

Assessment of Factors Responsible for Successful Project Implementation in Anambra State, Nigeria.

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Abstract

There is a high rate of project failure in Anambra State, Nigeria. This manifests not only as abandonment of projects, but also as cases of structural collapse, inability to deliver projects on time, cost overshoots and poor client satisfaction. Because every microenvironment is unique in some way, factors dictating project success could differ markedly from environment to environment. The aim of this research therefore was to appraise the factors critical for project success in Anambra State, Nigeria, with a view to helping stem the high incidence of project failure. Primary information used in the research were sourced from a survey of one hundred (100) project professionals, each possessing a minimum of 5 years of experience. Structured questionnaires based on the Likert-5-Point Scale of Responses were used to capture their opinions on the reasons for project success, while Secondary information were sourced from a review of literature. Results were analyzed using appropriate statistical tools based on the Statistical Package for Social Sciences (version 16.0). We have established and firmly ranked the first five factors responsible for project success in Anambra State, Nigeria. We concluded that the most important factor for project success is ability to handle unexpected crises above client commitment. It is recommended that the results of this research be disseminated and used in community enlightenment, and in further policy guidance and regulation. It is also recommended that the study be applied to the entire South Eastern states of Nigeria in order to generate better client satisfaction in subsequent projects.

Keywords: Assessment, Factors, Successful Project, Implementation.

1. Introduction

1.1 Background of the Study

Projects do not succeed by chance. Rather, successful project implementation is a result of careful conceptualization, design and implementation, factoring in all the variables which may influence project success in a given locality. When construction projects are involved, their unique features must be taken into consideration in order to guarantee success. Such features include complexity, uncertainty, capital, and labor-intensiveness (Ko and Cheng, 2007). The Nigerian construction project industry in particular is dotted with too many cases of failed, abandoned or uncompleted projects. These include both publicly-owned facilities and private projects. Project failure manifests as inability to deliver a project to time, cost and quality specifications, or inability to satisfy consumer expectations (Amachree, 1988). Going by this definition, it may be observed that few projects in Nigeria go to completion on time, and few also utilize the amount initially budgeted for them. More often than not, the projects drag on for years and in some instances, they become functionally obsolete on completion. This is because times are changing fast, and new innovations driving the way things are done are being introduced every day. A typical example is the Ajaokuta Steels Project. The amount of money invested so far runs into billions of naira yet, because it has dragged on for years, the project has no prospects of ensuring steel production at a competitive rate. This is because parts installed initially in the early stages of the project have become obsolete and cannot guarantee steel production at a competitive rate. The waste occasioned by this project is monumental, because the money could have been channeled into other needed priority projects like equipment of Universities, or maintenance of roads.

The failure of projects from a cost perspective is a worrisome trend in the construction industry in Nigeria. Whereas in many cases, project cost variation is inevitable because of inflation and other unforeseen events, more often than not, poor project conception and design by themselves make it impossible to make credible estimates of the costs of materials and of the project itself. This trend has become a handy excuse for corrupt contractors and administrators who resort to varying the cost of ongoing projects in order to make money from the situation. Sometimes, the ultimate cost of the project after all the variations done is several magnitudes higher than the projected cost at the start. This is wrong and points at the inability of governments and project owners to engage the services of professional project managers to oversee ongoing projects. In fact, technical competence in architecture, or building, civil engineering or management alone cannot qualify one as a professional project manager without the requisite training.

The inability to complete projects on schedule or to cost projections has sometimes led to total project abandonment. This has been encountered in road construction projects, where initial excavation and grading work can worsen the state of pre-existing roads, only for the project to be abandoned for one reason or the other. This has created untold hardship in many rural and urban road construction projects, because such roads serve entire communities and could affect their economic fortunes. In other instances, public building projects of a

crucial nature such as proposed hospital projects could drag on for years, even while the populace battle epidemics.

The question then is, “why are more and more projects failing?” And, what can the project manager do about the menace? The reasons for failure are numerous. They could range from technical problems associated with poor project conceptualization and design, to economic problem associated with their implementation. Others include political, environmental, cultural factors, etc. As credible and unpredictable as these reasons are, the truth is that professional project management can go a long way in envisaging the barriers to project success and curtailing them. Above that, professional project management can ensure that all relevant factors needed for successful project implementation are identified, factored in, and harnessed, in order to ensure successful delivery.

The ability of projects to deliver value to customers or users on completion is another crucial measure of importance and in many cases, this condition is not met. There are several cases of white elephant projects embarked upon by the government that have little inherent value, even after gulping billions of naira. This means that, in order to be seen as performing, a project must be conceptualized to address a specific desired and justifiable purpose, which ranks very well on the scale of importance and priorities. For instance, in most resource-poor settings with no infrastructural provisions, there is hardly any justification to embark on a project for an amusement park, when there is no provision for pipe borne water, electricity, or good roads. The conceptualization is therefore very important, because once it is poorly done, there is a wider room for abandonment, in that incoming administrations may fault it and starve it of funds.

The design of a project is also very important, and is intimately linked to the conceptualization of its very idea. Poor design eliminates the possibility of deriving maximum value from the project, because functionality is lost. Poor design could lead to early dilapidation and short utility life. Sometimes, structural collapse may occur. This has happened in many residential building projects all over Nigeria, and has led to high no of casualties. In other countries such as China, cases of bridges collapsing in the course of construction have been recorded, leading to very high fatalities. Recently in Nigeria, there has been a move to regulate the standards of building materials more stringently, as the poor qualities of such building materials have been adduced as a reason for the high rate of collapse, fires, dilapidation, etc.

From the foregoing, it may be seen that appropriate project and production management are key success factors (Halpin & Senior, 2010; Santos *et al.*, 2002).

1.2 Statement of the Problem

According to Nwachukwu, *et al.* ((2010), the rate at which infrastructure construction projects fail, or are abandoned, some even under construction, is retrogressive in most developing economies. So one understands why it is a problem in Anambra State, Nigeria. Project failure is a big problem in Anambra State, Nigeria. Besides the very high numbers of abandoned projects defacing the landscape, of recent, a high rate of collapse of privately-owned building projects has been recorded, with the attendant fatalities. In June, 2012, a building collapsed at Ifite, near Awka, claiming two fatalities with a number of other injured persons (Ujumadu, 2012). Very recently, in September 2014, another storey building collapsed at Adazi-Ani, killing one and injuring over 200 persons (Ameh, 2014). It is appalling that this can be happening when we have not been attacked by some natural disasters such as tsunamis and earthquakes, which test the strength of even the strongest buildings. The problems posed by failed projects are not limited to private buildings. In fact, some glaring cases of public buildings such as the Federal Secretariat Project, buttress this point. Project failure in Anambra State, Nigeria, is indeed alarming. Projects of moderate scale go on for a long time and this has created skepticism in the citizenary about the sincerity of governments to complete any projects embarked upon on schedule. Sometimes, communities make projections about the likelihood of early completion or not, or even outright abandonment, judging solely by the reputation of the contractor handling the work. Even more worrisome is the prevalence of abandoned projects, mostly private properties, due to one reason or another.

One of the very first steps in problem resolution is identification of the problem. It is therefore necessary to appraise independently the factors responsible for successful project implementation in the State so as to enhance project delivery.

1.3 Aim and Objectives of the Study

The aim of this study is to assess factors responsible for successful project implementation in Anambra State, Nigeria.

Specific objectives include:

- To determine the critical factors responsible for successful project implementation in Anambra State, Nigeria.
- To find out if client commitment is more important for project success than the availability of the required technology and expertise.

- To find out if the award of contract without reference to availability of fund is the major reason for project failure in Anambra State, Nigeria.

1.4 Research Questions

There are certain research questions that need be answered in the course of this research, as an objective. These include:

- What are the critical factors for successful project implementation in Anambra State, Nigeria ?
- Is Client Commitment more important for project success more than availability of the required technology and expertise ?
- Is award of contract without reference to availability of fund the major reason for project failure?

1.5 Significance of the Study

The study can go a long way in throwing up indices which can be successfully applied to boost project delivery in Nigeria. This can help in informing policy development on the subject matter, and can help project guidance to professionals involved in construction projects in Nigeria, from design to implementation. It can also establish a clear need for professional project managers in Nigerian construction enterprises. Because of paucity of literature on project management principles and practices in Nigeria, it is hoped that empirical studies such as this can help enrich the indigenous literature on the concept.

2. Review of Related Literature

2.1 Concept of Project and Project Management

By definition, a project can be considered to be a series of coordinated activities and tasks embarked upon by organizations, with clearly defined objectives, start date, duration, requirements for resources and also funding limits. A project is delivered to quality and time and cost specifications and in order to realize them, proper organization of resources is crucial (Nwankwo, 2006). This need for proper organization of resources informs the concept of project management. Project organization therefore is referred to by Benjamin (2001) as the “overall design and structure of the body of entity that would undertake the task of project execution” By this definition there is no disparity between project organization design and organization design/instruction. Project management has been defined as “managing and directing time, materials and costs to complete a particular project in an orderly and economical manner, so as to meet established objectives in time, budgeted amount and to achieve technical results” (Ntamere, 1995). It can also be defined as planning, directing, organizing and managing of a company’s resources for a relatively short-term objective.

Project management is believed to be justified as a means of avoiding the ills inherent in the construction and production sectors of the economy and for which reasons most projects fail and or abandoned (Nwachukwu & Emoh, 2011). Project management is concerned with “implementation of strategy”. “Strategy” is an old word concerned with a plan of action geared towards achievement of a particular goal (Ghemawat, 2002). Modern project management, which is not the same as Strategic is a means to adapt for change and be a tool for strategy implementation. Project management is most crucial to the development of businesses and enterprises, in which it offers a platform for harnessing and integrating the various components of resources, labor, and communication towards project success. It evolved from the need for management to stay informed about all aspects of an organization’s activities and commitments given the complexity of the organizational structure. It is dynamic as it can change its composition to suit the need of the project wherever necessary.

2.2 Factors Affecting Project Implementation

There are several factors affecting project implementation process and these have been discussed from different perspectives by different authors. Metzger (1983) listed problems mostly encountered as: Poor planning, undefined contract, unstable problem definition, inexperienced management, political pressure, ineffective change control and unrealistic deadline. In the views of this author, the successful project implementation may depend to an extent on careful regulation of the factors as stated below:

1. Insufficient capital
2. Inflation
3. Poor planning
4. Political pressures and Government Bureaucracy
5. Contractor competence and organization
6. Variation of project scope and design
7. Changes in consultancy service providers
8. Change in the original design
9. Business/Geographical environment
10. Project complexity

These factors could be further organized into several broad categories, such as:

2.2.1. Management Factors

Management entails the direction of people to facilitate attainment of organizational goals. (Nwachukwu, 1988). The successful implementation of a project depends in part on effective utilization of Management principles. Poor management is a recipe for failure because it reflects in every aspect of project management. The overall importance of efficient management informs a need for management education (Blunt & Popoola 1985), which is needed to keep up with changing organizational cultures and climates.

2.2.2 Planning

Project planning draws up objectives and sets out the best way of achieving them (Ibekwe, 1984). Planning is important in day-to-day life, and poor planning has been adduced as a most frequent reason for project failure (Samaras & Yensuaug, 1989). According to them, poor planning manifests in one or more of the following ways:

1. Failure to put in place and insist on adequate planning before commencement of work
2. Use of inexperienced people in planning and implementation.
3. Delegation of planning functions to other personal by technical staff who see planning as not so dignifying
4. Indiscipline and lack of work commitment needed for effective planning
5. Failure to follow pre-established planning guidelines
6. Failure to provide enough time for planning

2.2.3. Technology

Technology refers to the application of mechanical, intellectual and other forms of energies in the efficient utilization of resources by a skilled manpower. Technology varies in complexity and modernity, and no organization is able to mechanize all its processes, meaning that different organizations employ technology to different extents. However, good management practice entails identifying the technological needs of the organization and procurement and deployment of the necessary technologies for effective utilization of resources. But where an organization is unable to fit the appropriate technology to organizational task, which of course is the beginning of failure in the organization.

2.2.4 Structure

The relationship and organization of functions and authority determines the nature of interaction and coordination obtainable in any organization. The structural factors that may affect organizational efficiency include the following:

1. Functional specialization
2. Degree of decentralization
3. Formalization
4. Span of control
5. Organization size
6. Work unit size

2.2.5 Business Environment

Businesses do not operate in isolation, but are part of a larger regulated business environment. The success of any organization and also its associated projects depends on an ability to envisage and adapt to an ever changing business environment, both in the conception, planning and also implementation stages. The environment includes the social structure and the legal and political framework in which business is conducted, and also the technological progress available at the time.

The environment may be favourable, hostile or indifferent. In the case of Anambra State, Nigeria, the peculiar challenges that may be encountered include kidnapping of key project staff, unreasonable demands by youth groups for special financial settlement before commencement of projects and theft of project materials. It is the responsibility of Management to implement changes in strategies which can accommodate the environmental influence. For example, a hostile environment such as a terrorism-prone area may be tamed by embarking on greater corporate social responsibilities and by cultural integration.

2.2.6 Geographical And Climatic Factors.

Anambra State still has a high number of untarred roads and records a high amount of rainfall per year. Many projects are implemented by government as a political expediency in order to win votes, and the location of such projects means that accessibility may be a problem unless good access roads are secondarily provided. In addition, many parts of the state are prone to erosion, occasioned by heavy rainfall, and both threaten ongoing projects. In consequence, execution of projects in these parts is scheduled seasonally, with very long breaks during the long rainy season.

Additionally, the many rivers and streams dotting the landscape mean that bridges are normally required in different segments of a road construction project and flooding of the rivers and water-logging of the adjoining areas may occur.

2.2.7 Economic Factors

Funding is a major issue for all projects. Projects suffer from dearth of funding even after budgetary provisions were made for their funding. This is because the mere fact that a sum of money was budgeted for does not mean that the said amount will be ultimately released for the project, due to other considerations. For example, government revenue may dwindle in the face of oil doom, and this massive shrinkage in revenue may affect the ability of government to meet its financial obligations to contractors. Cancellation of funding agreements is also another frequently encountered factor. Corruption influences the award of many contracts and the contract sum; indeed a project could be starved of funding just because sums of money initially agreed upon as kickbacks did not get remitted. In many countries in the last decade, economic meltdown occasioned massive cases of project abandonment. In some instances, money earmarked for projects have been stashed away in fixed deposit bank accounts, where they yield interest for the depositors at the expense of the project.

2.2.8 Lack of Continuity

There is a tendency for successive governments to discontinue projects initiated by their predecessors (Fubera, 1985). Rather than do this, the new regimes prefer to start their own projects altogether. A major reason for this is that many contracts are awarded to serve political purposes and so continue to be credited to the regime that awarded it, even if they did not complete it. Again, because many contracts are actually inflated, rather than continue to fund ongoing projects, successive governments tend to use this knowledge to discredit past governments in order to score political points. This has led to a dive in confidence in the public sector, such that funding partners approach long term public sector projects with a lot of caution. (Nwachukwu, 1988). This greatly erodes the operation of public-private funding partnerships.

Sometimes, this lack of continuity derives from more sincere reasons like inflation, which affects the cost of raw materials and changes the amount of money required to complete a project by many orders of magnitude. For projects which have been going on for a long time, several cost variations may be occasioned by this, which greatly increases the temptation to abandon them.

2.2.9 Social Factors

As previously mentioned under business environment, communities where projects are sited often play a role in its implementation. They may play beneficial roles, but in the majority of cases, they tend to sabotage the project unless they are accorded certain privileges, such as allowance to undertake paid tasks and also handle smaller contracts relating to the main project. In some instances, they even ask for lump sums of money as 'settlement', and it is known that contractors sometimes put influential members of the community on their payroll so that they can continue to mediate on their behalf with the restive youths. When this mediation fails, disturbance of ongoing work ensues, leading sometimes to vandalism of company properties.

Another factor in this category is nepotism, which influences the choice of contractors and suppliers. In a system like ours bedeviled by nepotism and tribalism, the best does not always emerge as the winner after contract/supply bids are made. Instead, contracts are awarded along ethnic and sectional lines, resulting in shoddy jobs. Nepotism is indeed a catalyst for corruption in Nigeria.

2.2.10 Administrative Excesses

Public service is plagued by an unusually high level of bureaucracy which makes the implementation of projects to be very challenging. This stifling bureaucracy is encountered in project registration and approvals, and also documentation and fund release. Because in many cases, government departments are supposed to monitor ongoing projects, the opportunity offered by this oversight can be abused and turned into excessive checks and meddlesomeness which threaten the project itself.

2.2.11 Dearth Of Skills

The implementation of many projects in countries like Nigeria is plagued by an acute dearth of skills. This is because the country suffers from a brain drain whereby skilled personnel migrate to advanced overseas countries where their services are needed. In consequence, in order to implement many projects, expatriates often have to be engaged from other countries at exorbitant rates. This threatens the ability of the government to implement projects of certain complexities e.g. power stations and dams.

Even within the country, there is also a directional movement of skilled personnel from public to private sector, which affects the capability of government Departments to implement and monitor projects. In consequence, it is often necessary to employ private consultants to oversee government contracts, at very huge costs to the government.

It is therefore not every time that poor job executions stem from corruption and other vices. Instances abound whereby highly sensitive projects were bungled by engagement of incompetent service providers who lack the needed skills but who gave the project their bests. There is therefore a need to continue to train professionals to imbue them with the needed professional skills for the technological advancement of the country.

2.3 Project Success

Project success is among the few most frequently discussed project management concerns, yet it is the least

agreed upon. The question is, can a project which conformed to time and cost projections be adjudged as successful even when it has been poorly received by the client? Actually, measures of project success parallel measures of implementation design success, and implementation success.

Measures of project success may involve internal and external indices. The internal factors are such measures as compliance with cost and time projections while the external factors involve client' satisfaction and cost effectiveness of use. The latter factors cannot be overemphasized because the importance of a project to its user should be actually regarded as one of the most important indices of project success.

The clear definition of conditions for project success has been a thorny and contentious issue and so the subject of many reviews though many factors which ultimately affect human performance can be associated directly or indirectly with projects success, the most essential ingredients which cannot be dispensed with should be clearly identified and factored into all considerations pertaining to the project. Project delivery time, cost and quality specification is crucial to customer satisfaction. Cost considerations are very important which call for prudent allocation of scarce resources. This ensures that judicious use is made of any given amount of materials in order to ensure value maximization. Closely associated with cost-failed projects are time-failed projects which whose completion times exceed reasonable time projections for a project of similar complexity or scope. Many projects continue long enough to be considered obsolete in its functionality or design. .

The summary of the conditions for project success is, "A project that meets the technical performance specifications and mission, and which enjoys a high level of client satisfaction is a successful project" (Baker, Fisher and Murphy, 2000).

The definition proffered above may be termed "Perceived project success". It is common knowledge that such projects derive from misplaced priorities in the award of projects. A rural community without good access roads may not be a location for an amusement park. However, political expediencies and also corruption such as offer of kickbacks often influence the choice of projects for award not minding the potential benefits derivable from such projects in the chosen locality. The list of such projects is endless. Of late, there were plans for the establishment of a centenary village in the Federal Capital Territory in the sum of billions of naira. The Games Village previously established in a nearby location was executed at very heavy costs to Government and later sold off at give-away prices. The opportunity cost of such wasteful projects is not easily quantified.

2.4 Project Implementation Profile (Pip)

Project implementation is the most resource consuming and visible phase of the project life cycle involving heavy financial outlay (Ubani *et al.*, 2010). As such, appreciation of the requirements for project implementation cannot be overemphasized. A model for successful project implementation was developed by Slevin and Pinto (1986). The ten-factor model, collectively called the Project Implementation Profile (PIP) is presented below. Even though it is debatable if the factors outlined form "Universal" success factors for project implementation, it is reported that the model has been implemented based on strategies put forward by Schultz, Slevin & Pinto (1989), leading to a boost in success levels in the United States (Wilemon & Baker, 1993).

2.4.1 Project Mission:

It is very important that goals and objectives of any project are clearly defined at a very early stage in the project. Without this condition, success can hardly be attained as success is actually measured against project mission. The project mission is like a beacon and only when it has been realized can the project be said to have been completed. The project should start with a statement of the plan and its objectives.

2.4.2. Top Management Support:

This is a very important factor. For any project to succeed, it must receive due support from Management as this support is very crucial to success. (Schultz & Slevin, 1975). Whereas project management represents the pathway for implementation of top management plans, it also depends on top management for authority or direction means that top management support is very important for project success (Beck, 1983). The commitment of top management to projects can go a long way to reduce any conflicts in the allocation of resources and in ranking or priorities (Wilemon & Baker, 1993). Top management support manifests as allocation of resources including time, personnel and financial resources. It can go a long way to boost the morale of project managers in the project, because they are sure of top management support in conflict situations.

2.4.3 Project Schedule/Plan

Project schedule/plan refers to refers to a specification of time schedules, milestones and manpower and equipment requirements. The importance of developing a project schedule cannot be overemphasized and several parallels of the stages of implementation process have been drawn (Pinto & Slevin, 1987). The schedule must include an appropriate evaluation system so that actual performance can be judged against mere budgetary and time projections. The project schedule is a core component of the PIB model. The schedule must include a satisfactory measurement system as a way of judging actual performance against budget and time allowance.

2.4.4 Client Consultation:

An important provision of PIB is the clients' consultant. The client is anyone who may ultimately be making use

of the outcome of the project. Clients' consultation is very important in project implementation. Maney (1975) showed that the degree of client's involvement in project implementation affects their support for the project. Also, according to Anyanwu (2003), client consultant is the first step in change implementation. However, client consultation should be required throughout the duration of the project as there is a tendency to do away with this requirement after an initial client consultation activity (Schultz, Pinto & Slevin 1989).

2.4.5 Personnel Recruitment

The utilization of human resources and expertise is an important aspect in the efficient management of any organization. Nwachukwu (1988) views efficient utilization of human resources as a very big asset for any organization (Nwachukwu, 1988). This requirement cuts across both private and public organizations.

2.4.6 Technical Tasks

The necessity for personnel goes with a necessity for technological expertise in order to ensure adequate supervision of the project. Technical task essentially refers to the condition that both the necessary personnel and the prerequisite skills are in place in the project implementation team. Technical incompetence has been identified as a cause of inefficiency and cost ineffectiveness (Alter, 1979). The users of any technology need to be familiar with the mode of operation in order to avert risks to personnel and equipment.

2.4.7 Client Acceptance

This is related to clients' consultant. No matter how well a project is carried out, the ultimate acceptance of a project depends on how well the client is carried along all through the stages of the implementation. Acceptance is very crucial stage in project implementation which requires that the ultimate user of the project should participate in its implementation, particularly in its very early stages, but all through the project life. There is the likelihood of acceptance if the user is carried along in the early stages of the project.

2.4.8 Monitoring And Feedback:

Nwankwo (2006) emphasized that importance of monitoring and fine tuning of each stage of the project implementation. This means the necessity for key personnel to receive feedback on how the project is fairing in comparison with initial projections. Allowances must be made for adequate monitoring and feedback channels between the project manager and the user and between the project manager and top management. It is important in PIB to monitor not only project schedule and budget but also the activities of the project implementation team.

2.4.9 Communication:

Communication is related to monitoring and feedback discussed previously. Proper and adequate communication channels are important for successful project implementation. Communication ensures that the project team functions very well within itself while also ensuring that the team maintains needed contact and exchange with the rest of the organization, and also the user. Though several modes of communication exist, verbal communication has been found to be a very efficient means, more than written communication (Tushman, 1979). High performing teams have such features as a high degree of administrative communication.

Communication is not centred on provision of feedbacks alone, but exchange of vital information, communication of policy changes and new procedures, goals, updates, etc. Communication does not always stand alone but is normally applied in the execution of other components of the PIB (Nwankwo, 2006).

2.4.10 Troubleshooting:

Problems always arise in the course of project implementation and no matter how well planned a project was initially, problems are often encountered in the day-to-day implementation. Conflict is bound to arise, and can be seen in positive light as an indispensable force that can propel the wheel of success in project implementation.

3. Research Methodology

3.1 Research Design

The research employed the field survey approach which took the researchers to several project sites for the collection of data. The factors bearing on project management were analyzed to find out their individual and collective impacts using suitable analytical tools (see Statistical analysis).

3.2 Study Population, Sample Size And Sampling Technique

A minimum of 100 professionals were targeted. These included project professionals of different backgrounds including project managers, architects, surveyors, engineers, builders, etc. The fraction of the targeted study population responding to the questionnaire constituted the sample size. A random sampling technique was used, targeting skilled and very experienced project professionals in the middle and top hierarchies.

3.3 Data Sources

Data sources included both primary and secondary data sources. The primary data refers to first hand information obtained from the surveys while the secondary data refers to already published information which were further applied to the research. The secondary data helped establish the theoretical background and to modify the research question and pointed out the limits of previous researches on related topics.

Secondary data sources included:

- Textbooks (print and online)

- Journals articles
- Real estate magazines and newspapers
- Conference/Workshop papers and proceedings

3.4 Instruments For Data Collection

An Objective Evaluation Questionnaire (OEQ) was used in primary data collection. The questionnaire was distributed to a hundred and nineteen (119) project professionals, out of which 100 was returned. This no then constituted the sample size for the analysis,

3.4.1 Structure Of The Questionnaire

The questionnaire was structured in the "Likert-5-Point Scale of Responses" format. This has the advantage of flexibility for several choice responses.

The responses could be one of:

Disagrees strongly, weighted 5

Disagrees, weighted 4

Undecided, weighted 3

Agrees, weighted 2

Agrees strongly, weighted 1

Any of the above responses could apply to each of the statements made in the questionnaire. Additionally, they were allowed to include any other factors not captured in the questionnaire and which they deemed important towards successful project implementation, or project failure.

3.4.2 Primary Sources Of Data

The major sources of data used in this work included Project Managers, architects, Estate Agents, quantity surveyors, civil and structural engineers, and builders. Those included in the sample had post-qualification experience of 5 years at the least.

In this sources of data collection, (19) factors responsible for project success ilure as identified in the literature were used in forming the questionnaire (see appendix 1).

3.5 Factors Responsible For Project Success

Table 3.1: Coding of factors for Project success

S/N	Factors of Project Implementation	Code
1	Clear statement of project aim and objectives leads to successful project delivery.	VAR00001
2	Ability of the top management to give necessary support leads to successful project delivery.	VAR00002
3	A detailed and accurate specification of individual actions steps and timelines leads to successful project delivery.	VAR00003
4	Availability of the required technology and expertise to accomplish technical aspect leads to successful project delivery.	VAR00004
5	Selection and training of necessary personel for the project team lead to successful project delivery.	VAR00005
6	Timely provision of comprehensive control information at each stage of implementation process leads to successful project delivery.	VAR00006
7	The provision of appropriate network and data to all the key actors in the implementation process leads to successful project delivery.	VAR00007
8	Involvement of the client at each stage of the implementation leads to successful project delivery.	VAR00008
9	Ability to handle unexpected crises and deviations from the plan leads to successful project delivery.	VAR00009
10	The level of client acceptance is a determinant of the success of the project.	VAR00010
11	Economic stability leads to successful project delivery.	VAR00011
12	Accuracy of designs and specifications leads to successful project delivery.	VAR00012
13	Compliance with regulatory standards and government approved plans leads to successful project delivery.	VAR00013
14	Supplier/Vendor commitment to the project specifications leads to successful project delivery.	VAR00014
15	Client commitment to project financing leads to successful project delivery.	VAR00015
16	Deployment of scientific project management tools leads successful project delivery.	VAR00016
17	Accuracy of project cost estimates leads to successful project delivery.	VAR00017
18	Expatriate staff involvement leads to successful project delivery.	VAR00018
19	Engagement of professional project manager leads to successful project delivery.	VAR00019

3.6 Tools for Data Analysis

All analyses were done using SPSS. They included the following:

3.6.1 Factor Analysis

Factor analysis is a quantitative multivariate analysis which tries to represent the interrelationship among a set of continuously measured variables using a number of underlying linearly-independent reference variables called factors (Ubani & Okoroji 2013). It seeks to condense the numerous influences into fewer dimensions of interrelated attributes called components. In this procedure, the relative influences of different factors held by different experts to be responsible or contributory to project success or failure were ranked, using Statistical Package for Social Sciences. These included 19 factors ranked in order of importance in project success and 18 factors ranked in order of importance in project failure. This was to enable the most important factors to be isolated, in order to help prioritize the factors affecting project implementation in Anambra State.

3.6.2. Reliability test

In the test of reliability, the internal consistency of internal consistency of the responses of respondent was determined, to check their suitability for use in decision-making process. Inconsistent responses cannot be used for decision making, as it may lead to wrong conclusion. Using Cronbach Alpha at 5% level of significance, Alpha value less than 0.60 is said to be weak and value greater than 0.60 is said to be strong.

3.6.3 The Correlation Coefficient (R):

The correlation coefficient r measures the strength of correlation between quantified weight of critical success (or failure) factors and level of successful or unsuccessful project management, respectively.

This is calculated using the formula:

$$R = \pm R^2 \quad 3.1$$

Where:- $-1 \leq R \leq +1$

3.6.4 The Paired T-test:

The Paired T-test was carried out in order to analyze the agree-disagree responses to the question in hypothesis testing. The T-test value is calculated using the formula:

$$t = \frac{d}{S_d \sqrt{n}} \quad 3.2$$

Where the distribution has $n-1$ degree of freedom; d is the difference in mean, S_d is the standard deviation and n is the sample size. The above formula is for illustration only and the analysis was generated directly using SPSS.

4. Data Presentation And Analysis

4.1 Data Presentation

One hundred responses were obtained, and their responses are presented in the weighted scores table below.

Table 4.1 Data Presentation

One hundred responses were obtained, and their responses are presented in the weighted scores table below.

Table with 37 columns and 58 rows of numbers. The columns are labeled 1 through 37 at the top. The rows contain numerical data, with the first 28 rows being bolded and the last 30 rows being regular text. The data appears to be a sequence of digits from 1 to 5, arranged in a grid pattern.

59	4	4	3	4	4	5	5	4	4	4	3	4	5	4	5	4	5	1	4	4	4	4	1	2	1	1	2	1	3	2	1	4	1	4	3	4	3	
60	5	5	4	5	4	4	4	4	3	5	5	5	4	4	4	4	4	3	4	2	2	4	2	4	4	3	4	2	4	4	4	4	4	2	4	4	3	4
61	5	4	4	5	5	4	4	4	5	4	4	5	5	4	4	4	4	5	1	1	1	1	2	2	2	2	3	4	4	4	4	4	4	4	4	4	4	
62	4	4	4	4	4	4	4	4	3	5	5	5	3	5	2	4	2	3	1	3	2	1	1	1	4	5	3	3	4	5	5	3	5	4	3	3		
63	5	5	5	5	5	5	4	5	4	5	5	4	5	5	5	2	4	4	5	5	1	2	1	2	1	1	2	2	2	5	3	5	4	5	5	5		
64	5	4	4	4	4	5	4	4	5	4	4	4	4	5	4	4	2	2	4	2	3	2	4	4	3	4	3	4	4	4	2	4	4	5	4	5	4	
65	5	5	5	5	4	5	4	5	4	4	3	4	4	4	5	4	4	2	4	4	4	4	2	3	4	4	2	3	2	2	4	3	5	4	4	3	3	
66	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	4	4	3	2	2	2	2	3	2	4	4	4	4	2	4	4	4	4		
67	5	5	4	5	4	4	5	4	4	4	5	5	5	5	4	4	2	4	4	4	1	2	2	4	4	2	4	4	4	4	2	4	4	4	4	4		
68	5	5	5	5	4	5	5	5	4	5	5	5	5	4	5	4	4	2	4	4	2	5	5	5	5	5	5	2	2	2	5	2	5	5	5	5	2	
69	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4	4	4	4	4	1	5	5	5	5	4	2	2	2	5	4	5	5	5	2		
70	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	4	4	2	2	5	5	5	5	5	2	2	2	5	2	5	4	4	2		
71	5	5	5	5	4	4	4	5	4	5	5	5	5	5	4	5	2	4	2	2	2	2	5	5	2	2	4	2	2	2	5	2	5	2	5	2		
72	5	5	5	5	4	4	5	4	4	5	5	5	5	5	4	5	2	4	3	3	3	2	4	2	4	4	1	4	4	5	5	2	5	4	5	5		
73	5	5	5	5	4	4	5	4	4	5	5	5	5	5	4	5	2	3	2	4	2	1	2	2	5	2	2	2	2	4	1	5	2	5	2			
74	5	5	5	5	5	5	4	5	4	5	5	5	5	5	5	3	5	4	3	3	4	5	4	5	4	1	4	5	2	5	4	5	4	5	5			
75	4	5	4	4	4	5	4	5	5	4	5	2	4	4	5	3	5	5	4	2	4	4	2	4	5	4	4	4	5	4	5	2	5	4	5	5		
76	4	3	2	4	4	4	4	2	2	2	2	4	3	3	4	2	2	2	5	3	2	3	1	3	2	2	4	3	2	2	4	2	2	2	4	2		
77	5	4	4	5	5	5	4	4	5	5	5	5	4	4	4	5	4	4	3	3	2	1	4	4	3	3	3	5	4	5	5	5	5	4	5	5		
78	4	4	5	4	5	5	4	4	3	4	4	3	3	4	4	3	2	4	3	4	3	3	3	4	2	1	1	3	4	3	3	4	5	2	4	5	2	
79	5	5	4	5	4	4	5	5	4	5	5	5	4	5	3	5	5	5	1	4	1	1	5	3	5	4	3	5	4	4	5	5	5	5	5	5		
80	5	5	5	5	5	5	4	5	5	4	5	4	5	5	4	4	3	5	3	3	3	4	5	5	4	3	4	3	2	4	1	3	3	5	4	5		
81	4	4	4	5	5	4	4	5	4	5	5	4	3	5	4	5	4	5	4	2	1	4	3	2	4	1	4	3	2	4	4	5	4	5	4	5	4	
82	5	5	4	3	4	4	5	4	3	4	5	4	4	4	3	4	3	4	4	3	1	4	4	3	4	2	2	3	2	4	2	4	4	4	4	4	1	
83	5	4	4	3	2	2	2	5	1	4	2	5	1	4	5	2	4	2	4	2	2	4	2	4	4	4	4	2	2	4	2	4	4	4	4	4	2	
84	4	4	4	5	5	5	4	5	4	5	5	5	5	5	4	5	5	4	1	1	2	2	4	4	2	2	2	2	2	2	4	2	3	3	4	2	2	
85	4	4	3	4	4	4	3	5	3	3	3	5	3	3	3	4	5	2	4	4	4	2	4	4	4	4	4	2	4	4	4	4	4	4	4	4	4	
86	4	4	3	4	4	5	5	4	4	4	3	4	5	4	5	4	5	1	4	4	4	4	1	2	1	1	2	1	3	2	1	4	1	4	3	4	3	
87	5	5	4	5	4	4	4	4	3	5	5	5	4	4	4	4	3	4	2	2	4	2	4	4	3	4	2	4	4	4	4	2	4	4	4	3	4	
88	5	4	4	5	5	4	4	5	4	4	5	5	4	4	4	4	4	5	1	1	1	1	2	2	2	3	4	4	4	4	4	4	4	4	4	4	4	
89	4	4	4	4	4	4	4	4	3	5	5	5	3	5	2	4	2	3	1	3	2	1	1	1	4	5	3	3	4	5	5	3	5	4	3	3	3	
90	5	5	5	5	5	5	4	5	4	5	5	4	5	5	5	2	4	4	5	5	1	2	1	2	1	1	2	2	2	5	3	5	4	5	5	5		
91	5	4	4	4	4	5	4	4	5	4	4	4	4	5	4	4	2	2	4	2	3	2	4	4	3	4	3	4	4	4	4	2	4	4	5	4	5	
92	5	5	5	5	4	5	4	4	3	4	4	4	5	4	4	2	4	4	4	4	2	3	4	4	2	3	2	2	4	3	5	4	4	3	3	3	3	
93	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	4	4	3	2	2	2	2	3	2	4	4	4	4	2	4	4	4	4	4	
94	5	5	4	5	4	4	5	4	4	4	5	5	5	5	4	4	2	4	4	4	1	2	2	4	4	2	4	4	4	2	4	4	4	4	4	4	4	
95	5	5	5	5	5	4	5	5	4	5	5	5	5	5	4	5	4	4	2	4	4	2	5	5	5	5	2	2	2	2	5	2	5	5	5	5	2	
96	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4	4	4	4	4	1	5	5	5	5	4	2	2	2	5	4	5	5	5	5	2	
97	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	4	4	2	2	5	5	5	5	2	2	2	2	5	2	5	4	4	4	2	
98	5	5	5	5	4	4	4	5	4	5	5	5	5	5	4	5	2	4	2	2	2	2	5	5	2	2	4	2	2	2	5	2	5	2	5	2	5	2
99	5	5	5	5	4	4	4	4	4	5	5	5	5	5	4	5	2	4	3	3	3	2	4	2	4	4	1	4	4	5	5	2	5	4	5	5	5	
100	5	5	5	5	4	4	5	4	4	4	5	5	5	5	4	5	2	3	2	4	2	1	2	2	5	2	2	2	2	4	1	5	2	5	2	5	2	

Source: Generated from field survey responses

4.2 Data Analysis

4.2.1 Reliability Test

Table 4.2: Cronbach's Alpha Statistic for Test of Reliability of Responses

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.887	.890	37

Source: Generated from SPSS Package

The value of Cronbach's Alpha shows that responses can be used for decision making as the value is greater than 0.60. In other words, the responses are reliable

4.2.2: Cronbach's Alpha Statistic for Detection of Insignificant Items in the Questionnaire

Table 4.3: Item-Total Statistics

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
VAR00001	136.9400	186.623	.308	.	.853
VAR00002	137.0100	183.222	.527	.	.850
VAR00003	137.2500	182.472	.454	.	.850
VAR00004	137.0100	183.525	.472	.	.850
VAR00005	137.2200	183.850	.417	.	.851
VAR00006	137.3100	183.347	.395	.	.851
VAR00007	137.3000	182.192	.436	.	.850
VAR00008	137.4600	188.716	.091	.	.857
VAR00009	137.3200	176.523	.611	.	.845
VAR00010	137.7400	182.053	.423	.	.850
VAR00011	137.3000	178.455	.514	.	.848
VAR00012	136.9900	187.747	.163	.	.855
VAR00013	137.2100	182.753	.375	.	.851
VAR00014	137.3800	183.511	.410	.	.851
VAR00015	136.9900	186.656	.240	.	.854
VAR00016	137.7000	183.465	.357	.	.851
VAR00017	137.3500	179.947	.448	.	.849
VAR00018	138.5700	177.258	.408	.	.850
VAR00019	137.5800	186.165	.209	.	.854
VAR00020	138.5500	182.715	.220	.	.856
VAR00021	138.4600	182.291	.255	.	.854
VAR00022	138.6300	187.246	.101	.	.858
VAR00023	139.9200	188.377	.113	.	.856
VAR00024	138.1500	173.442	.486	.	.847
VAR00025	138.2000	172.000	.503	.	.847
VAR00026	138.2100	174.188	.486	.	.847
VAR00027	138.0600	179.208	.357	.	.851
VAR00028	139.3200	190.604	-.015	.	.861
VAR00029	138.3600	177.384	.420	.	.849
VAR00030	138.3500	181.644	.289	.	.853
VAR00031	138.4000	182.646	.212	.	.856
VAR00032	137.4300	177.561	.552	.	.847
VAR00033	138.8400	182.984	.194	.	.857
VAR00034	137.3900	178.442	.521	.	.848
VAR00035	137.7300	179.835	.476	.	.849
VAR00036	137.3400	179.823	.497	.	.848
VAR00037	138.0700	178.207	.384	.	.851

Source: Generated from SPSS Package

The table shows item-by-item Cronbach's Alpha to determine insignificant item in the research tool. From the result, all the values are less than 0.887 which implies the removal of any of the items will not lead to improvement in the alpha value.

4.3: Estimation of the Intensity of the Success Factors

**Table 4.4: Commuality of Success Factors
 Communalities**

	Initial	Extraction
VAR00001	1.000	.716
VAR00002	1.000	.705
VAR00003	1.000	.669
VAR00004	1.000	.683
VAR00005	1.000	.794
VAR00006	1.000	.738
VAR00007	1.000	.630
VAR00008	1.000	.756
VAR00009	1.000	.786
VAR00010	1.000	.696
VAR00011	1.000	.686
VAR00012	1.000	.611
VAR00013	1.000	.749
VAR00014	1.000	.678
VAR00015	1.000	.801
VAR00016	1.000	.574
VAR00017	1.000	.706
VAR00018	1.000	.689
VAR00019	1.000	.800

Extraction Method: Principal Component Analysis.

Source: Generated from SPSS Package

4.4 Variance in level of application of the factors

This was generated using the maximum likelihood extraction of the Factor Analysis tool of the Statistical Package for the Social Sciences.

**Table 4. 5: Variance in level of application of the success factors
 Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.135	32.288	32.288	6.135	32.288	32.288
2	1.982	10.433	42.721	1.982	10.433	42.721
3	1.627	8.565	51.286	1.627	8.565	51.286
4	1.416	7.452	58.739	1.416	7.452	58.739
5	1.291	6.797	65.536	1.291	6.797	65.536
6	1.014	5.337	70.872	1.014	5.337	70.872
7	.815	4.289	75.161			
8	.713	3.750	78.911			
9	.695	3.655	82.567			
10	.640	3.367	85.934			
11	.514	2.708	88.642			
12	.443	2.332	90.974			
13	.394	2.076	93.050			
14	.329	1.732	94.782			
15	.272	1.429	96.211			
16	.270	1.418	97.629			
17	.177	.932	98.561			
18	.158	.830	99.391			
19	.116	.609	100.000			

Extraction Method: Principal Component Analysis

A total of 6 principal components have been extracted. They generated cumulative variance explanation of 70.872 %. When varimax rotated, the same sums of squares were generated.

Source: Generated from SPSS Package

4.5 Correlation of the factors for project success

Table 4.6: Decision matrix for project success

Component Matrix^a

	Component					
	1	2	3	4	5	6
VAR00009	.810	-.222	-.240	-.040	.135	-.058
VAR00004	.753	-.181	.117	.153	-.205	.059
VAR00007	.693	-.093	-.118	-.275	-.081	.210
VAR00005	.669	-.501	.160	-.088	-.122	-.216
VAR00003	.661	.281	.320	-.155	.161	.030
VAR00014	.647	.439	.133	-.038	-.186	.114
VAR00011	.645	.031	-.400	.211	-.106	-.229
VAR00002	.639	.424	.271	-.068	.073	-.181
VAR00013	.628	-.119	-.100	.213	-.482	-.230
VAR00016	.620	-.063	.290	-.250	.080	-.179
VAR00006	.571	-.264	-.364	-.387	.145	-.197
VAR00010	.533	.247	-.049	-.187	.506	.240
VAR00019	.249	-.569	.375	.267	.112	.435
VAR00018	.418	-.528	.235	.195	.358	.124
VAR00015	.436	.343	-.572	-.055	.167	.368
VAR00001	.378	.486	.547	.003	-.192	-.005
VAR00008	.037	.221	.129	.604	.494	-.282
VAR00017	.477	.145	-.300	.585	.118	-.104
VAR00012	.338	.114	-.076	.346	-.392	.453

Extraction Method: Principal Component Analysis.

6 components extracted.

Source :Generated from SPSS Package

The above shows that the 19 factors can be grouped into six decision-making for successful project implementation. However, 3 principal components were extracted for effectiveness. In the first component, the order of positive maximal loading is: VAR 00009, VAR 00004, VAR 00007, VAR 00005, VAR 00003, VAR 00014, VAR 00011, VAR 00002, VAR 00013, VAR 00016, VAR 00006, VAR 00010, VAR 00017, VAR 00018, VAR 00015, VAR00001, VAR00012, VAR0008

In component 2, the factor loading positively maximally is VAR00001 while in component 3, the factor loading positively maximally is also VAR00001.

Table 4.7: Correlation matrix for success factors

Correlation Matrix																			
	VAR1	VAR2	VAR3	VAR4	VAR5	VAR6	VAR7	VAR8	VAR9	VA10	VA11	VA12	VA13	VA14	VA15	VA16	VA17	VA18	VA19
VAR00001	1.000	.530	.418	.297	.143	-.003	.165	.059	.013	.255	.070	.211	.195	.462	-.015	.237	.125	.035	-.029
VAR00002	.530	1.000	.612	.362	.255	.219	.346	.134	.405	.325	.393	.082	.283	.551	.262	.416	.248	.121	.029
VAR00003	.418	.612	1.000	.395	.349	.216	.362	.075	.474	.429	.317	.165	.213	.514	.247	.482	.164	.195	.125
VAR00004	.297	.362	.395	1.000	.575	.355	.421	-.030	.521	.282	.428	.229	.599	.464	.246	.436	.371	.293	.424
VAR00005	.143	.255	.349	.575	1.000	.539	.417	-.074	.593	.154	.383	.158	.476	.248	-.033	.509	.144	.432	.359
VAR00006	-.003	.219	.216	.355	.539	1.000	.473	-.147	.561	.311	.409	-.009	.237	.141	.351	.386	.205	.195	.037
VAR00007	.165	.346	.362	.421	.417	.473	1.000	-.162	.565	.410	.323	.261	.468	.423	.322	.408	.176	.305	.122
VAR00008	.059	.134	.075	-.030	-.074	-.147	-.162	1.000	.033	.082	.013	.024	-.029	.026	.006	.036	.290	.130	-.018
VAR00009	.013	.405	.474	.521	.593	.561	.565	.033	1.000	.419	.574	.191	.557	.366	.423	.420	.316	.449	.194
VAR00010	.255	.325	.429	.282	.154	.311	.410	.082	.419	1.000	.203	.068	.056	.334	.384	.344	.301	.225	.010
VAR00011	.070	.393	.317	.428	.383	.409	.323	.013	.574	.203	1.000	.316	.432	.316	.357	.261	.512	.203	-.044
VAR00012	.211	.082	.165	.229	.158	-.009	.261	.024	.191	.068	.316	1.000	.245	.225	.223	.155	.220	.044	.114
VAR00013	.195	.283	.213	.599	.476	.237	.468	-.029	.557	.056	.432	.245	1.000	.427	.122	.251	.375	.188	.056
VAR00014	.462	.551	.514	.464	.248	.141	.423	.026	.366	.334	.316	.225	.427	1.000	.407	.358	.251	.055	.009
VAR00015	-.015	.262	.247	.246	-.033	.351	.322	.006	.423	.384	.357	.223	.122	.407	1.000	.040	.307	-.048	-.078
VAR00016	.237	.416	.482	.436	.509	.386	.408	.036	.420	.344	.261	.155	.251	.358	.040	1.000	.119	.224	.143
VAR00017	.125	.248	.164	.371	.144	.205	.176	.290	.316	.301	.512	.220	.375	.251	.307	.119	1.000	.138	.106
VAR00018	.035	.121	.195	.293	.432	.195	.305	.130	.449	.225	.203	.044	.188	.055	-.048	.224	.138	1.000	.490
VAR00019	-.029	.029	.125	.424	.359	.037	.122	-.018	.194	.010	-.044	.114	.056	.009	-.078	.143	.106	.490	1.000

Source: Generated from using SPSS Package

From the correlation matrix, the highest correlations are as follows:

- VA00004 and VA00013: 599
- VA00014 and VA00004: 599
- VA00005 and VA00009: 593
- VA00004 and VA00005: 575
- VA00009 and VAR00011: 574

Descriptive Statistics

Table 4.8 Descriptive statistics for success factors

	Mean	Std. Deviation	Analysis N
VAR00001	4.7000	.52223	100
VAR00002	4.6300	.54411	100
VAR00003	4.3900	.68009	100
VAR00004	4.6300	.58006	100
VAR00005	4.4200	.62247	100
VAR00006	4.3300	.69711	100
VAR00007	4.3400	.72780	100
VAR00008	4.1800	.78341	100
VAR00009	4.3200	.86316	100
VAR00010	3.9000	.75879	100
VAR00011	4.3400	.87870	100
VAR00012	4.6500	.68718	100
VAR00013	4.4300	.78180	100
VAR00014	4.2600	.66088	100
VAR00015	4.6500	.64157	100
VAR00016	3.9400	.74968	100
VAR00017	4.2900	.87957	100
VAR00018	3.0700	1.16563	100
VAR00019	4.0600	.78907	100

4.6 Answers to research Questions

There are certain research questions that need be answered in the course of this research, as an objective. These include:

- What are the critical factors for successful project implementation in Anambra State, Nigeria?
- Is Client Commitment more important for project success than availability of the required technology and expertise in Anambra State, Nigeria?
- Is award of contract without reference to availability of fund the major reason for project failure?

Question No. 1: What are the critical factors for successful project implementation in Anambra State, Nigeria ?

From the factor loading matrix, the five most important factors are as follows, in the order of importance:

- 1) Ability to handle unexpected crises/situations
- 2) Availability of the required technology and expertise
- 3) The provision of appropriate network to all key actors in project implementation
- 4) Selection and training of necessary personnel
- 5) A detailed and accurate specification of individual action steps and timelines

Question No. 2: Is Client Commitment more important for project success than availability of the required technology and expertise in Anambra State?

No. In fact, from the factor loading, Client Commitment is not the most important factor for project success in Anambra State, because the factor loading for required technology and expertise is higher (second most important factor). The respective factor loadings are 0.436 and 0.753

Question No. 3: Is award of contract without reference to availability of fund the major reason for project failure?

No. It ranks as the fourth most important reason for project failure after 1) Increase in the price of raw materials, 2) Poor planning of Project Implementation and 3) Variation of Project Scope.

5. Findings, Conclusion And Recommendations

5.1 Findings

This research x-rays the success of construction projects in Anambra State, Nigeria, with a view to identifying the most important factors responsible for project success. This research tries to fill in the knowledge gap

regarding the relative influences of different factors which may be involved in project success.

The major findings of this investigation can be summarized thus:

- The factors responsible for project success are numerous but there is a good level of correlation between them. The five most important factors in Anambra State, Nigeria in the order of importance are:
 - 1) Ability to handle unexpected crises/situations
 - 2) Availability of the required technology and expertise
 - 3) The provision of appropriate network to all key actors in project implementation
 - 4) Selection and training of necessary personnel
 - 5) A detailed and accurate specification of individual action steps and timelines
- Many of the factors established as being highly important border on having the right skills and expertise. As far as project success is concerned, the inference made is that possibly, the many cases of abandonment or collapse may not be unconnected with lack of the required expertise.

5.2 Conclusion

Based on the findings, the researchers conclude that;

- There is need for more enlightenment about the factors that may lead to project success.
- Ability to handle unexpected crises and Availability of the right technology and expertise have been ranked as the most important factors for successful project implementation, above Top Management support
- The Conditions responsible for project success, as ranked by this research, does not fully follow the project implementation profile of Pinto and Slevin.

5.3 Recommendations

The following recommendations are made:

- There is need for more enlightenment about the five or 10 most important factors for project success, as established by this research. The availability of cash alone cannot lead to successful project delivery. It is hoped that this research finding can be communicated to stakeholders in the construction industry.
- There is need for better propagation of the roles of professional project managers, because the respondents have not given them prominence of position among the success factors.
- Since the availability of the right technology and expertise has been identified as being the first of numerous factors that can affect project success, higher institutions of learning should endeavor to churn out more trained persons, who must in addition to qualifications, possess the skills really needed for project delivery

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