

ASSESSMENT OF TRAINING NEEDS OF NIGERIAN CONSTRUCTION
PROJECT MANAGERS AND THEIR PREFERRED DELIVERY METHODS

BY

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CERTIFICATION

This is to certify that this work is this research project has been read and approved of meeting the requirement for the award of Post graduate Diploma (PGD) in Civil Engineering of the Department of Civil Engineering, School of Engineering and Engineering Technology, Federal University of Technology Minna, Niger State, Nigeria.



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DEDICATION

I dedicate this project to the Most Precious God Almighty.

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ABSTRACT

Every construction industry has a need for training if it must remain competitive in a technology complex and over changing world. Some construction companies have neglected the importance of training project managers due to inability to analyze the needs for training, objectives of training needs and finally the choice of facilitators in order to meet up with the efficiency requirement of the organization. This research presents an examination of the benefit of training for construction project managers and their training needs. It also examines the training methods preferred by construction project managers. In order to examine the factors, an Investigatory Survey Research Approach (ISRA) which involves the administrative of questionnaire and site visitation was conducted within the construction industry for the collection of data. Questionnaires were drawn up, distributed and administered to respondents who were project managers and professionals in construction industry. A hundred and fifty (150) questionnaires were distributed to samples of respective groups selected by non-random sampling techniques. A total of 65 responses representing 43% were received. The mean ranking approach was used to analyze the data generated to obtain the mean score of the respondents. It was shown from the study that in-house training is important in the construction industry. It was also shown that the benefit of project management training ensures predictable schedule cost and product delivery, offers more effective ways to priorities, allocate and monitor resources and also to enhance project managers' self esteem. In as much as there are benefits in project management training, the factors associated with training failure of these managers such as wrong choice of trainers, lack of management support, inadequate analysis of performance deficiencies, ambiguous objectives were also identified. The training needs of the construction project managers were identified based on major courses as thus; construction project management personnel management, Design management and computer application. The construction managers' preferred delivery method based on institution were shown to be Project Management Institute, Construction Professional Institute and Management developing centre while their preferred delivery methods based on training methods were shown to be field visit, video tape, workshop, lecture and case study. This study generated the recommendations provided in the content of this project.

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CHAPTER ONE

1.0

Introduction

1.1 Background

Construction industry plays a significant role in development of many nations. This is so because construction does not only provide infrastructural facilities and social amenities such as roads, dams, schools, hospitals but also accounts for out of every 100 jobs and consumes more basic finished materials than any other industry. Hussein (1991) states that construction industry usually accounts for between 3 and 8 percent of country's Gross Domestic Product (GDP) of Nigeria.

He also categorized types of personnel in the construction industry as follows:

Table 1.1 Types of personnel in construction industry

Personnel Level	Types of Staff
Unskilled Labour	Able bodies, men/women to perform manual duties
Skilled Labour	Mason, Carpenter, Electrician, Quantity Surveyors etc
Technical Personnel	Architects, Builder, Engineers, Quantity Surveyors etc
Management Personnel	Administrative, Architects, Builders, Quantity Surveyors etc.

The professionals in management are managers

Source, Hussein (1991)

Each category requires a different form and methods of training (besides the unskilled labour) since their function are different in construction industry.

The importance of training as technology evolves cannot be overemphasized in project management. Training is critical for any industry that must remain competitive in a technologically complex and over changing world.

Farr and Sullivan (1996) predicts that many Architectural, Engineering, and construction (AEC) employees will become obsolete within three years without continuous training and this will increase training costs five folds in the near term.

This calls for the training and retraining of these constructions professionals particularly the project managers in view of rapidly changing and increasing complex technology combined with business demand for quicker solution. The re-training resulted from continuous assessment of the project managers in measuring their deviation from the baseline of their successful and unsuccessful projects.

There had been total neglect of training by some construction companies, the result has not been impressive in meeting vital objectives, which is achieving sizeable improvements.

This might not be unconnected with the following among others:-

1. Inadequate analysis of the needs for the training.
2. Inadequate objectives of training needs.
3. Wrong choice of facilitators.

Much criticism have been raised against the traditional classroom techniques from being expensive to lack of context, to rapid changing in technology, Farr and Sullivan (1996) were of the opinion that there must be a focus of training from providing traditional classroom based instruction to creating task centered learning activities in the workplace.

The National construction policy (1991) emphasizes more on training of the construction personnel as major objectives of its establishment.

Thompson construction and Dalton (1976) found that career developments in an organization are in four stages.

Stage 1: Apprenticeship, non-supervisors masters technical skills and work under close supervision.

Stage 2: This is the technical maturity stage – non supervisor, master technical skill and gain control of technical task. Non supervisor with technical maturity takes a choice between remaining in technical career or into management.

Stage 3: Technical manager combining technical and management career.

Stage 4: The General management stage, the managers leave their technical careers behind and move into higher level of management.

Technical manager performs the similar functions as the Project manger as he combines the technical skills with the project management skills to effectively and successfully manage a project within the characteristics time, cost and desired quality constraints to satisfy the stakeholders.

The training needs in an organization are partly a response to their hope and aspiration for the future and partly response to corporate and individual's need.

Banjoko (2000) identified three level of training needs as:

1. At organizational level: - The aim is to highlight where organization training is most needed.
2. At occupational level: - Where there is a need to balance human resources in such a way as maximize unproductive time from any trade.
3. At individual level:-This identifies the differences in individuals constitute the organization with a view to match available training with the requirement of the individual.

After graduation, most training for professionals exist in the form of continuous Education.

The preference for education among competing needs particularly by the adult is an indication of satisfaction of this need (education) that urges the adult in taking concrete steps in acquiring knowledge.

Thus Knowles (1980) states that if a need is expressed behaviorally as a 'want ' or as a 'desire' it means that the consumer has selected education as a variable in his or her preference function and is attempting to maximize satisfaction given income constraints.

Effective project management training should not only address basic skills needs of workforce, but should also meet the real needs of the organization which includes how to create new products and services, how to stay competitive in the market place, how to improve key work process i.e. to get things better, faster and cheaper. The project managers who had undergone this training and judiciously apply it in day to day are top performers with their project team, having performed well above the competition. They could therefore be regarded as being competent in project management.

1.2 Statement of the problem

The need to solve the problems arising from the conventional method in organization of construction projects, in view of technological advancement, uncertain economic condition, political instability, clients demand led to innovational training in management of construction industry called construction project management.

As project management is being professionalized there is need for the practitioners to have a sound theoretical knowledge of the subject from which they can make prediction about how to achieve better outcome of their projects.

It is in the light of the above that the training of project managers in Nigeria especially construction industry need to be assessed, as well as to seek for their preferred delivery methods to be able to meet up with the efficiency requirement of the organisation.

1.3 Aim and objectives of the study

The aim of this study is to assess the training needs of Nigerian construction Project Managers and their preferred delivery methods.

The objectives of the study are as stated below:

1. To examine the benefits of training for the construction project manager
2. To examine the problems associated with the training failure of construction project managers.
3. To identify the training needs of the construction project managers based on the data collected.
- 4 To examine the preferred training methods by the construction project managers.

1.4 Research questions

In order to achieve the above aim and objectives, some questions were taken into considerations which are stated below:

1. What are the benefits of the project management training to the construction project managers?
2. What are problems associated with the training failure of the construction project managers?
3. What are the training needs of construction project managers?
4. What are preferred training delivery methods by the construction project managers?

1.5 Justification.

A project manager requires expertise in building science as well as in business and management. A good background on construction techniques, materials and regulation techniques together with know-how on contracts, procurement, specification and other domains, is indispensable for achieving good performance in managing construction project at all stages in the construction process. This calls for specific training on related management areas.

1.6 Scope and limitation

The research covers only training needs of project managers in Nigeria construction industry and preferred delivery method and thus analysis of data geared towards the achievement of effective construction delivery. It will also be limited to project managers in construction companies in Nigeria.

CHAPTER TWO

2.0

Literature Review

Construction Management is a professional discipline applied to construction planning, design, and process. Professional Construction Managers (CMs) address the needs of owners by providing management services and expertise tailored to the project delivery method. Construction managers apply comprehensive project controls to help manage the critical issues of time, cost, scope, quality and safety. United Department of Labour (2010)

The management of construction projects requires knowledge of modern management as well as understanding of the design and construction process. Construction projects have specific set of objectives and constraints such as a required time frame for completion. While the relevant technology, institutional arrangement or processes will differ, the management of such projects has much in common with the management of similar types of project in other specialty or technology domains such as aerospace, pharmaceutical and energy development Hendrickson(2008)

A project organization will generally be terminated when the mission is accomplished. According to project management institute, the discipline of project management can be defined as the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participation satisfaction. Hendrickson (2008).

2.1 Characteristics of a Project Manager

Project managers plan, direct, coordinate, and budget a wide variety of construction projects, including the building of all types of residential, commercial, and industrial structures, roads, bridges, waste water treatment plants, and schools and hospitals. Construction managers may supervise an entire project or just part of one. They schedule and coordinate all design and construction processes, including the selection, hiring, and oversight of specialty trade contractors, such as carpentry, plumbing, or electrical, but they usually do not do any actual construction of the structure. Occupational Handbook (2010-2011).

Construction managers are salaried or self-employed managers who oversee construction supervisors and personnel. They are often called Project Managers, constructor, construction superintendents, project engineers, construction supervisors, or general contractor. These managers coordinate and supervise the construction process from the conceptual development stage through the final construction, making sure that the project gets completed on time and within budget. They often work with owners, engineers, architects, and other who are involved in the process.

2.2 The Essence of Management

According to Management study guide, the essence of management can be classified as follows;

1. It helps in Achieving Group Goals: It arranges the factors of production, assembles and organizes the resources, integrates the resources in effective manner to achieve goal. It directs efforts towards achievement of pre-determined goals. By defining objective of organization clearly there would be no wastage off time, money and effort. Management converts disorganized resources of men, machines, money etc. into useful enterprise. These resources are coordinated, directed and controlled in such a manner that enterprise work towards attainment of goals.

2. Optimum Utilization of Resources: Management utilizes all the physical and human resources productivity. This leads to efficacy in management. Management provides maximum of scarce resources by selecting its best possible alternate use in industry from out of various uses. It makes use of experts, professional and these services leads to use of their skills, knowledge, and proper utilization and avoids wastage. If employees and machines are producing its maximum there is no under employment of any resources.

3. Reducing Cost: It gets maximum results through input by proper planning and by using minimum input and getting maximum output. Management uses physical, human and financial resources in such a manner which results in best combination. This helps in cost reduction.

4. Establishes Sound Organization: No overlapping of efforts (smooth and coordinated functions). To establish sound organizational structure is one of the objective of management which is in tune with objective of organization i.e. who is accountable to whom, who can give

instruction to whom, who are superiors and who are subordinates. Management fills up various positions with right persons, having right skills, training and qualification. All jobs should be cleared to everyone.

5. Establish Equilibrium: It enables the organization to survive in changing environment, the initial co-ordination of organization must be changed. So it adapts organization to changing demands of market/ changing needs of societies. It is responsible for growth and survival of organization.

6. Essentials for Prosperity of society: Efficient management leads to better economical production which helps in turn increase the welfare of people. Good management makes a difficult task easier by avoiding wastage of scarce resource. It improves standard of living. It increases the profit which is beneficial to business and society will get maximum output at minimum cost by creating employment opportunities which generate income in hands. Organization comes with new products and researches beneficial for society.

2.3 Evolution of Project Management in Construction

The surviving records of building in the middle ages are for prestigious structure and mainly show that a master mason was responsible for acquiring and organizing labour and material and for the technicalities of construction on the basis of an outline from the client, Obiegbu (2001). The complexity of the condition within which construction work was executed, with greater emphasis on economy, value and prestige, the complexity of new building materials and technologies and the developing skills of the industry specialists themselves, created the need for specialization among them, these pressures led to the establishment of societies for the discussion of common problems that later metamorphorsized into project management.

2.4 Significant report on construction industry

The National Economic Department Organisation (NEDO) Report of 1973. "*The public and construction industries*" comments on the clients responsibility in the building process and recommends that a single person should be nominated to provide a single interface between the client, designer and contractor, while that of 1978 recommends on a large complex project, that the client should appoint a project manager to act on his behalf with the responsibility for the

management and co-ordination of the relationship between client, design team and contractor. The report continues that whilst knowledge of design procedures, construction economics and methods are needed, the background and training of a project manager are less important than his management expertise, decision making ability and leadership qualities.

2.5 Effective change management

Project Management is a dynamic process utilizing the appropriate resources of the organization in controlled and structured manner employed to achieve a change clearly defined with specific objective identified as strategic needs.

In most organizations, improving effectiveness on a day basis depend on traditional ways of getting things done, as it depends on the habits and working practices generated by experience, which is through functional management, while projects provides an organization with an alternative ways of achieving results while the work to be done crosses functional boundaries.

There is therefore, need to make change happen in an organization trying to change from functional based management project to project based management. (Johnston, 1999) indicates six levers within which Human Resources processes are crucial to make change occurs. Enduring success can only be achieved, if each lever work with others.

2.5.1 Organizational structure and design

To gain focus on customer, it is necessary to genuinely change company structure and reporting relationship and in decentralizing the human resources function, and make it accountable to specific line management..

2.5.2 Job design

An emerging trend in job design is to group task around process rather than function, which involves breaking down and understand the business processes, the same way the project managers break the task into work breakdown structures (WBS); for easy execution of the project.

2.5.3 Leadership style

A transition plan is needed, for an individual manager of traditional leadership style where self-reliance and individual effort are rewarded to a team based on empowered network organization. Thus Project managers must be prepared for these roles. They must also be supported and awarded for changing their behavior.

2.5.4 Communication

Communication plays a major key to success of Project managers. Effective Communication ahead of serious challenges in organizational change, and allowing the project manager to participate in identifying and communicating change, will lead to higher change of successful implementation.

Change requires a new approach to communication. Many different media should be used including video and audio communication channels, Project meetings, the Internet, and other innovative ways of communicating with employees and soliciting their feedbacks. Project manager require ways of communicating with project stakeholders.

2.5.5 Rewards and performance management:

Human Resources development department should not only rely on pay, but compensates for improve performance appraisal should be solicited for a wider perspective than just a supervisor. For true change to occur, clients and co-workers should provide feedback.

2.5.6 Training and development:

It is necessary to change the behavior of professionals in the functional management into the broad-based project management. The following are characteristics of the functional management:

1. The professional alleviate problems to its higher level in the organizational hierarchy for resolution rather than compromise.
2. The Professionals discount other ideas with a not invented here syndrome.

3. The professionals focus on department needs and function, (over loyalty to individual profession) rather than the company's global functioning (or the project).

4. The professionals discount other ideas with not a not invented hers syndrome.

With appropriate training and development programs for the construction professionals as project managers, to adopt new skills such as team facilitation, financial management, or consulting skills, we should expect to view behaviours more like these;

1. Project Managers share information with sub-ordinates, and other departments to assist them in achieving their goals and objectives.

2. Project Managers take initiative to identify and solve problems without escalation.

3. The Project Managers take search for and bench mark internal practices and look globally for best practices.

4. Project Managers focus on the need of the customers, the company and sub-ordinates.

2.6 Approaches and frame works of project management

PMT (1996) defines Project Management as the application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholders' needs and expectations from a project.

Shenhar and Nofzinger (1997) is of the view that project management is more than the application of tools and states that effective project management requires the right "state of mind" or attitude and style, and to become an effective project manager, he should select the right style that will be congruent with the project environment and manager's personality. He therefore suggests various frame works and approaches in learning and training of project managers.

2.6.1 The skill set frame work of a project manager.

Shenhar and Nofzinger (1997) commented on development skill set framework, and assumes that a strong managerial slant is needed to carry out the tasks of project management, and identifies Leadership skills, Technical Expertise, Human Skills, Administrative Skills, Organizational and Entrepreneurial Skills as the necessary skills for project managers. These skills are described as follows:

2.6.1.1 Leadership skill:

Clear direction and leadership, solving technical problems for the subordinate ability to foster team work, delegating, setting goals and objectives and making of sound decision.

2.6.1.2 Technical expertise:

Understanding the technologies relevant to project, understanding the application markets, and customer requirements, communicate effectively with the technical team members, and on technical topics, predicting technology trends and assessing risks.

2.6.1.3 Human skill:

Team building, managing team members, managing conflict, and communication, creating a positive project environment, involving senior management.

2.6.1.4 Administrative skill:

Project planning, resource negotiation, operating procedures, managing project control, maintaining reporting and review system.

2.6.1.5 Organizational skill:

Ability to navigate in the navigation, building multifunctional work-teams, working effectively with senior management, understanding organizational interface and setting up of effective organization.

2.6.1.6 Entrepreneurial skill:

General Management perspective, management project as a business, meeting profit objectives developing new and follow up on business. The skill set framework should help managers and organization develop awareness of what is needed on their personal and organization development awareness of what is needed on their personal and organization development program.

It could also help identify areas of strengths and weak develop a strategy to compensate and overcome these weaknesses.

2.6.2 The adaptive project management approach:

Shenhar and Nofzinger, (1997) developed the adaptive project management approach and helps project managers and organizations to determine the right approach to each project among various types of projects. Also helps the managers and organization in selecting the proper manager and the team members and in determining the planning, the systems and tools to be used.

2.6.3 The simultaneous management approach:

Shenhar and Nofzinger, (1997) assumes that project management requires the continuous balancing of contending demand simultaneously responding to contradicting balancing of contending demands simultaneously responding to contradicting forces. The simultaneous approach should help project mangers realize that project management is a multifaceted activity. It has many contradictory demands and unlike technical contributors, projects managers must be involved with a myriad of contending demands.

2.6.4 The project management body of knowledge:

Created by Project Management Institute, this framework maps Project Management into nine knowledge areas and thirty-seven Processes, (PMI, 1996).

These knowledge areas are briefly described as follows:

2.6.4.1 Integration management:

This includes the processes required to ensure that various elements of the projects are properly co-coordinated, involving trading off among competing objectives in order to meet or exceed stake holders needs and expectation.

2.6.4.2 Scope management:

This includes the processes required to complete the project successfully as well as defining and controlling what is not the project.

2.6.4.3 Time management:

It includes all the required time to complete the project on scheduled.

2.6.4.4 Cost management:

Includes the processes required to ensure that the project is completed within the approved budget.

2.6.4.5 Quality management:

This includes, the processes required that the project will satisfy the needs for which it was undertaken. It includes all activities within the overall management function that determine the quality policy, objectives and responsibilities and implements them by means such as quality planning, control, quality assurance and quality improvement within quality system.

2.6.4.6 Human resources management:

Includes all the processes required to make the most effective use of the people involved in the project. It includes the entire project stakeholder.

2.6.4.7 Communication management:

Includes the processes required to ensure timely and appropriate generation, collection, decimation storage and ultimate to disposition of project information.

2.6.4.8 Risk management: Includes the processes concerned with identifying, analyzing and responding to project risk. It includes maximizing the result of positive events and minimizing the consequences of adverse events.

2.6.4.9 Procurement management:

Includes the processes required goods and services from outside project organization. The Project Management body of knowledge approach helps the project manager to capture and integrate the intricacies of project management and performs the needed functions along the different processes of the knowledge areas.

2.7 Importance of project management training to construction project manager

People at all levels need project management knowledge and skill. Executive depends on project success to achieve overall business objectives, to take high level decisions and to allocate resources that significantly affect projects. Team members need project management skill to plan and carry out their part of projects.

Therefore, the importance of project management training to project managers cannot be over emphasized in helping them plan successfully and execute flawlessly project after project.

Banjoko (2000) enumerated reasons why every organization provides training for its employees as follows:

- i. To remove performance deficiencies
- ii. To cope with new technological advancement e.g. automation, mechanization and computerization; since technology has to be supported by people possessing requisite skills to put technology to work.
- iii. To increase productivity and efficiency
- iv. To cope with increasing organization and automation.
- v. To enhance employee's self- esteem to boost employee's morale and thereby improve organizational climate.
- vi. To prevent skill obsolescence.

The above are similar in all respects to the project management training and thereby applicable to training needs of the construction project managers.

In addition, organization that adopted a format project management methodology will have a considerable competitive advantage over those that do not have Project Management training helps the project organization.

- i. To reduce time-to-market, and time to profitability, which are, key factors for any organization that develop products.
- ii. To ensure predictable schedules, cost and product delivery.
- iii. To offer more effective ways to prioritize, allocate and mentor resources
- iv. To demonstrate a commitment of excellence to customer, employees and other following holders.

O'Connell (1996) enumerates on the importance of project management training in following way.

- i. The employees become more valuable to the company as result of their increased knowledge and skills.
- ii. They also benefit by having training both accessible to them and earn continuous professional development units from many of the courses.
- iii. The company becomes stronger competitor in a friendly competitive market because of its ever-increasing levels of professionalism in its overall operation.
- iv. Customers benefit by having a highly skilled group of people working on their Projects.
- v. Employee become satisfied and put their technical knowledge to work immediately as the office staff becomes more proficient in the use of various computers programmed.
- vi. The training programs of the organization also attract talented employees to the firm.

2.8 Education and training of project managers

The oxford English Dictionary defines education as a structured extended programmes to impact knowledge and develop competence, and training as short courses to develop specific skills.

Following the establishment of project management as a profession, it therefore becomes imperative that practitioners should develop a theoretical knowledge of the subject, from which they can make prediction about which approaches will need to better outcomes. The provision of formal education is therefore essential for the profession.

Project management education had been a post-graduate programme offered in Universities worldwide. Selden, Stout and Bobis (1997) were of the view that corporate downsizing, rapid technology advances and competition for jobs had instigated some working adults to return to school in large numbers, as they feel that further education are necessary for their professional development and future employment. They also claim that the type of programme that attracts a prospective student to a school and not necessary the content of the programme.

In order to maintain the delicate balance between work, home and school the students emend alternative delivery method for those practiced in the past.

Project management has also being included in the curricula of bachelor programme as part of degree in economics, innovation and information system in Netherlands and in business or technical studies in U.K as well as in Australia Turner and Huemann (2001)

2.8.1 Educational and training needs of project managers

Viewing Project Management as an innovation Project Organization, Moge (1993) defines management of innovation as linking “engineering, science and management disciplines to plan develop and implement technological capabilities to shape and accomplish the strategic and operational objectives of an organization”.

The report listed eight primary needs in technology management which is a useful starting point for determining the industry’s innovation management educational needs.

They are as follows:

- a. How to integrate technology into the overall strategies of the firm.
- b. How to get into and out of technologies faster and more efficiently.
- c. How to assess /evaluate technology more efficiently.
- d. How to reduce new product development time.

- e. How to manage large, complex and interdisciplinary or inter organizational project system.
- f. How to manage organizational internal use of technology and
- g. How to leverage the effectiveness of technical professional.
- h. The need to accomplish technology transfer.

The above educational needs of the innovation managers are similar in all respect to that of the project manager and are therefore required by the Nigerian Construction Project Managers.

2.8.2 Matching educational qualification to stages of project management development

In many countries, Nigeria not an exception, formal education programme result in qualifications linked to career development. Professional association also developed certification programmes to provide markers for the career development following private or in-company education programmes. Thus in Project Management, particularly in U.K. and Austria, National Vocational Qualification (N.V.Q's) has been developed in project management.

In U.K. NVQ's are offered at up to five levels with levels 1 to 3 aimed more at artisans (tradesman) and technicians, while level 4 and 5 are for project management young professionals. The National Vocational Qualifications Turner and Huemann (2001) claimed are practically oriented, as they measure the output from education programmes that is gaining of competence and the increased job performance; whereas the University sector measures the inputs to the process that is gaining of explicit knowledge.

Table 2.1 Matching educational qualifications to stages of project management development

Stage	U.K Tertiary	U.K NVQ	Germanic Tertiary	IPMAA Certificate	PMI AIPM
1	Certificate	NVQ4		PM Practitioner	-
2	Diploma	NVQ5	Pacoch	PM Professional	PMP
3	Master		University	Project Manager	Reg.PM

Source: Turner & Huemann (2001)

2.8.3 The development of individual competence in project management.

There are several ways of viewing the project management competence of individuals.

The German Project Management Association (GPM) defines it as consisting of knowledge of the science, experience of project management gained in projects, and social capabilities and behaviour (Motsel 1999).

The Australian Institute of Project Management applies a performance based approach (AIPM 1996). A third approach uses the concept of explicit and tacit knowledge; developed by Nonaka and Takeuchi (1995).

Turner and Huemann (2001) viewed project management competence development as either experience, performance enhancement or the gaining of implicit knowledge.

Table 2.2 Level of project management competence development.

Stage level	Role	Scope of Management	Competence Development
1.	Programme Director.	Multi Project	Knowledge and 12yrs experience
2.	Manager of Complex Project.	Multi Company	Knowledge and 8yrs experience
3.	Project Specialist Manager in a project role.	Multi discipline single company	Knowledge and 4yrs experience
4.	Team member	Single discipline	Knowledge

Source: Turner and Huemann (2001)

2.9 Project Management in Nigeria:

The non-provision of regulatory guideline in project Management technique in Nigeria Obiegbu (2000) is greatly affecting the quality of the project delivery, as the methods of contract management in use have been a cog in the wheel of meeting the client's objectives.

Project Management is of recent undertaken by some Nigeria Universities at the master's level as in other countries of the world. Hitherto, it was included as part of master degree programme in Master of Business Administration, as well as part of the bachelor degree programme of the building profession.

Therefore, the introduction at the master's level of the Project Management as a discipline will enhance efficiency and competence development in Nigeria. Competence in project management could be viewed as efficient undertaken of the complete projects within the cost and time constraints, attaining the required quality; and meeting the clients' objectives which hitherto had not been achieved in view of the problems arising from the various project procurement delivery methods.

2.9.1 Competence Development

- a. The following questions may be asked:
- b. Who are the present Nigerian construction project managers?
- c. How qualified are they?
- d. What level of competence do they have?

The professionals in construction are namely Architect, Engineer, Building, Quantity Surveyor, Estate Surveyors and Town planners. In view of the late introduction of project management as a discipline in Nigeria, Construction- Project Management as a discipline in Nigeria, Construction-Project Management had since been practiced by any of the aforementioned professionals with exception of a few (who are Project management practitioners) having acquired adequate experience in their relevant discipline.

But is there any experience in individual discipline enough for competence in project management? This is not so as project management is interdisciplinary multidiscipline profession with an understanding of financial and legal background coupled with managerial and

of good personnel qualities. Thus any professional in the construction industry require further training and retraining in project management.

The new products and services now being offered by the new startup companies who begin to differentiate themselves, arising from the deregulation of economy (and the privatization of government parastatals) call for the need of competent project managers in Nigeria.

2.10 Current training delivery methods

Traditional classroom training including watching videotapes, lectures and one in one instruction are the most frequently used in training methods.

Kinney and Ra (1995) found that traditional training methods, including mentoring, continued education, seminars and in-house training were the most used training methods, including mentoring, continued education; seminar and in-house training were the most used training methods within the Architectural, Construction and Engineering community.

Traditional classroom training has also dominated graduate Master's in Business Administration (MBA) Engineering Management and Project Management programme that produce advanced degrees critical for middle level managers to climb the corporate ladder.

The question that might be raised is whether traditional classroom techniques are the only training delivery method available?

Farr and Sullivan (1996) indicate that several other training methods are available including computer-bed training, interactive video, multimedia based training and computer teleconferencing. These methodologies are used much less frequently than traditional training techniques, but time has now come to consider how these methodologies can address the problems inherent with traditional training approaches.

2.10.1 Problems associated with traditional training techniques

Although, traditional instructional approach are frequently used. Farr and Sullivan (1996) indicated that they may not be best ways to train modern workforce due to the following problems.

Traditional training environment are expensive as classrooms are insulated from interruption and need for the trainees to be away from environment.

Traditional learning environment lack content: Trainees in classroom environment often have problem seeing how the material they are being taught can be applied at the work place. They will have to learn twice, once in the classroom and at the work setting.

There is too much to learn due to the growth in engineering application in complexities within the last decade.

The rapid change in technology: Frequent releases of engineering software made learning about technology related concepts an on ongoing and continuous process. By the time classes can be developed and taught, underlying technology has often changed so much that the class is irrelevant.

People are intimidated: In large groups, people are often afraid to speak out or ask questions. This fear of looking stupid can significantly hanger the learning process.

2.10.2 The way forward in project management training.

The technological advancement and competition have transformed the construction industry from highly trained individual specialists to highly trained generalists working in groups. Large construction firms that traditionally work in strictly civil engineering tasks, (Farr, 1996) claimed will work in future on multi disciplined projects that encourages cradle to grave decision including finance design, constructions operation, maintenance and retirement.

These firms are those with diverse, adaptable work force that are best able to learn new skills demanded by the market place and training will be to remain competitive.

What can then be done to prepare the project managers for the challenges ahead?

The solution lies with the technology that causes the changes. Recent advances in multimedia technology, logical area networks and video teleconferencing permit new channels of communication between works individuals and experts.

Project Manager can access experts that would normally be found in the classroom, regardless of organizational boundaries when the need arises.

Table 2.3 Comparisons of Old and New Training Model

Issue (1)	Old Training Model	New Training Model
Competency credential	Formal degrees and training certificates	Demonstrated skills with technical tools in work place
Training environment	Isolate, formal classroom environments	Decentralized work place centered activities and projects, where project managers can electronically conduct meetings, collaborate and work on multidiscipline projects.
Pedagogical Paradigm	Learning by objectives, established by a teacher in order to master fixed curricula	Learner-controlled, contextualized just in time learning opportunities
Motivation for learning	Learning because you might need it later.	Location new information because you need it now.
Instructor's role	Instructor provides learning experience and provides expertise about theoretical issues in classroom	Groups of recognized expertise about work centers question in work place.

Source: Farr and Sullivan, 1996.

The Farr and Sullivan (1996) model assures that (workers) including project managers will have access to multimedia capable worker stations interconnected to high-speed local and wide area networks. These networks will provide access to libraries of useful application, historical case studies and electronic learning environment stored on high capacity media.

Such an environment right to the learner's desktops allows workers to leverage existing intuitional resources during both training and routine job performance. A fundamental shift in the focus of training from providing traditional classroom based instruction to creating task.

Centered learning activities in the work place by providing both access to powerful tools and experts that have demonstrated success in using tools.

2.11. Information technology application in construction project management

Information Technology, I/T application has been attracting interests to construction professionals. There are increasing applications of various I/T techniques in construction project management Sun and Wang (2002) mentioned the following benefits of applying I/T in construction project management.

2.11.1 Decision making

With the development of construction business and information technology, the project managers are presented with a great deal of data and information. The quality of decision relies on both information and knowledge. Expert system provides an effective tool to assist the project managers in handling information and incorporating expert knowledge and experience alternative solutions for a particular problem established thus a quality and realistic decision can be made.

2.11.2 Training for human resources

Construction industry is widely considered as labour intensive industry, construction industry has been developed to a high technology industry, which demands that people working in the industry must receive level of education. The integration multimedia and VR (Virtual Reality) technique as an alternative to traditional method served well the candidates who work on site, who have no ability to digest the lecture contents. Multimedia includes sound/audio image/video media text media and interaction.

Virtual Reality is a development of multimedia and it can make viewer or listener have a sense of being apart from a place he is truly occupying and experience an immersion in an alternative environment.

A survey supported by British Audiovisual Association cited in Sun and Wang (2000) showed that people could absorb 10% of what they see, 20% of what they hear, and 50% of what they hear and see. The training of the workers will lead to their efficiency and being effective. The

technique can assist the project managers in simulating the process of the building. Through simulation project managers can easily identify the potential problem in future and necessary actions will be taken in advance to reduce its impacts.

2.11.3 Cost management

Cost management is implemented across all project stages including feasibility study, design, construction and operation. Information Technology has been widely used enhancing the effectiveness of cost management in the process or construction project with the use of value computing soft wares for estimating and calculating elemental cost, producing cost report for control, forecasting project cash flow etc. (Sun and Wang, 2000).

Automated Cost Estimating Integrated Tools (A C E I T), provides several most useful function, such as automated cost analysis function, risk assessment function and automatic documentation compatibility as against the traditional practice which presents as slow process in conducting calculation and producing report.

2.11.4 Construction management

Management activities during construction stage cover many areas including materials management, schedules management, quality management, safety management, human management, and contract management, thus require great deal of information handling. The complexity of the construction projects nowadays has thus made obsolescence the traditional information method, making the application of information technology imperatives. Various I/T package have therefore been developed for application in construction industry e.g. Microsoft project for handling documentation, Power project horizon, CA Super project, Hornet 5000 and a host of others.

2.11.5 Professional limited knowledge

Construction professionals play a major role in the application of IT for management. The shortage of IT professional in construction industry (Sun and Wang 2002) observed has not been only due to shortage in the trained manpower but also due to ignorance to the retraining within construction enterprise. The limited knowledge of project manager in IT as well is reluctant to

train the construction professionals due to their temporary use on a particular project by the project manager affect the application of IT.

CHAPTER THREE

3.0

Materials and Methods.

3.1 Materials

The study sample was drawn from Federal capital Territory (FCT) Abuja .The factors that led to the choice of Abuja is majorly due the heavy construction workload, its concentration of construction professionals and project managers. The senior construction professionals were drawn from both the public and private sector of the industry. The specific subject material used in this research is construction buildings in Federal Capital Territory (FCT). A total number of 150 questionnaires were distributed to the respondents and interviews were conducted on some construction professional. The data generated were processed and presented using qualitative description approach.

3.2 Method of data collection

The method used in data collection was the Investigatory Survey Research Approach (ISRA) which involves the administration of questionnaires and site visitation (Primary data collection).

3.2.1 Primary data: These were primarily obtained from questionnaires which solicit information and opinion from the target population which are the construction professionals from both private and public organization. Information was also obtained from interviews conducted on some senior construction professionals during site visitation.

The mean score was computed using the following equation (i)

$$\frac{\sum f x}{\sum F}$$

$$\sum F \quad (i)$$

The percentage response of each respondent's current job position is as shown in table 3.1

CHAPTER FOUR

4.0

Results

4.1 Data Representation, Analysis and Findings

The statistical analysis undertaken on the data received with the aim of addressing the following research issues

1. The benefits of project management training the construction project managers
2. The problems associated with the training failure of the construction project managers
3. The training needs of construction project managers
4. The preferred delivery methods by the construction project managers

4.1.1 Personal and Organisational Characteristics

The personal characteristics of respondents comprises of gender, age, marital status, educational attainment, professional background, job position of respondents while the organizational characteristics includes respondents' organizational details;

Table 4.1 Personal characteristics of the respondents

Sex	Frequency	Percentage
Male	52	80%
Female	13	20%
Total	65	100%

Source Field Survey (2011)

The total respondents as indicate in table 4.1 is 65, with male 52 representing 80%, of while the female (13) representing 20% of the respondents. The high percentage of male is an indication that construction is a male dominated profession.

Table 4.2 Age distribution of the respondents

Age of respondents	Frequency	Percent	Valid Percent	Cumulative Percent
Valid <25 years	1	1.5	1.6	1.6
25-34 years	6	9.2	9.5	11.1
35-44 years	37	56.9	58.7	69.8
45-54 years	19	29.2	30.2	100.0
Total	63	96.9	100.0	
Missing system	2	3.1		
Total	65	100.0		

Source Field Survey (2011)

The table 4.2 shows the age group of the respondent with (11.1%) of the respondents below 34 years, while 37 (69.8%) representing the active work force are between the ages of 35 and 44 years, 19 (30.2%) are between 45 and 54 years of age.

Table 4.3 Summary of marital status respondents

Marital Status	Frequency	Percentage	Valid Percent	Cumulative Percent
Valid Single	1	1.5	1.6	1.6
Married	62	95.4	96.9	98.4
Widow/Widower	1	1.5	1.6	100.0
Total	64	98.5	100.0	
Missing system	1	1.5		
Total	65	100.0		

Source Field Survey (2011)

The table 4.3 on marital statue is a reflection of the age of the respondent, with only one single.

Table 4.4 Summary of the educational attainment of the respondent

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
HND	19	29.2	29.2	29.2
BSC	25	38.5	38.5	67.7
MSc	21	32.3	32.3	100.0
Total	65	100.0	100.0	

Source Field Survey (2011)

From table 4.4, 25 (38.5%) have undergone University Education while 21 (32.3%) are with postgraduate education and 19 (29.2) with polytechnic educational qualification. This testifies that project management is a secondary profession as majority of respondents have attained BSC and Msc.

Table 4.5 Profession Background

Professional background	Frequency	Percent	Valid Percent	Cumulative Percent
Valid PMP	1	1.5	1.5	1.5
MPMI	7	10.8	10.8	12.3
CPM	2	3.1	3.1	15.4
MNIA	8	12.3	12.3	27.7
MNIOB	11	16.9	16.9	44.6
ANIQS	9	13.8	13.8	56.5

MNSE	14	21.5	21.5	80.0
ANIVS	13	20.0	20.0	100.0
Total	65	100.0	100.0	

Source Field Survey (2011)

From table 4.5, 10 of the respondents (15.4%) were with project management related background, 1(1.5%) as project management practitioner, 7 as member, 2(3.1%) with Canada Project Management Institute while others are members of various construction professional institutes.

It need to be mentioned that because Project Management is a secondary Profession in construction Industry, those with project management knowledge must be a member of one or more of the construction professionals' body.

Table 4.6 Frequency distribution of the respondent's job position cross tabulated with their professional background.

Job Position	Professional background	Count	% of Total
Construction Project Managers	PMP	1	1.5%
	MPM	1	1.5%
	CPM	1	1.5%
	MNIOB	1	1.5%
	ANIQS	1	1.5%
	MNSE	5	7.7%
	ANIVS	3	4.62%
	Total	13	20.0%
Architect	MPMI	2	3.1%
	MNIA	8	12.3%
	Total	10	15.4%
Builder	MPMI	2	3.1%
	CPM	1	1.5%
	MNIOB	10	15.4%

	Total	13	20.0%
Quantity Surveyor	M PMI	2	3.1%
	ANIQS	8	12.3%
	Total	10	15.4%
Engineer	MNSE	9	13.8%
	Total	9	13.8%
Estate Surveyors	ANIVS	10	15.4%
	Total	10	15.4%

Source: Field Survey

The table 4.6 shows that out of 13(20.0%) respondents as construction project managers, 5(7.7%) possess MNSE, 3(4.62%) possess ANIVS while 1(1.5%) respondents possess PMP, CPM, MNIQB and ANIQS each. This clearly indicates that most construction project managers do not possess the professional project management, thus the need for their training.

Table 4.7 Frequency distribution of the respondent's job position cross tabulated with length of experience.

Job Position	Types and Years of experience		Count	% of Total
Construction Project Manager	Experience as contractor Professional	4-6 years	1	1.5%
		7-10 years	1	1.5%
		10-15 years	1	1.5%
		>15 years Total	10	15.4%
		13	20.4%	

Architect	Experience as contractor Professional	7-10 years	2	3.1%
		10-15 years	4	6.2%
		>15 years	4	6.2%
		Total	10	15.4%
Builder	Experience as construction Professional	>3 years	1	1.5%
		7-10 years	4	6.2%
		10-15 years	4	6.2%
		>15 years	4	6.2%
		Total	13	20.0
Quantity	Experience as contractor Professional	7-10 years	3	4.6%
Surveyor		10-15 years	6	9.2%
		>15 years	1	1.5%
		Total	10	15.4%
Engineer	Experience as contractor professional	4-6 years	1	1.5%
		7-10 years	4	6.2%
		10-15 years	1	1.5%
		>15 years	3	4.6%
		Total	9	13.8%
Estate Surveyor	Experience as contractor Professional	7-10 years	1	1.5%
		10-15 years	3	4.6%
		>15 years	6	9.2%

Table 3.1 Percentage response of respondents

Respondents	Percentage
Project Managers	13(20.00%)
Builders	13(20.00%)
Architects	10(15.38%)
Quantity Surveyors	10(15.38%)
Engineers	9(13.86%)
Estate Surveyors	10(15.38%)

Source Field Survey 2011

3.2.2 Secondary data: These were sourced from reports, conferences, journals and published books. Some of these were collected from lecturer, web site and colleagues. These were not only used in literature but also assisted greatly in the whole study.

Total		10	15.4%
Experience as contractor Professional	<3 years	1	1.5%
	4-6 years	2	3.1%
	7-10 years	15	23.1%
	10-15 years	19	29.2%
	>15 years	28	43.1%
Total		65	100.0%

Source Field Survey (2011)

The table 4.7 shows that 10 (15.40%) construction project managers had been in the industry for more than 15 years. This indicates that some construction project managers in the industry rely on their length of experience of their primary profession with project management professional background.

4.1.2 Organization characteristics of the respondent

Table 4.8 Size of the respondents firms.

Size of Firm	Frequency	Percent	Percent	Cumulative Percent
Valid	2	3.1	3.1	3.1
None	14	21.5	21.5	24.6
1-10	7	10.8	10.8	35.4
11-20	7	10.8	10.8	46.2
21-30	1	1.5	1.5	47.7

41-50	2	3.1	3.1	50.8
50-70	2	3.1	3.1	53.8
71-99	30	46.2	46.2	100.0
>100	65	100.0	100.0	
Total				

As shown above, 44.6% of the firms of the respondents have less than 50 employees with 2 respondents not indicating the size of their firm. The firms of the respondents are small firms; with 30 of the respondents firms have more than 100 people in their organization. These are government establishments and parastatals who are involved with the project management.

The respondents were asked whether their firms have an in house programme.

Table 4.9 Frequency Distribution of firms with in house training programme

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	35	53.8	53.8	53.8
No	30	46.2	46.2	100.0
Total	65	100.0	100.0	

Source Field Survey (2011)

From table 4.9 53.8% of the respondent claimed that their company have an in house training programme. More than half of the corresponding firms prefer in – house programme which justifies its importance to the staff.

The respondents were further asked whether there is a need for their firms to have an inhouse training programme for project managers.

Table 4.10 Needs For In – House Training Programme

Responses	Frequency	Percentage
Yes	45	69.2%
No	3	4.7%
No Response	16	25.0%
No Missing	1	1.54%
Total	65	100.0%

The table 4.10 shows an indication that the respondents prefer firms to have an in- house programme which demonstrate the importance of the training to the respondents.

4.2 Analysis of Research Questions

4.2.1 The benefits of Project Management Training to the Construction Project Managers.

In an attempt to addressing this issue the respondents were asked how beneficial Project Management training for the achievement of their business objective? And to respond to seven variables on five numerical scale as follows

5- Strongly agree

4- Agree

3- Neutral

2- Disagree

1- Strongly Disagree

Table 4.11 Frequency distribution of the benefits of Project Management Training by the respondents.

Benefits of Project Management	F&%	5-Strongly Agree	4-Agree	3-Neutral	2-Disagree	1-Strongly Disagree	Mean	Rank
		5	4	3	2	1		
1. Project Management training ensures predictable schedule cost and product delivery. n=65	F %	53 81.5	8 12.3	4 6.2	- -	- -	4.75	1
2.Offers more effective ways to priorities, allocate and monitor resources n=65	F %	46 70.8	16 24.6	3 4.6	- -		4.66	2
3.Enhance Project Management self esteem	F %	40 61.5	20 30.8	3 4.6	2 3.1		4.51	3
4.Demonstrate commitment of excellence to customers, employees and other stake holders. n=63	F %	38 58.5	16 24.6	8 12.3	1 1.6		4.44	4
5. Enables the project manager to cope with								

the new technological improvement. n=63	F	22	30	12	-	4.15	5
	%	34.4	46.9	18.8	-		
6. Prevents skill obsolesces. N=63	F	16	41	5	1		
	%	25.4	65.1	7.9	1.6	4.14	6
7. Remove performance deficiencies of the project manager	F	15	37	10	3		
	%	23.1	56.9	15.4	4.6	3.98	7

From table 4.11, 81.5% strongly agree that project management training ensures the beneficiaries of predictable schedule cost and product delivery.

This is an essential feature of a project manager in satisfying its client's delivering the project on schedule. This will in no small way avoid unnecessary fluctuation and enable the project to be completed within time, quality and cost constraints.

46 of the responses (70.8%) with mean of 4.66 strongly agree that the project management training offer more effective ways to priorities, allocate and monitor resources. The importance of project management training was demonstrated by the respondents in their response as 61.5% of them with mean of 4.51 strongly agree that project management training enhances self esteem of the project manager while 46.9% agree that it enables the manager to cope with new

technological changes and 37 respondents (56.9%) with mean of 3.98 also agree that it remove performance deficiencies of the project manager.

Thus, there is need for the training and retraining programme in the construction industry stated in Farr and Sullivan (1996); that many Architectural, Engineering and construction (AEC) employees will become obsolete within three years without training.

The respondents were further asked on how well the continued educations meet their need.

Table 4.12 Summary of how well the continued education meets the respondents need

Need for continued Education		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely well	9	13.8	14.3	14.3
	Very well	53	81.5	84.1	98.4
	Marginally or Poorly met	1	1.5	1.6	100.
	Total	63	96.6	100.0	
Missing System		2	3.1		
	Total	65	100.0		

From table 4.12, 62 of the respondents believed that the continued education met their need. 53 (81.5%) believed that their needs were very well met while 9 (13.8%) were extremely well met.

4.2.2 The problems associated with the training failure of construction Project Managers?

With respect to this, the respondents were asked to respond to questionnaires to what extent does each of the seven variables contributes to the training failure of construction project managers on a five numerical scale namely;

5-For frequent failure,

4- For failure,

3- Neutral,

2- Partial failure

1- No failure

Table 4.13 Rating of problems associated with training failure of construction project manager by the respondents.

Problems	F/ %	Frequent Failure	Failure	Neutral	Partial Failure	No failure	Mean	Rank
Wrong Choice of Trainers	F %	42 67.7	14 22.6	4 6.5	2 3.2	-	4.55	1
Lack of Management support F	F %	36 56.2	20 31.3	7 10.9	1 1.6	-	4.42	2
Inadequate analysis of performance deficiencies	F %	35 54.2	14 21.5	8 12.5	6 9.4	-	4.25	3
Ambiguous Objectives	F %	35 54.9	18 28.1	9 14.1	2 3.1	-	4.06	4
Inadequate preparation	F %	29 44.6	25 38.5	6 9.2	3 4.6	2 3.1	4.17	5
Non recognition of Supervisor	F %	23 35.9	25 39.1	8 12.5	7 10.9	1 1.6	3.97	6
Ignoring Non training Factor		18 27.7		23 35.4	20 30.8	2 3.1	3.82	7

It can be observed from table 4.13 that more than 50% of the respondents rated all the variables as problems associated with the training of the project managers. Wrong choice of trainers was rated high with 42 responses (67.7%).

Lack of top management support was rated second by 36 (56.2%) and followed by inadequate analysis of the performance deficiencies by 35 (54.2%) with mean of 4.42 and 4.25 respectively.

There is therefore, need to pay adequate attention to each of these parameters in the training programme.

4.2.3 The training needs of Nigeria construction Project Manager?

In obtaining these needs, the respondents were asked to rate 8 major courses on five numerical scales on the extent to which each course would be relevant to improve their performance.

5-Very Relevant 4-Relevant 3-Neutral 2-Partially Relevant 1- Not Relevant

Table 4.14 Preferred Training Topics.

Courses	F and %	5-Very Relevant	4-Relevant	3-Neutral	2-Partial Relevant	1-Not Relevant	Mean	Rank
Construction Project Management	F %	57 87.7	4 6.2	4 6.2			4.82	1
Personnel Management	F %	46 70.8	12 18.5	7 10.8			4.60	2
Design Management	F %	42 68.9	10 16.4	9 6.6	5 8.8	1	4.46	3
Computer Application	F %	33 60.8	15 23.1	14 21.5	2 3.1	1.5	4.18	4
Accounting and	F	26	28	7	2	3		

Financial Management	%	41.3	44.4	11.1	3.2	4.8	3.60	5
Risk Management	F	17	17	16	9	1		
General Management	%	27.4	27.4	25.8	14.6	1.5	3.58	6
General Management	F	8	27	23	6	1		
Entrepreneurial Studies	%	12.3	41.5	35.4	92	1.6	3.54	7
Entrepreneurial Studies	F	7	19	30	7			
Entrepreneurial Studies	%	10.9	29.7	46.9	10.9		3.34	8

Source: Field Survey (2011)

The mean response ranges from 3.34 to 4.82. If all course with category means of responses greater or equal to 4.00 are taken as core course, and those below are taken as elective courses, Then it shows that construction Project Management, Personnel Management, Design Management and Computer Application which were rated high above 4.00 shows that they are major courses which are needed for training project managers while others are elective courses, although important but not as important as the first four courses.

4.2.4 The delivery methods preferred by the construction project manager?

Addressing the above stated issue, the respondents were asked to respond to how effective in their opinion each of the following training Institution would be in organizing training for construction project managers; on five numerical scale.

5- Most effective

4- More effective

3- Effective

2-Neutral

1- Least effective

Table 4.15 Frequency Distribution on Effectiveness of Training Institutions for Project Managers by the respondent.

Institute	F and %	Most effective	More effective	Effective	Neutral	Least effective	Mean	Rank
Project Management Institute	F %	57 87.7	7 10.8	1 1.5			4.86	1
Construction Professional Institute	F %	45 69.2	16 24.6	4 6.2			4.63	2
Management development Centre	F %	19 29.2	36 55.4	8 12.3	2 3.1		4.11	3
Management Institute	F %	20 30.8	30 46.2	10 15.4	3 4.6	1 1.5	3.95	4
University/Polytechnic	F %	22 33.8	21 32.3	19 29.2	2 3.1	1 1.5	3.94	5

Source: Field Survey (2011)

It can be observed from the table 4.15 that, the most effective trainers as responded by the respondents are Project management Institute 57 (87.7%), Construction Professional Institute 45 (69.2%), university/ Polytechnic 22 (33.8), Management Institute 20 (30.8) and Management Development Centre 19 (29.2).

The reason for the above is not far fetched, as the Project Management Institute is the best institute to provide adequate training for its members. The Construction Professional Institute is also one of the best institutes to provide up to date information as related to construction professionals, while University/ Polytechnic train for future development.

The Table 4.15 also shows that Project Management Institute has the highest mean value, followed by Construction Professional Institute and the University/ Polytechnic.

The respondents were also asked to rate training methods on a five numerical scale

Table 4.16 Rating of preferred training methods by the respondents

Sources of some of the training methods were from Odusami (2007)

Training Methods		Most preferred	More preferred	Preferred	Undecided	Least preferred	Mean	Rank
Field Visit	F	41	13	10	1			
	%	63.1	20	15.4	1.5		4.45	1
Video Tape	F	38	17	5	3			
	%	60.3	26.9	7.9	4.9		4.43	2
Workshop	F	36	20	6	1	1		
	%	55.4	30.8	9.2	1.6	1.6	4.39	3
Lecture	F	35	18	9	1			
	%	55.6	28.6	14.3	1.6		4.38	4
Case study	F	35	9	13	5	1		
	%	55.6	14.3	20.6	7.9	1.6	4.35	5
Seminar	F	25	33	4		1		
	%	39.7	52.4	6.3		1.6	4.29	6
Conferences	F	16	42	3	3	1		
	%	24.6	64.6	4.6	4.6	1.5	4.26	7
Computer conferences	F	21	29	8	4	1		
	%	33	46	12.7	6.3	1.6	4.23	8
Demonstrations	F	23	23	15	3			
	%	35.9	35.9	23.4	4.7		4.03	8
Shared Experience	F	19	23	22				
	%	29.7	35.9	34.4			3.95	10
Manual	F	17	32	12	1	3		
	%	26.2	49.2	18.5	1.5	4.6	3.95	10

Website	F	20	25	15	1	1	1	
	%	30.8	37	23.4	1.5	1.5	1.6	12

Source: Field Survey

In order for the training to achieve its objective, in improving the performance of the beneficiaries, it is usually necessary for the trainer to choose the best training method to deliver the training content. Table 4.16 shows the response of the respondents to the preferred training methods.

More than 50% of the respondents rated Field visit (63.1%), Video tape (60.3%), Workshop (55.4%), Lecture (55.6%).

It can be deduced from table 4.16 above that, the most preferred method of training by the respondents is Field visit followed by video tapes, Workshop and Lecture respectively.

CHAPTER FIVE

5.0 Discussion, Conclusion and Recommendation

5.1 Discussion

From page 27, questionnaires sent to the respondents were returned representing rate of 43.3%.

1. The percentage response of female was 20%, which confirms that construction is a male dominated industry.
2. All respondents have had tertiary education, chartered professionals in their respective construction field. This is an indication that project management is a secondary profession in construction industry.
3. Majority of the respondents in project management practice are not project management practitioners, they rely on their years of experience in their respective field of study, as 43.1% of the respondents had been in construction industry for more than 15years. This, therefore, calls for the need of their training.
4. The respondents agree that, project management training will be of great benefit to them in achieving their business objectives, although they highlighted wrong choice of trainers, lack of top management support and inadequate analysis of performance deficiencies as some of the problem associated with the project management training failure.
5. The training needs of construction project managers areas as preferred by the respondents are Construction Project Management, Personnel management, Design management and computer application as core courses.
6. The preferred method of training is the field visit followed by video tape, workshop and lecture as they are ranked as most training methods, while Project Management Institute, Construction Professional Institute and Universities /Polytechnic are ranked as their most effective trainers.

5.2 Conclusions

Based on the results obtained from the research carried out on (topic), it can be concluded that 53.8% of respondents have an in-house programme and a Large percentage of the respondents also indicated that their personal needs are met through training. This personal needs include both the job and organizational needs as training improves their performance on the job and image of the organization.

- Construction project management areas most relevant to the construction project managers in this study are personnel management, design management, computer management with a high regard to accounting and financial management followed by general and entrepreneurial management.

- Field visitation for site managers is the most preferred delivery method.

5.3 Recommendation

Construction Project management is becoming more formalized as a discipline profession and therefore, there is need to develop educational and training programme to meet the global challenges ahead. These will meet the present and future needs of the construction project manager in national development. It is on these respects that the following recommendations are made.

1. The University authorities in Nigeria should introduce as a matter of urgency project management at master's degree in relevant Faculties, Construction Engineering for the training of construction project managers to forestall short in supply of competent construction project managers in no distance future.
2. Frequent training of site mangers should be seen as important and encouraged so as to put an end to the problem of skill shortages.
3. Field visitation as preferred delivery method for training of site managers and should be encouraged and site-documentary bank should be developed stored and made accessible to future generation of site managers. This can also be used for training at educational institution and at continuous professional development fora.

4. The establishment of Project Management Certification Body should strategize a method for controlling and monitoring the activities of project managers and obtain feedback from the training programmes.

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APPENDICES

Dear Respondents,

RESEARCH WORK ON ASSESSMENT OF TRAINING NEEDS OF NIGERIAN CONSTRUCTION PROJECT MANAGERS AND THEIR PREFERRED DELIVERY METHODS.

I am carrying out a research work on the above subject matter. This an effort aimed at adding to the body of knowledge available in this field.

I would be grateful if you could kindly provide me with answers to this questionnaire based on your experience in the industry.

Please, note that information provided will be treated with utmost confidence and be used only for academic purpose.

Thank you.

Igwegbe Clara N.

PERSONNAL AND ORGANIZATIONAL DATA

(Please tick where appropriate)

1. Sex

Male , Female

2. Marital Status

Single , Married , Divorce

3. Please, indicate your age group

Under 25years , 25-34years , 35-44 years , 45-54 years , 55-64 years , over 65 years

4. Please indicate your maximum educational attainment (Construction related field)

OND , HND , BSC , MSc , PhD ,

5. What is your professional background? Non- construction related qualification

PMP , MPMI , CPM , MNSE , ANIVS

Other, please specify

6. Please indicate your current job position

a. Construction Project Manager

b. Architect

c. Builder

d. Quantity Surveyor

e. Engineer

f. Estate Surveyor

g. other, please specify

7. If (a) how long have been practicing as a Construction Project Manager

8. Please indicate the length of your experience as a Construction Professional

Under 3 years [], 4-6 years [], 7-10 [], 10-15 years [], Over 15 years []

9. What is the average size of your company?

1-10 [], 11-20 [], 21-30 [], 31-40 [], 41-50 [], 50-70 [], 71-99 [], Over 100 []

10. To what extent are the following benefits of project management to the project managers.

Strongly agree	5	4	3	2	1 Strongly Disagree
<p>Project management training ensure predictable schedule, cost and product delivery.</p> <p>Offer more effective ways to priorities, allocate and monitor resources</p> <p>Demonstrate a commitment of excellence to customers, employees and other stakeholders</p> <p>Enhances Project Manager's self esteem.</p> <p>Prevent skill obsolescence.</p> <p>Enables the project manager to cope with new technology changes.</p> <p>Removes performance deficiencies of the project manager.</p>					

11. How well does the continued education meet your need?

Extremely [], Very well [], Marginally or poorly met [].

12. Does your company /firm have an in-house training programme?

Yes [], No []

13. Is there a need for your firm to have an in-house training programme for project managers?

Yes [], No [], No Response []

14. To what extent does each of the following factors contribute to training failure of construction project managers? Please tick the degree of failure.

5-Frequent failure [], 4-Failure [], 3-Neutral [], 2-Partial failure [] , 1-No failure []

Causes of training failures	5	4	3	2	1
Ambiguous objectives					
Ignorance					
Wrong choice of trainer					
Lack of top management support					
Inadequate preparation					
Non recognition of the supervisor					
Inadequate analyses of performance deficiency					

15. Please, rank in order of perceived importance, the problems of the construction project management training.

5- Very important [], 4-Important [], 3- Neutral [], 2- Partially important [], 1-Not important []

- a. Practical relevance of the education and training process []
- b. Lack of support of the top management and stakeholders []
- c. Structure of Education process []
- d. Lack of awareness []
- e. Cost of Training []

16. If project managers were to participate in the training programme to what extreme would each of the following courses be relevant to improve your performance. Tick as appropriate

5-Very relevant [], 4- Relevan [], 3-Neutral [], 2- Partial Relevant [], 1-Not Relevant []

Relevant Courses	5	4	3	2	1
a. Entrepreneurial studies					
b. Accounts and Financial management					
c. Construction Project Management					
d. General Management					
e. Computer Application					

f. Design Management					
g. Risk management					

17. How effective are the training institutions below to the organizing of training for construction project managers. Please indicate the level of effectiveness.

5-Most Effective [], 4-More effective [], 3-Effective [], 2- Neutral [], 1- Least effective [].

a. Project Management Institute []

b. Construction Professional Institute []

c. Management development centre []

d. Management Institute []

e. University/Polytechnic []

18. Below are lists of various project management training methods, indicate there degree of preference.

5-Most preferred [], 4-More preferred [], 3-Preferred [], 2-Undecided [], 1-Least preferred []

Seminar [], Case studies [], Workshops [], Conferences [], Demonstration, [], Video tape [], Shared experience manual [], Lecture [], Computer conferencing [], Website training [].

19. How often should Project management training be engaged in a construction firm in order to achieve optimum result?

5-Very often [], 4-often [], 3-Sometimes [], 2-Less often, 1-Any time []

20. How many times have you gone for training on Project Management?

21. Which is your preferable mode of training?

Weekends [], Evening [], Day release lecture [], Full Time [], During annual leave [],

22. How many project were completed successfully under you as a Project Manager

23. Could you attribute your success to good project management? Yes [], No []

24. Has project management training brought about substantial productivity in your company?

25. What can you simply say about the needs of Construction Project Managers training in Nigeria?

