5.304	.000
	X4	.511	.074	.486	6.874	.000
	X5	-.876	.071	-.396	-6.440	.000

a Dependent Variable: Y

Hypothesis II: H_{02} : The identified socioeconomic factors (constraints) militating against the implementation of building projects in Imo State are not significant.

Constraint I: Funding gap cannot significantly affect building construction project success.

The t-cal. value of 3.639 is significant at 0.000 level, implying that at 0.05 level of significance X_2 is negatively significant to Y. We therefore reject null hypothesis with a conclusion that funding gap can significantly affect building construction project success.

Constraint II: The level of effect that cost of government approval has on building construction project performance in Imo state is not significant.

The t – cal value of 5.485 is significant at 0.000level, implying that the cost of securing government approval is critical and makes significant negative effect on building construction project performance in Imo State. We therefore reject null hypothesis.

Constraint III: Development fee has no significant effect on building construction project delivery.

The t-cal value of 5.304 is significant at 0.0001 level, implying that at 0.05 level of significance, X_4 as indicated in equation 4.1(model) is a significant predictor of Y. We therefore reject null hypothesis and conclude that development fee have significant effect on building construction project delivery.

Constraint IV: Government policies have no significant effect on building project performance.

The t-cal value of 6.874 is significant at 0.0001 level, implying that at 0.05 level significance, X_5 as indicated in the model (equation 4.1) is a significant predictor of Y. We therefore reject null hypothesis and conclude that Government policies have significant effect on building project performance.

Constraint V: Price fluctuation has no significant effect on the successful delivery of building construction projects in Imo state.

Tables 4.10 show a t-calculated value of 6.440 which is significant at 0.0001 level of significance. This means that price fluctuation is critical in an effort to improve the level of building construction delivery in Imo state. We therefore reject the null hypothesis and conclude that Price fluctuation have significant effect on the successful delivery of building construction projects in Imo state.

4.2.6 Priority Ranking

The priority ranking of the factors was done based on their level of effect on the delivery of building construction projects considering their t-test values.

Table 4.11 Priority Ranking of the Factors

S/No.	Identified Militating Factors	t-calculated Values	Ranks
1	Funding gap	3.639	5 th
2	Cost of obtaining Government approval	5.485	3 rd
3	Development fees	5.304	4 th
4	Government policies	6.874	1 st
5	Price fluctuations	6.440	2 nd

From the above tests and analyses, we observed that government policies exert the greatest effect on building construction project delivery in Imo state, followed by price fluctuations, etc. This not unconnected to the high level of instability witnessed in Imo state governance, where policies are made at will without proper consultations. This instability in government policies may have contributed to high level of instability in the price of building construction materials within the state and its environs.

4.3 Analysis of the Collected Data Building Construction Projects in Imo State

The performance data regarding the cost and time objectives for the seven (7) selected building projects in Imo state were analyzed in Table 4.1:

Table 4.12 Cost and Time Performance Analyses of the Building Construction Projects

S/N o.	Project Title and Location	Initial contract sum	Final contract sum	Contract sum variation	% of variation	Initial date	Final date of completion	Time variation (weeks)	% of Time variation	Level of completion
1	Construction of two storey shops at AlabaMkt Naze, Owerri.	62,653,844	82,642,197.20	-19988353.2	-31.9%	48 weeks	192 weeks	-144	-300%	Ongoing
2	Construction of two storey office complex at New site for Imo State Police Headquarters, Avu along Port Harcourt Road.	93,869,893.50	4,529,748.00	-659854.5	-17.1%	48 weeks	96 weeks	-48	-100%	Completed
3	Construction of 4 no. 4 Bedroom semi-detached bungalows, at Isiala L.G. Council, Umuelemai	59193912 x 4	6,928,217.32 x 4	-1008825.32 x 4	-17%	48 weeks	96 weeks	-48	100%	Ongoing
4	Construction 20 shops one storey building by FUTO junction, along PH road, Obinze	11,747,493	14,021,593	-2274100	-19.4%	28 weeks	52 weeks	-24	-85.71%	Ongoing
5	2 no. Blocks of	1,994,481.50	1,994,481.50	0	0%	48 week	49 weeks	-1	-2.08	Ongoing

	public toilets, IsinwekeMkt, Ihitte/Uboma LG.A.					s			%	
6	Construction of 30 stores, Shopping Plaza, Isinweke, Mkt, .	10,404,041	12,498,341.00	-2094300	-20.1%	12 weeks	36 weeks	-24	-200%	Ongoing
7	Construction of residential bungalow at Oboro, Isu L.G.A.	1,994,481.5	2,114,481.00	-119999.5	-6%	48 weeks	144 weeks	-96	-200%	Completed

Source: Imo State Ministry of Public Utility and Urban Development

Table 4.11 revealed that most of the selected building projects experienced cost and time overrun. The study discovered that six (6) out of the seven (7) projects have already incurred negative time and cost variations at various stages of completion. This imply that most of the building projects implemented in Imo State experienced and are still experiencing cost and time overrun and this does not encourage development of the state.

In order to identify the factors responsible for the high level of cost and time overrun witnessed, further study into the causes of these variations revealed that the variations (cost and time overrun) noticed were caused by poor funding, high cost of securing government approval, imposed illegal development fees, unstable government policies, and constant price fluctuations of building materials and labour. All these factors, considered as socioeconomic related constraints made it difficult to realize most building projects in Imo State as planned.

4.4 Discussion of Findings

Based on the analysis made in this study, the following points can be made:

a. Most of the selected building projects experienced fatigue as they incurred cost and time overrun. Six (6) out of the seven (7) projects have already incurred negative time and cost variations at various stages of completion. This imply that most of the building projects implemented in Imo State experienced and are still experiencing cost and time overrun and this does not encourage development of the state (see Table 4.1). Problems like unstable government policies, price fluctuations, funding gap, high cost of obtaining government approval and unnecessary high development fees imposed by the indigenes of a host community, if the owner is not an indigene, among others were blamed for this low performance of building projects in Imo state. The study revealed that these socioeconomic factors constrained building construction project performance in one way or the other.

b. The highest correlation (-0.464) exists between price fluctuation and building construction project delivery (see Table 4.6). This implies that the level of price fluctuation may have been so high that it negatively affected the level of success achieved in the delivery of building construction projects in Imo State and its environs. This result to a large extent depicts reality because recently, the level of fluctuations witnessed in the price of construction materials, especially, building construction is amazing. This level of price escalation has negatively affected the progress of building projects, thus hampering their success. The findings of Ikpo (2016) corroborates with this finding.

c. The derived equation(4.1) show that four factors (X_1 , X_2 , X_3 and X_5) exhibited negative effect on the delivery of building construction projects, meaning that they increase as the level of building project delivery decrease. The implication is that high level of funding gap, cost of securing government approval, imposed development fees and price fluctuations minimizes the level of delivery of building projects in Imo state. This finding is not far from the findings of Hassan (2012). In his study, he emphasized on the problem of price fluctuations and the inverse relationship with construction project delivery in Zimbabwe.

Only Government policies (X_4) has positive effect on the level of building construction project delivery in Imo State, implying that Government policies should be made to support development to improve building construction project delivery.

d. The correlation analysis between building project delivery and economic development indicates a high level of relationship (see Table 4.10). The implication is that current state of poor economic development of Imo state can be attributed to the low level of performance witnessed in most building construction projects delivery.

e. The hypothesis testing show that all the factors have significant effect on the level of building project delivery in Imo state. The priority ranking revealed that government policies have the highest effect on the performance level of building construction projects in Imo state (see Tables 4.11 and 4.12). The study agree that the high level of instability witnessed in Imo state government is paramount because policies affect the economic variables which determines the effectiveness and/or ineffectiveness of construction projects delivery, Okafor, (2016). This instability in government policies may have contributed to high level of instability in the price of building construction materials within the state and its environs.

This study has no doubt justified the empirical review of most building construction projects in Imo state. It has also awakened the call for proper probe into the factors constraining the successful implementation of construction projects, especially, building construction projects in Nigeria for improved national development and standard of living.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

Successful delivery of projects are the building blocks of economic growth and development. And successful project delivery can only occur in a favorable internal and external environment. Most writers agree that national economy is in recession and that public and private projects are generally poorly planned and implemented because of the inherent constraints (Akpan e tal 2007).

This research therefore attempted to determine the nature and scope of the constraining factors that have affected the successful delivery of building construction projects in Imo State. Some of the identified militating causes of poor building construction project delivery are poor funding, high cost of securing government approval, imposition of high development fees by the host communities, unstable government policies and constant price fluctuations of building materials.

One hundred and thirteen respondents expressed their opinions on these major problem affecting the success level of building construction projects in Imo State.

Correlation and Multiple Regression analysis techniques including the F-test and t-test were used to analyze the collected data and to test formulated hypotheses. The study revealed that the average success level of project planning and implementation is 27.01. The study believe that this is low and the key variables of poor funding, high cost of securing government approval, imposition of high development fees by the host communities, unstable government policies and constant price fluctuations of building materials jointly interacted to achieve the obtained level.

However, the correlation analysis shows that successful building construction project delivery has significant relationship with the identified factors in Imo State. It was also

discovered that building project delivery is significantly related to poor funding, high cost of securing government approval, imposition of high development fees by the host communities, unstable government policies and constant price fluctuations of building materials. This is confirmed by the F-test value at 5% level of significance.

Instability of Government policies has the most significant effect on the success level of building project delivery. This is confirmed by the student t-test. The study concludes with some recommendations on how to achieve a high success level in building construction project planning and implementation.

5.1 Conclusion

From the findings of the study, it is concluded that:

Appropriate and adequate funding of building construction projects, fast and economic cost of securing government approval, elimination of unnecessary imposition of high development fees before implementing building projects, stable and favorable government policies that will encourage effective planning and implementation of projects, reduction and stability of construction materials costs to allow for effective planning and delivery of construction projects, especially building projects.

Furthermore, although timely and reliable funding are vital to successful building project planning and implementation, proper funding required from clients for proper planning and implementation are most times late, and this delays project delivery.

More so, easy and low cost of acquiring government approval are necessary to facilitate the successful delivery of building projects, but accidentally this is not easily obtainable hence leads to frustration of most building/estate developers.

Additionally, in most communities in Imo state, the development fees are so high that most building owners find it difficult to afford before implementation of building projects. Hence, the need to eliminate these illegal development fees in order to allow people to successfully implement building projects in the state.

Finally, government development policies should be strengthened and inflation controlled to avoid constant increase in the cost of materials for building construction projects.

5.2 Recommendations

Based on the findings and conclusions of the study, the following recommendations are made to improve the quality of planning and implementation of building construction projects in Imo State, Nigeria:

- i. Timely and adequate funding of building construction projects should be maintained throughout the project life cycle in order to reduce the negative effect of materials price fluctuation and facilitate smooth delivery of building construction projects in Imo State.
- ii. The cost and process of obtaining government approval should be made more affordable and simple. This will reduce the frustration that intending house owners and estate developers experience before securing government authorization and encourage both the private and public investors to invest in building projects for the economic development of the state.
- iii. The necessary authorities should monitor and apprehend the village head of any community that engage in extortion of the building developers or investors by imposing unnecessary development fees before implementing building projects, even after obtaining government approval. The youths should be empowered and admonished to desist from harassing investors who should assist in the development of their community.
- iv. The government should create an enabling environment through policies and programmes that will encourage the proper planning and implementation of building construction projects in the state. Stable and favourable government policies that will encourage effective planning and implementation of projects should be pursued by all the stakeholders in the “Rescue Mission” development agenda in order to achieve the

needed development and enhance the socio-economic wellbeing of the citizens of Imo State.

- v. Government development policies should be strengthened in order to control inflation and avoid constant increase in the cost of materials for building construction projects. There should be stability of construction material costs to allow for effective planning and delivery of construction

5.3 Contributions to Knowledge

This study has been able to establish the fact that wrong policies formulated by the State Government is the major reason for poor performance of building construction projects in Imo State and other States of the federation.

It has also unveiled the constraints building investors have been facing in some communities in Imo State. Critical among them is the forceful imposition of development fees before implementing building construction projects.

The study also exposed the level of corruption and bureaucracy that characterize the process of securing government approval hence making the process costly and difficult.

Lastly, the individual and collective effects of these identified constraining factors on building construction project performance in Imo State and other Southeastern States have been established.

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AP--PENDIX I
QUESTIONNAIRE

SECTION A

General Information:

1. Academic background/ qualification:
2. Designation of the Respondent:
3. Number of years in the above position:

Consider a building construction project planning and implementation you have participated. Using the scale provided, please circle or tick the cell that indicated the extent to which you agree or disagree with the statement as they relate to the socioeconomic factors or event that occurred in the project above which you are reporting. The values attached to the scale are as follows:

- SD = Strongly Disagree = 1 Point
 D = Disagree = 2 Points
 N = Neutral = 3 Points
 A = Agree = 4 Points
 SA = Strongly Agree = 5 Points.

Factor 1: Funding Gap		SD	D	N	A	SA
1	The building construction project received adequate and timely funding throughout the planning and implementation stages.					
2	Poor funding of building projects did not affect project delivery schedule.					
3.	If building projects funds are delayed, the project will also suffer cost escalation which may hinder successful delivery.					
4.	Funding gap exist because the client is not satisfied with the progress and quality of work.					
5.	Poor project funding is most time times caused by the disagreement between contractors and their clients.					

Appendix I contd

Factor 2: Cost of Securing Government Approval		SD	D	N	A	SA
1	High cost building permit discourage builders from investing in building projects in Imo state.					
2	Corruption and delay in certifying building plans affect the timely delivery of building construction projects.					
3.	Bureaucratic bottleneck and activities of politician contributed to the high cost of obtaining building permit from the necessary authorities.					
4.	The cost of building certification increase the cost of building construction projects in Imo state, Nigeria.					
5.	Government policies and regulatory activities do not really promote the rapid development of the economy through successful delivery of building projects.					

Factor 3: Imposed Development Fees		SD	D	N	A	SA
1	Most communities in Imo State engage in various illegal activities of imposing development fees on building contractors/ clients before implementing any construction project, especially building projects.					
2	The issue of demanding for development fees by the community leaders and or youths delays the process of project implementation.					
3.	Community leaders who engage in illegal collection of development fees should be identified and prosecuted by the appropriate authority.					
4.	The Traditional rulers should be held responsible for any conflict arising from the illegal collection of development fees in their community.					
5.	Development fees should be discouraged in order to encourage development through massive provision of shelter which will improve the standard of living of the people.					

Appendix I contd

Factor 4: Government Policies		SD	D	N	A	SA
1	In project management, government policies affect the planning and implementation of building projects.					
2	Policies of the government regarding development should be made to favour real estate development in order to provide shelter which is one of the major criteria for judging development level.					
3.	Government policy makers are most time ignorant of the need to provide shelter for the development of the people self-esteem.					
4.	Government policies in the Imo state contributed to the increasing activities of touts in the name of "TASKFORCE" aimed at exploiting building construction owners and contractors.					
5.	Government policy regarding "Certificate of Occupant" is making building projects expensive and discouraging.					

Factor 5: Price Fluctuation		SD	D	N	A	SA
1	The constant fluctuation witnessed in the price of building materials distorts effective planning and implementation projects.					
2	Inflation is responsible for the high level of fluctuation of building materials costs.					
3.	Economic depression in Nigeria does not allow the manufactures of building materials to reduce cost of production, hence the continuous increase seen in the cost of building materials.					
4.	The level of corruption seen in the country amidst the middle men negatively affects the price of building materials.					
5.	Poor road network and high cost of transportation contributes negatively on the cost of construction materials, especially building materials.					

Appendix I contd

Successful Building Project Delivery		SD	D	N	A	SA
1	Demand for development fees by the community leaders and or youths delay the process of project implementation.					
2	High cost building permit discourage builders from investing in building projects.					
3	Cost and time variations are caused by unnecessary political interference of some government officials.					
4	High cost of “Certificate of Occupant” negatively affect building projects delivery.					
5	Inflation is responsible for the high level of fluctuation of building materials costs.					
6	Poor funding of building projects did not affect project delivery schedule.					
7	Bureaucratic bottleneck and activities of politician contributed to the high cost of obtaining building permit from the necessary authorities.					
8	The constant fluctuation witnessed in the price of building materials distorts effective planning and implementation projects.					
9	Policies of the government regarding development should be made to favour real estate development in order to provide shelter which is one of the major criteria for judging development level.					
10	Most communities in Imo State engage in various illegal activities of imposing development fees on building contractors/ clients before implementing any construction project, especially building projects.					