

**STRATEGIES FOR IMPROVING PARTNERSHIP BETWEEN BUILDING  
CONSTRUCTION INDUSTRIES AND TECHNICAL COLLEGES IN FEDERAL  
CAPITAL TERRITORY, ABUJA**

**BY**

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**2016/1/63807TI**

**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
FEDERAL UNIVERSITY OF TECHNOLOGY MINNA NIGER STATE**

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF INDUSTRIAL AND  
TECHNOLOGY EDUCATION FEDERAL UNIVERSITY OF TECHNOLOGY  
MINNA, NIGER STATE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
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INDUSTRIAL AND TECHNOLOGY EDUCATION (BUILDING TECHNOLOGY  
OPTION)**

**APRIL, 2023**

## DECLARATION

I hereby declare that this titled: “**Strategies for Improving Partnership Between Building Construction Industries and Technical Colleges in Federal Capital Territory, Abuja**” is a collection of my original research work and it has not been presented for any other qualification anywhere. Information from other sources (published or unpublished) has been fully acknowledged.

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SIGNATURE&DATE

## CERTIFICATION

This project titled “**Strategies for Improving Partnership Between Building Construction Industries and Technical Colleges in Federal Capital Territory, Abuja**” by: OBADIEEGWU, Nnemeka Wisdom meets the regulations governing the award of B.Tech of the Federal University of Technology, Minna and it is approved for the contribution to scientific knowledge and literary presentation.

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EXTERNAL SUPERVISOR

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Signature & Date

## **DEDICATION**

This project is dedicated to Almighty God whose strength kept me throughout this period and to my better half whose love and selfless effort helped me throughout this period.

## ABSTRACT

The study identify the strategies for improving partnership between building construction industry and technical colleges in F.C.T Abuja. Three objectives were formulated the study, three research questions were raised to guide the study, three hypotheses were formulated at 0.05 level of significance. The research design that was used in carrying out this study is a survey research design. The targeted Population for this study is consists of 122 construction workers and 28 Technical teachers. The entire population for the study is 150 respondents which are registered members of technical college and construction industry in Abuja. There is no sampling technique, due to the manageable size of the population. The data collected was analyzed using Mean ( $\bar{x}$ ) and Standard deviations (SD) to analyze the research questions, while independent t-test will be used to analyze the formulated hypotheses. SPSS package 23.0 version will be used to carry out the analysis. The result revealed that items 1-10 agreed with the mean range from 2.50-2.60 on the need for partnership between building construction industries and technical colleges based on the decision. The result revealed that items 1-10 agreed with the mean range from 2.56-2.71 on the possible challenges face by building construction industry in working with technical colleges based on the decision. The study concluded this partnership program will help promote good skill acquisition, reduce lack of skill management and improve the competencies among building technology students and construction workers. The study recommends that strategies should be put in place by the government in providing a seminar for both technical colleges and construction industries, and discussion of the seminar should be the benefit of partnership if technical colleges are in partner with construction industries. The study also recommends that the Government should look at the lapses in technical colleges and ensure that those materials and equipment needed for this partnership is provided

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## **CHAPTER ONE**

### **1.0**

### **INTRODUCTION**

#### **1.1 Background to the study**

The construction industry is an important sector and plays a vital role in a national economy due to the usage of its end products such as roads, buildings and dam. The construction industry according to Kolawole (2016) is a unique one, it is vital to the existence of other industries in that it provides the environment under which other industries operate. The industry as stated by (Balogun, 2017) is responsible for 61% of the country's Gross Domestic Product (GDP) and employs up to 20% of the labour force. The industry is highly fragmented with contractors ranging from a few multinationals that employ hundreds of labour to the majority of contractors that employ less than ten employees.

Building construction industry has witnessed tremendous institutional and organizational transformation across the globe. Continuous modification of building process, pace and complexity of work and increasing demand for higher productivity have become common features of this industry. These are in response to globalization of economy and markets, technological advancement and changing consumer preferences. According to Wong (2018), the dynamic and complex nature of construction works, diverse backgrounds and hostile attitudes of participants are also believed to be contributing greatly to rapid changes taking place within the construction industry in general. Technical colleges has been an important area that have been calling for partnership in order to produce good labour force that can compete with international standard, these roles and partnership include how the participants in Technical colleges can interact with those in building industry in order to resolve knotty issues encountered during the course of the practical work.

Technical Education is a tool for National development is a sub-set of Education which is internationally noted to be the mother of all knowledge. A good partnership is highly needed

in order to promote the activities of the colleges, Technical colleges constitutes the beginning of what may be described as the finished product of a lower level of skill and aptitude. The level is expected to raise a generation of students who can think for themselves, respect the views and feelings of others, respect the dignity of labour, and live as good citizens. The curriculum in building technology education has been well articulated with functionality and the integration of theory and practical/workshops as paramount aims. Creativity and improvisation are also highly rated, the introduction of industrial workshop to orientate the students with the need to become building professionals (Anumber, 2002).

Partnership is an arrangement where parties agree to cooperate to invest their resources for mutual interest (Harris & Wilkes, 2013). While school-industry, is a contractual relationship between educational institutions and industry towards (Atsumbe, 2016). Strategic partnership between Technical college is the dynamic and interactive mutual collaboration between training institutions and industries in terms of training skills, ideas, research and innovations leading to a seasoned manpower generation and development for industrial competitive workforce. Partnership between construction Industry according to Davey (2013), will results in:

- i. The design and delivery of programme that are relevant to current and future industrial needs.
- ii. Graduates confident in their ability as knowledge and skills are integrated to be relevant to their academic careers and the world of employment.

Odjerinde (2017) suggests that communities that want to improve the quality of building project potentially have much to gain with the partnerships of building industries and education institution. To strengthen technical education, school planning capacity, and needs

competencies for employment readiness, and the techniques for improving the partnership between the two institutions, building industry help to produce qualified and skilled teacher in the building area, and also train students for employment. Since inception, partnership between construction industry and technical colleges program has focused on professionalism, in the past years there have been entrepreneurship, employ-ability, and career guidance. Technical colleges, which were already connected to the building industries, had long produce good class of professionals (Okebukola, 2017).

This help and supported by building masters and technical teachers to create a living classroom to support the student to be inquisitive in doing research that will bring a new done to building project. Investigating on how to create an avenue for this partnership has extended, and these have been the priority of the government of Nigeria, with other schools and training institutes across the country. In basic education, the model can now be found in over 10 Technical colleges in Nigeria. Campbell (2016), parts of this program have had national impact that will build the four walls of the nation. There is anecdotal data that more graduates from technical colleges have found satisfactory employment in building sector, and more quickly, than past decades. This includes a greater number of graduates' opting to launch their own building enterprises. A preliminary evaluation conducted three months after the graduation of the first class (2017) shows that 62 percent of the graduates reported being actively employed or having launched a new business as a result of self-reliance, and another 30 per cent were still looking for employment due to poor practical skill acquisition. Construction companies are quite dynamic when it comes to project, which involves numerous contractors, subcontractors, trades people, and laborers, all of whom require equipment, materials, and supplies to complete their tasks, for technical colleges to partner with them, could promote the skills of both teachers and students (Horner and Duff, 2015).

These activities and demands to achieve the maximum efficiency from the available resources are difficult and typically not done well. Time, money, and resources could be wasted if there is no good partnership between technical colleges and building industries, it could led to poor management of resources available. When resources are poorly managed, it affects the level of students' comprehension during practical (Olabosipo, 2014). Partnership with construction industries will help to improve the techniques of technical teachers and students, and also improve the quality of product. Building industries are effectively managing the nature of planning, design, engineering, and construction processes. Improved partnership efficiency also requires a skilled labor force with communication, collaboration, and management skills as well as technical proficiencies (Mojahed, 2015).

Greater partnership could create more awareness for students who want to be practically oriented in building field, and also help to train and reset the activities of technical colleges. Innovative and use of development tools that can take a variety of forms, practical use of advance tools, provision of field testing on a job site; seminars, training, and conferences is also organized for technical colleges in America by construction industries (Ademola, 2016). Technical colleges can be equipping with sophisticated equipment and standardized testing and reporting protocols. Greater and more collaborative between technical colleges and industries can go into the use of demonstration installations for testing and verifying the effectiveness of new processes, technologies, and materials and their readiness to be deployed throughout the construction industry (Anyawu, 2018). Performance measures between technical colleges and building industries has enabled good innovation and of corrective actions throughout a project's life cycle (Mullins, 2015). They can help technical colleges and building organizations to understand how processes or practices led to success or failure, improvements or inefficiencies, and how to use that knowledge to improve products, processes, and the outcomes of active projects. The nature of construction projects and the

industry itself calls for lagging, current, and leading performance and techniques and task levels, respectively.

## **1.2 Statement of the Problem**

In Nigeria, the need for collaboration and partnership between technical colleges and building construction industries is very important, but most technical colleges run their program their own way, and with that there is no improvement in teaching knowledge. The problem that lead to this is lack of awareness about the important of partnership, lack of seminar by the government about partnership program, poor provision of materials and equipment that will encourage partnership program. Looking at the challenges faced by the manufacturing industries, there is a greater need for innovations in product and service development, for heightened corporate efficiency and risk management in investment (Wilson, 2012). Hence there is need to focus on securing, retraining and developing talented workforce.

Technical colleges and other higher institution are primarily the supplier of workforce needed in Construction industries. Workforce that has the capability to support industrial growth and enhance economic Development of Technical colleges are the source of strength in the knowledge-based economy for the twenty-first century (Dearing, 2002). According to Wilson (2012), a thriving knowledge of economy depends upon its Technical colleges in three critical dimensions: the application and exploitation of research capability; the enterprise and entrepreneurial culture that is developed amongst its students and the applicability of the knowledge and skills of all its graduates.

Technical colleges cannot achieve excellence in these roles by itself. A strategic partnership between Technical colleges of technology and the Construction industries that foster supply of workforce to excel in job performance is therefore needed. This partnership has to be strong and resilient with constant communication in both directions and in operations and

strategies that ensures common understanding of the objectives of the two parties. The partners have to be willing to change the existing practices to meet the needs of their partnership through transparency and respect for boundaries of capabilities.

### **1.3 Purpose of the Study**

The purpose of this study is to identify the strategies for improving partnership between building construction industry and technical colleges in F.C.T Abuja. Specifically the objectives of the study is to:-

- i. determine the need for partnership between building construction industries and technical colleges.
- ii. determine the possible challenges face by building industry in working with technical colleges.
- iii. determine the strategies that can enhance effective partnership between building industry and technical colleges.

### **1.4 Research Questions**

The following research questions were raise to guide the study;

1. What are the need for partnership between building construction industries and technical colleges?
2. What are the possible challenges face by building construction industry in working with technical colleges?



3. What are the strategies that can enhance effective partnership between building construction industry and technical colleges?

### **1.5 Significance of the Study**

The study will be of great significance to the stakeholders in the building construction industries and technical colleges which include project manager, society, students and Technical teachers.

Project manager will benefit from this research; it will help project managers to build professionalism needed to impart more knowledge into the student of Technical colleges when sent for industrial attachment, this will in so many ways give them every need to show the student some basic facilities they are not opportune to see in school.”

The society will benefit from the study, the successful implementation of policies of building practices in partnership industry can lead to a number of benefits for society at large and, in particular, the local economy. These benefits include new skills acquired during combine training, adopting new knowledge and techniques that will bring growth into the market. This will bring about more discoveries by technical teachers, and with this the society will tend to produce qualified building masters to properly use the right cement and sand for construction work, and this will reduce the rapid collapse of buildings in Nigeria, and the society would be free from loss of lives and properties.”

The student are going to benefit from this research, when there is available equipment that is provided with the partnership between technical colleges and building industry, student will gainfully improve their skill after undergoing practical and group work in the workshop. It will help the student with the knowledge of practical, student will know the amount of sand and stone that is needed to mix certain bags of cement, and also student will be orientated on

the need to use the right material for the right job, with this, student will easily gain employment into labour market.

Teachers in technical college will be a partaker of this research, it will help the teacher to in developing skills needed to impart more knowledge into the student especially in the area of proper foundation and block-laying, and as a result of this, the student will tend to develop good skills that will gainfully draw them into labour market at the end of the program. Most Technical colleges need skill teachers in building Technology, the study will promote the skill of teachers as a result of good partnership with building industry.

### **1.6 Scope of the Study**

This research is on strategies for improving partnership between building construction industry and technical colleges in F.C.T Abuja. The objectives is to identify the partnership between Technical colleges and building construction industry, identifying the basic problem confronting these partnership, and the strategies needed to provide a good atmosphere for partnership like all necessary facilities and wiliness among Technical colleges and building construction industry. The study is limited to technical colleges in Abuja. The study will be carried out within

### **1.7 Hypotheses**

The following hypotheses were formulated and will be tested at 0.05 level of significance.

**H<sub>01</sub>:** There is no significance difference in the mean responses between Technical teachers and construction worker on the possible challenges face by building industry in working with technical colleges.

**H<sub>02</sub>:** There is no significant difference in the mean responses between Technical teachers and construction workers on the strategies that can enhance effective partnership between building industry and technical colleges.

## **CHAPTER TWO**

## **2.0**

## **LITERATURE REVIEW**

The review of the related literature is organized under the follow sub-heading;

### 2.2 Conceptual Framework of the Study

#### 2.2.1 Historical of Technical Education in Nigeria

#### 2.2.2 Building Construction Industry in Nigeria

#### 2.2.3 Concept of Partnership

#### 2.2.4 Roles of Construction Industry in Partnership with Technical Colleges

#### 2.2.5 Techniques to Improve Partnership Between Building Industry and Technical Colleges

#### 2.1.6 Strategies for Partnership and Innovations

### 2.2 Related Empirical Studies

### 2.3 Summary of Literature Review

## **2.1 Conceptual Framework of the Study**

### **2.1.1 Historical of Technical Education in Nigeria**

Technical education is that aspect of education which leads to the acquisition of applied skills as well as basic scientific knowledge (Federal Government of Nigeria FGN, 2004). This policy has one of its broad objectives as, to provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development. But this aspect of education has experienced serious neglect right from the on-set of western education in Nigeria. This is because this type of education enjoyed high priority in our traditional African education whose main aim is character training and job-orientation (Mattawal, 2016). But with the coming of missionaries along with Western education, technical education was accorded low priority as the emphasis then was completely on literary education. This assertion was corroborated by Ozoro (2015), who commented that it has been recognized for a long time that the largely literary curriculum in the Nigerian

secondary school system does not prepare the soil to germinate and nurture science and technology.

The earlier missionary schools in the 19th Century introduced farming, bricklaying and carpentry but were not regarded as integral parts of Western education and later died down before the turn of the last century with few exceptions like Blaize Memorial Industrial School in Abeokuta and CMS Grammar School Lagos and Hope Waddell Institute, Calabar. The period between 1908-1935 witnessed the establishment of courses in various departments e.g. railway, marine, public works. This marked the beginning of organized technical education in Nigeria. Harris (2018) material forms over 50% of the cost profile of the construction industry. This was followed by the introduction of higher engineering courses at Yaba College of technology in 1932. However, only few could benefit from these courses due to their nature and requirements. In 1945, the first technical institute for Nigeria was established at Yaba replacing the Yaba high college. And 7 years thereafter in 1952, three colleges of Arts, Science and Technology were established in Zaria, Ibadan and Enugu. According to Russell (2013) the elimination of negative attitudes on a job that requires management of perception such as asking questions and getting feedback will foster a motivational and productive environment. These colleges recorded poor enrollment figures because of the general belief then that technical education is inferior to other types of education. Moreso, out of these three institutes only the one at Ibadan offered courses in the area of Agriculture. In 1962, these colleges were closed and their assets taken over by the first generation universities of Ife, Zaria and Nsukka. After, little effort was made to encourage technical education in the country, For instance, in the Northern region, there were only three trade centers located at Kaduna, Bukuru and Kano. In the 1970s more universities, polytechnics, and other colleges of higher learning were established but most of them were not technically oriented as most of them offer courses in languages, liberal arts and social sciences.

The period 1980-1983, saw the establishment of specialized technical institutions, that is, Federal Universities of Technology which were established to cater for manpower training in science and technology related areas but these universities were underfunded with inadequate facilities, this led to the merger of these universities with bigger ones by the Buhari/Idiagbonregime in 1984.

Although these universities got their status restored 1988-1991 only little progress was recorded in the area of technology. Also, within the same period two of the universities were renamed universities of Agriculture (Makurdi and Abeokuta) and later another one was established at Umudike South Eastern Nigeria. From the 1990s to date, there was remarkable expansion of various technical institutions in the country in terms of infrastructure, enrolment figures, course content and increase in the number of technical colleges, monotechnics, polytechnics and universities of technology, also records have shown that there is significant expansion in the various faculties of engineering and technology in other conventional universities, there is also the introduction of Information Communication Technology (ICT) in the school system. Also, three polytechnics, Kaduna polytechnic, the polytechnic Ibadan and Yaba Polytechnic have been upgraded to degree awarding institutions. Chase (2014) stated that combining training, orientation for new workers, provision of safe environment, encouragement of two-way communication, worker participation in planning and decision making, and individual / team recognition may be utilised to achieve worker satisfaction goal. What is required is for the government to fund and equip these institutions in order to meet their set goals and objectives; otherwise Nigeria shall continue to trail behind in this era of technological advancement.”

### **2.1.2 Building Construction Industry in Nigeria**

The building construction industry is an important sector and plays a vital role in a national economy due to the usage of its end products such as roads, buildings and dam. It is also used as an economic regulator by government who is a major client of the industry by intervening to regulate performance through financing, legislation and provision such as:

- Intervention in the market through finance by grant, benefits, subsidies and taxation.
- Grant for construction of industrial or commercial premises in areas of high unemployment.
- Incentives for the construction of certain types of project such as private housing.

Influence construction activity through the development, repair or maintenance of project (Ashworth, 2014). Further to these, it contributes significantly to the nation's gross domestic product (GDP) which is a measure of the volume of national output and input. German construction industry situated in Nigeria in the late 1980s accounted for about 6% of GDP when it experienced a rapid growth with a total value by 1990 (Ashworth, 2014). In Nigeria, an overall GDP growth rate of 5.8% and 6.2% were realized compared to the targeted 5.8% and 6.0% in the year 2015 and 2006 respectively. Figures produced by the statistical service indicate that the industry grew from 7.0% in 2006 and a target of 8.2% is expected at the end of 2017 and this is as a result of the increased in road construction and other infrastructural developments undertaken throughout the country between 2016 and 2017 Budget Statement.

The building construction industry also contributes to the level of imports in three ways;

- i. By its need for plant to process raw materials and physically execute construction projects.

- ii. By the direct importation of buildings and components to supplement domestic production.
- iii. By the use of design and implementation expertise provided by foreign consultants and contractors.

On the other hand, it contributes to exports by the sale of building products and other raw materials which constitute the basis of these products (Bhalla and Edmonds, 2015). The construction industry in the world over is often perceived to be the life wire of its respective economy as it cuts across all aspects of human activities (Ayangade, 2019). The Nigerian building construction industry is not an exception to this, its contribution ranges from enabling the procurement of goods skilled manpower for building other infrastructure, thereby providing employment opportunities to its labour force while contributing immensely to the Gross Domestic Product (GDP). According to Ayangade (2019), the contribution of the Nigerian construction industry is yet to measure up to those of the western world like the UK and Australia due to its developing nature among other reasons. As noted by Ayangade, (2019), whereas the construction industries of other developed countries are responsible for about 22% of their respective GDP's, the Nigerian case is different as it contributes slightly below 16% to its economy. However, this could be said to be complemented by the relatively higher employment, (20%) it provides for its whopping 170 million citizens compared to the 12% as in the case of developed countries. Mbamali (2016) attributed this to relatively lower use of mechanization within construction in Nigeria and the high dependency of the Nigerian economy on the oil sector. Obiegbu (2017) noted that the construction industry, unlike other sectors, is a complex one and requires articulate and trained professionals who are ready to live up to its clients' expectations. Clients in the construction industry may either be private individuals including corporate bodies or public organizations which include the government. In Nigeria the federal government is often seen to be involved in the most complex projects



with about 38.4% of the market (Ayangade, 2019). This is followed by the state government which is responsible for about 19.2% of the projects in the industry, though there is still some form of partnering between different classes of clients. The players in the industry are a disparate group of individuals often assembled into temporary teams and may comprise of quantity surveyors, architects, Engineers, Estate surveyors & Valuers, project managers, contractors and subcontractors, suppliers, labourers and artisans. Activities in the building construction industry are carried out on a project basis and could be within an organization or part of a programme. The Resources Management Institute (RMI) (2015) defined a resources as a source or supply from which benefits are produced. The resources in the context of the construction industry may be a building, services installation or other infrastructural materials. Hence the efficient management of resources can be installed when there is availability of professionals that are often assembled together with the aim of achieving this goal. This group of professionals is expected to possess the relevant skills, knowledge, tools and techniques to achieve the management goals. The application of these variables, skills, knowledge, tools and techniques, with the aim achieving the required objective is referred to as resources management (RMI, 2015).

### **2.1.3 Concept of Partnership**

Partnership is an arrangement where parties agree to cooperate to invest their resources for mutual interest (Harris & Wilkes, 2013). While school-industry, is a contractual relationship between educational institutions and industry towards (Atsumbe, 2006). Strategic partnership between universities is the dynamic and interactive mutual collaboration between training institutions and industries in terms of training skills, ideas, research and innovations leading to a seasoned manpower generation and development for industrial competitive workforce.

Partnership between higher institutions of technology according to Davey (2013), will results in:

- i. The design and delivery of programmes that are relevant to current and future industrial needs.
- ii. Graduates confident in their ability as knowledge and skills are integrated to be relevant to their academic careers and the world of employment.
- iii. An enterprising and entrepreneurial culture amongst university students and staff, where success in enterprise and entrepreneurship is celebrated, rewarded and promoted;
- iv. Effective and efficient production workforce through updating employee skills and recognizing universities as a natural ground for expertise
- v. Graduate recruitment matches industrial need with graduate skills that meets the divers' objectives of employers.
- vi. Sustaining world-class research within our universities, attracting the best talent, developing research informed leaders in both universities and industries that will ensures constant exchange between the academics and the industrialist.
- vii. A culture of pursuing the application of university-based research excellence, ensuring that institutions research capabilities are fully exploited in generating economic wealth, optimising the use of government support in research, innovation and development
- viii. Collaboration with government agencies to undertake regular forward looks to co-identify areas of future knowledge and capability creation, where research investment should be allocated and, wherever possible, collaboratively developed and resourced

- ix. The creation of economic growth through partnership with government agencies and Local Enterprise Partnerships (LEPs), leveraging each institution's capabilities to support indigenous companies and to attract inward investment (Davey, 2013).

The landscape of partnership consists of a wide variety of domains where there is real expertise and strength, often of a highly specialised kind. These domains are wide ranging: From future-oriented research in advanced technologies, to in-house upgrading of employees; from providing progression routes to higher-level apprenticeships, to enhancing the skills of post-doctoral staff for their transition into the business world; from improving enterprise skills amongst our undergraduates, to enabling small companies to recognize the value of employing a first graduate, inter alias.

#### **2.1.4 Roles of Building Construction Industry in Partnership with Technical Colleges**

Construction companies face challenges unparalleled in late history; always expanding worldwide rivalry, the effects of the budgetary emergency and universal shakiness are only a portion of the variables that face the Nigerian business pioneers. At no other time has there been a more noteworthy requirement for advancement in equipment and partnership between Technical colleges in order to build listening operation in improving the skills among technical teachers. At no other time has there been such an attention on securing, holding and creating ability amongst the workforce. The Technical college area is a national asset that has a focal part to play in supporting Nigeria housing accomplishment in tending to these difficulties (Mojahed, 2015). Technical Colleges are a vital piece of the inventory network to construction work most especially building department. A flourishing information that help the construction company relies on Technical colleges students in three ways: the application of the right equipment to train student; the endeavor to meet certain requirement for long term

relationship during attachment or visiting; and the appropriateness of the learning and aptitudes of every participant.

Technical college can't accomplish greatness in these parts without anyone else involving to impact extra knowledge in order to promote effectiveness and efficiency during practical work (Olabosipo, 2014). Construction chains that exceed expectations in execution are those where cooperation is solid and strong; where there is consistent correspondence in both headings, both operational and key; where there is a typical comprehension of the destinations of the other party; where there is a readiness to change existing practices to address the issues of the competency; and where the limits of ability are straightforward and regarded (Zakari, 2017). During the partnership program, there are various shortcomings in the present construction company–Technical colleges inventory, Technical colleges in Nigeria take their spot as world pioneers in construction backing and correlation, an agreement that produces partnership and coordinated effort, is pledge that must be accomplished through more prominent correspondence and understanding (Thomas, 2015). Government has a part to play in accomplishing that by making a situation that empowers and advances such partnership. Yet, the essential obligation regarding achievement lies with the essential gatherings between Construction Company and Technical colleges. Odunsami (2013) the best place on the planet for industry–school cooperation' to accomplish the award of 'world pioneer' obliges a thought of the characteristics that legitimize such a status.

The following are the dynamic coordination between technical colleges and construction industries:

1. The configuration and conveyance of projects that are significant to present and future skill acquisition needs between the diverse situations of Technical colleges and construction companies.

2. Graduates teachers with skills abilities that are pertinent to their future vocations and who are sure about their capacity.
3. Opportunities for understudies to coordinate work experience and study, guaranteeing network between scholastic study and the universe of job.
4. An ambitious and entrepreneurial society amongst Technical college understudies and staff.
5. Acknowledgment that Technical college segment in partnership with Construction Company, each with its own arrangement approaching capacities, prompting an ideal coordinating construction need in Technical workshop.

Technical Colleges have a more extensive reason it needs construction industries for assistance, and business coordinated effort to meet the standard required to be professionals, and the arrangement of cooperation that Technical colleges have with construction industries. Alternately, numerous of their accomplice associations additionally have solid coordinated effort with associations outside the Technical college area. This applies especially in exploration and advancement where there are a few key examination associations that are not inside of the Technical college area but rather team up with both Technical colleges and building industries.

### **2.1.5 Techniques to Improve Partnership Between Building Industry and Technical Colleges**

Partnerships are agreements of institutions of various kinds in a local or regional setting, this is not always how they begin. There are a variety of motives for starting a partnership, and therefore also a number of different ways to start (Ulubeyi, 2016). Whatever the reason to set up a partnership, there are certain key factors to bear in mind. First, it is important to get all the relevant actors to join in the partnership. One could say any organisation/institution that is

either part of the problem to be addressed or part of the solution. According to Kazaz (2016), failure to invite or attract some of these key actors might turn out to be an ongoing weakness, limiting options of manoeuvre and endangering results. In many cases there will be interest groups that can easily agree on common targets but that mistrust other organisations and have no cooperation base with them, because often they will need the others to solve the problems. Once those organisation is seated around one table, it is important to get formal decision, which a number of partnerships have solved through the signing of a partnership contract, in which building industries help to build the practical skills of both teachers and students. It is an important step forward when organisations of different background formally sign an agreement to reach out across their respective responsibilities and interests and to co-operate on certain issues, especially when formal partners (e.g. Technical college are involved. To do this, partners have to share a vision.

However, to succeed the building industry should allow Technical colleges to come in with their practical acquisition so as to share a strategy; and to develop that strategy they have to agree on a shared analysis of the issues at stake (Bougie, 2017). Some firms have chosen to develop a more formal legal structure as a framework for partnerships. This clearly helps when it comes to tasks and rights, duties and responsibilities. Partnerships between building industry and Technical colleges are formed for diverse reasons, and each has a “life” of its own. But the main reason for this partnership is to promote Technical colleges with skill acquisition so as for the student to be able to meet construction standard. The improvement of partnership is when the variable can be reduced by formal contractual co-operation agreements, so that both Technical colleges and building industries organisations and institutions are committed as bodies rather than as individuals. Nonetheless the variable exists, and should not be overlooked. Another factor that can pose improvement is the admission of new building industry partners. If partnerships exist for a long period and

become well established within their region, then at some point new partners will almost inevitably join (Zietsman, 2018). New knowledge may come in to contribute to the existing one, this can add to the little awareness pose by building industry, and that will improve practical skill at the end of the program. Running a partnership is a very delicate operation requiring organisation that can really understand and work with different organisations and their requests. As the main task of partnerships is to find ways in which organisations with their different tasks, responsibilities and approaches can co-operate in dynamic societies, it is necessary to adapt methods and ways of working accordingly. Thus there has to be on the one hand a stable framework, and on the other hand a certain degree of flexibility to allow for all the necessary changes and adaptations. In addition, there has to be strong communication between building industry and Technical colleges for positive impact to the Technical colleges. The building industry partners like Technical colleges interest is the work of the partnership as such and not its one firm. However, as more tasks are assigned to the building industry to meet the need of Technical school in Nigeria, it becomes more important to have an agreed management structure. Agreeing on such a structure not only creates a unit independent of one single partner but also stabilises the work of the partnership. The resources necessary for this entail a commitment to funding which can be seen as a key step forward in improving partnership of both building industry and Technical colleges.

### **2.1.6 Strategies for Partnership and Innovations**

The goal of building industries development and partnership strategy is to engage the Technical colleges in this aspect to bring more benefits and resources to target group like Technical teachers and students (Gorse, 2013). The more immediate objective of the strategy is to improve on the poor industry operations and investment in Technical colleges. Before describing the activities that will undertake in order to achieve this, it is important to

highlight that Technical college strategy for letting building industry will be based on the following key guiding principles. Focus on teacher's comparative advantage and mandate. Teacher's comparative advantage lies mainly in their experience in working with the building industry through its projects and programmes, their participatory and bottom-up approaches to development, and its willingness to take risks and explore innovative means to help the Technical colleges lift themselves to a standard and organization can work with when any staff is employed. Technical colleges' strategy for the building industry will capitalize on this comparative advantage and will apply a bottom-up approach in working with this sector of Education. According to Creswell (2019) building industry through its projects and programme will support or partner with the Technical colleges only if and when this is to the benefit student and teachers that is to participate.

Building industry strategy will build on the organization's experience in policy dialogue, investment operations and work with the Technical College, as it involves and affects the students and teachers. Through its projects and partnership with Technical College, building industry plays a catalytic role in developing a solid foundation in Technical College most especially if the student are impacted. The value added by building industry in its interventions can therefore be much larger than the sum of its investments: by acting as a catalyst, resources can leverage a much higher level of investments to Technical College. These initiatives, and the approaches associated with them, would then be replicated or scaled up gradually as building industry experience and knowledge in this area grow and as momentum picks up following more intensive involvement with the Technical colleges (Gorse, 2013). The sharing experiences and the development of partnerships between building industry and Technical colleges on these issues will continue to enhance strategy and provide new information and tools that could be used to expand and improve upon it, so that perfection can be achieved.



Draw on the Initiative for Mainstreaming Innovation. Working with Technical College will require building industry to develop new approaches and innovative ways of training with its teachers, or to enhance and modify its existing mode of working with the teachers. This innovation into building core activities includes identifying new or improved ways of partnering with the Technical colleges in order to increase the effectiveness of achieving construction strategic objectives. Hussey (2014) building industry will thus draw on the Initiative for Innovation to support and strengthen its core activities with the Technical colleges. In fact, in 2004, building industries in Nigeria used funds to prepare an operational manual that will guide staff in their engagement with the training. As elaborated in building performance-based allocation system, strong sectoral performance is often related to the school ability or willingness to create an appropriate policy, legal and regulatory framework that is supportive of skills learnt among the participant and with the building industry. Thus, the building industry will help identify areas of focus for Technical colleges in its policy and institutional dialogue with the state governments and other key firm in bringing such great awareness that will meet the future labour market after graduation from the program.

In operational terms, this means that good partnership strategic opportunities will include a review of the appropriate policy of the school and its environment for a good workshop development (Campbell, 2015). The will also incorporate the Fund's strategy to engage in this policy, including the state government, in order to promote the establishment of workshop development. Furthermore, this will involve the relevant representatives from the building industry (e.g. building masters and consultants). This will be one of building industry most critical areas of intervention, and it will be a crucial element in equipping the Technical teachers to face new market forces and to be able to give the student the best part on a more equitable basis. Many students lack the skills and knowledge to do better after school, become self employed worker or entrepreneurs. Furthermore, building industry also

partner to strengthen the skill capacity of those in other school as well as their workshop practices through training, technical assistance and the use of participative approaches to meet their need. Strengthening the schools' organizations (such as jet club) empowers the students to enter into more equitable and informed relationships with small-scale industries for attachment. It will provide support to students to access the technology more cost-effectively by organizing them into groups and by establishing relationships between them and the providers of these technologies (including through contract for building equipment). In the area of advisory services, both the financing and the delivery of these services are increasingly seen as spheres in which the building industry should be engaged, and from which governments can see in for Technical colleges. Even in some countries where the state government is still engaged in providing these services for the school, delivery has been opened up, on a contractual and competitive basis, to specialized building suppliers. In Nigeria, building industry strategically play a catalytic role in helping to launch these innovative program in partnerships with Technical colleges, which will benefit both the recipients and the providers of advisory services (Lath, 2016). In countries where the move towards privatized advisory services is more advanced (such as in Latin America, Asia, and Western and Central Africa), building projects and programmes will rely on the building industries to deliver advisory services to its beneficiaries.

The growing involvement of building industries has been paralleled by inclining engagement of the state government in the provision of financing to make available all the necessary equipment for practical. Partnership was originally born as a way to share the ability of one firm to another equipping the skills of teachers who are to impact the same knowledge to the students' sustainability. Building policy reflects this shift, as it is moving away from extending credit lines through government-own financial institutions and towards promoting access to varied skill acquisitions in wide array, which is provided by building industry

sphere. To respond to the evolving needs of this sector, building industry will adapt the use of its instruments, a stronger focus on technical assistance needs, and prudent approach to lending and innovative ways to help generate practical knowledge aiming to meet the world of works (Brown, 2015). In the financing approach, the building industry partner into the programme as it is being developed, risking its own funds in order to gain access into public awareness. A more promising approach for Technical colleges will be to use already operational projects as a basis for catalysing practical investment, and building industry uses its concessional lending instruments in an innovative manner to leverage additional investments from Technical College. In this case, the programme or activities financed by the skills will make it more attractive for the building industry player to make new investments in the expectation of developing new potentials. More of these types of partnerships will be explored, specifically looking at how to help Technical colleges to reach out to student with a mindset of building the knowledge for the world of works.

## **2.2 Related Empirical Studies**

Ehizogie (2016) carried out a study on industry-college Relationship. A tool for functional technology. The study investigated the relationship between industries and technical colleges and the effect of such relationship on practical ability of students in Edo state technical colleges. To carry out the study four research questions were formulated. The researcher adopted a survey research method with total population of 810. Foremen, supervisors and managers in 70 industries constituted the targeted sample of one group while the principals and teaching staff of all the technical colleges in Edo State constitutes the target sample of the second group of 360. A questionnaire was used to collect data from foremen, supervisors and managers in 70 industries and all the principals and teaching staff of all technical colleges in Edo State. Mean statistics was used to analyzed the data collected

while the t-test was employed to test the null hypothesis at 0.05 level of significance. The findings of the study revealed that the factors responsible for non functionality of technical college students were ranked in the order that technical colleges products are not able to match theory and practical, no equipped workshop for adequate practical work, most instructors have no practical knowledge and experience, technical college curriculum is not well relevant to the training need of industries, among others. The study recommended that industrial training attachment be extended to students in technical colleges and should be provided with well equipped workshop as well as providing instructors who are practically well groomed with a wealth of industrial experience. The previous study is related to the present study which seeks to determine ways that could be adopted for improving school-industry collaboration for skill acquisition in electrical installation and maintenance. For the simple fact that many industries are coming up and the increase in technological advancement demands skilled personnel. It is also similar to the present study in its methodology, research design, population, and instrument for data collection and method of data analysis.

Another study was conducted by Amasa (2015) on strategies for improving partnership between industries and technical institutions for effective vocational training in Kaduna –State. The research design was a survey research. The study was design to investigate the current training practices carried out between industries and vocational training schools with a view to evolving strategies that will help in promoting the effectiveness of the partnership. To carry out the study, three research questions and one null hypothesis were formulated. A questionnaire was used to collect data from 198 industrial personnel from 42 industries and 221 technical instructors from 8 vocational training centres and 2 technical schools in Kaduna state representing the whole population of the study. Mean statistics was used to analysed the data collected while the t-test was employed to test the null

hypothesis at 0.05 level of significance. The results were analyzed and presented in table and recommendations were made. The findings of the study revealed that partnership strategies were not being utilized and coordination of the existing strategies was poor. The study is similar to the present study in methodology, research design, method of data collection and analysis. It is also related to this study because it investigated the current training practice carried out between industries and vocational institutions for skills acquisition through partnership. But it did not specify which area of vocational training.

In a similar vein, Bala (2017) conducted a study on strategies for improving school- industry relations in North –Western Nigeria. The study was designed to identify strategies for improving school-industry relations in North-Western Nigeria. The research design used for the study was descriptive survey design. To achieve the objective of the study, five research questions and two null hypothesis were formulated and questionnaire was used to collect data from 38 wood work technology lecturers/instructors who were currently teaching in 8 tertiary technical institutions and 59 production managers/supervisors who were directly involved in production in the modern woodworking industries. The data collected was analyzed using mean, standard deviation and frequency table. The questionnaire items were analyzed in relation to the research questions using five-point liker scale. The t- test was used to test the null hypothesis at 0.05 level of significance. Some of the findings revealed that National Board for Technical Education (NBTE) and Industrial Training fund (ITF) should set up school industry advisory committee, industries should be involved in the screening and recommendation of courses or trades for students in technical institutions among others. Although the study was on tertiary institutions in Northwestern part of Nigeria comprises of six States (Kaduna, Kano, Katsina, Kebbi, Sokoto, and Zanfara and in woodwork technology but the present study is on collaboration between technical colleges and industries for skill acquisition in electrical installation and maintenances. The previous

study is similar to the presence because it centered on identifying strategies for improving school – industry relation. The study is also similar in the methodology used. But it differs from the present study on the fact that it is on woodwork technology in north–western Nigeria but this present study is on electrical installation and maintenance work in Plateau State.

Rumbarge (2016) conducted a study on the potential impact of technology on skills requirement for the future jobs. The study adopted the survey method with a population of 1018 with no sampling in Tokyo Japan. A structure questionnaire was used to collect data. The data was analyzed using frequency and percentage scores. The result revealed that new technological innovations are yielding an increased array of new components which are incorporated into modern machineries including the automobile.

Elobuike, (2013) carried out a study on Relevance of technical colleges in electrical/electronics and mechanical /automobile program to the needs of industries of Anambra, Ebonyi and Enugu State. The study adopted a descriptive survey design. Population of the study was 154 students. Mean standard deviation and t-test were used to answer the research questions while the hypotheses were tested at 0.5 level of significance. The finding revealed that the production of craftsmen in electrical electronic and mechanical/automobile by technical colleges should be based on the need of automobile industries. The study is related to the present in research design, population, mean standard deviation, t-test. And it is also similar for the simple facts that it deals with the issue of skills needed in industries that are relevance. And how can such relevant skills are acquired without collaboration or relationship between technical colleges and industries even though no word like collaboration was mentioned.

Odigiri (2017) conducted a study integration of new technological innovation into the curriculum for Nigerian technical college programs. The study adopted a descriptive survey design. Population of the study was made up of 82. Mean standard deviation and t-test were used to answer the research questions. While the hypotheses were tested at 0.05 level of significant. The findings revealed that industries do not rely on training giving to the graduates of the technical colleges. The study is related to the present because it appears that integration of new technological innovation into curriculum of Nigerian technical colleges will be effective when they have good relationship with industries where new innovations are always found. The study is also similar in methodology. However, it was on automobile. The major conclusion derived from these studies was that technical college programs were not well relevant to the training need of industries and that the present partnership strategies were ineffective; hence, there is need for a closer cooperation between industry and technical institutions. However, it is pertinent to note that none of the studies was on improving school-industry collaboration between technical colleges and industries for skill acquisition in electrical installation and maintenance work particularly with reference to administrative strategies that can improve collaboration, school-based activities that can improve collaboration and industry-based activities that can improve school-industry collaboration.

### **2.3 Summary of Literature Review**

In Nigeria, the policy of technical colleges has one of its broad objectives as, to provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development. But this aspect of education has experienced serious neglect right from the on-set of western education in Nigeria. In the 1970s more universities, polytechnics, and other colleges of higher learning were established but most of them were not technically oriented as most of them offer courses in languages, liberal arts and social sciences.

Technical Colleges are a vital piece of the inventory network to construction work most especially building department. A flourishing information that help the building construction company relies on Technical colleges students in three ways: the application of the right equipment to train student; the endeavour to meet certain requirement for long term relationship during attachment or visiting; and the appropriateness of the learning and aptitudes of every participant. In many cases there will be interested groups that can easily agree on common targets but that mistrust other organisations and have no co-operation base with them, because often they will need the others to solve the problems. Once those organisations is seated around one table, it is important to get formal decision, which a number of partnerships have solved through the signing of a partnership contract, in which building industries help to build the practical skills of both teachers and students. Before describing the activities that will undertake in order to achieve this, it is important to highlight that Technical college strategy for letting building industry will be based on the following key guiding principles. Focus on teacher's comparative advantage and mandate. Teacher's comparative advantage lies mainly in their experience in working with the building industry through its projects and programmes, their participatory and bottom-up approaches to development, and its willingness to take risks and explore innovative means to help the Technical colleges lift themselves to a standard and organization can work with when any staff is employed. The growing involvement of building industries has been paralleled by inclining engagement of the state government in the provision of financing to make available all the necessary equipment for practical. Partnership was originally born as a way to share the ability of one firm to another equipping the skills of teachers who are to impact the same knowledge to the students' sustainability. Building policy reflects this shift, as it is moving away from extending credit lines through government-own financial institutions and towards



promoting access to varied skill acquisitions in wide array, which is provided by building industry sphere.

### **CHAPTER THREE**

## **3.0**

## **RESEARCH METHODOLOGY**

### **3.1 Research Design**

The research design that was used in carrying out this study is a survey research design where questionnaires will be used as source to elicit the opinions of respondents on the issue of techniques for improving partnership between construction industry and Technical colleges in F.C.T Abuja. The survey research design was chosen as an appropriate method for the research as it seeks the views of people about a particular issue that concerns them, give room for researcher to study the group of people and items to source for information from the respondents.

### **3.2 Population of the Study**

The entire study was conducted among construction workers and Technical college teachers, in which Technical teachers are situated in Technical college while construction workers are situated in construction site. The targeted Population for this study is consists of 122 construction workers and 28 Technical teachers. The entire population for the study is 150 respondents which are registered members of technical college and construction industry in Abuja. The entire Population will be used for the study.

### **3.3 Sample and Sampling Technique**

There is no sampling technique, due to the manageable size of the population

### **3.4 Instrument for Data Collection**

Questionnaire will be the main instrument used by the researcher for the data collection for the study. The questionnaire was structured under two sections (A and B). Section A consisting of respondents' personal data, while Section B consists of respondents' view on

items of questionnaire which are numbered from 1 to 30, the items are grouped into A,B and C.

Research question I: - this section contains 10 items which dealt with the techniques to improve partnership between building industry and technical colleges.

Research question II: - this section contains 9 items which dealt with the possible challenges face by building industry in working with technical colleges.

Research question III: - this section contains 12 items which dealt with the strategies that can enhance effective partnership between building industry and technical colleges.

### **3.5 Validation of the Instrument**

The instrument was validated by three lecturers in the Department of Industrial and Technology

Education, Federal University of Technology Minna. The validator's suggestions were incorporated in the final draft of the instrument, to ensure that the instrument was capable of eliciting necessary information that needed for the study.

### **3.6 Administration of the Instrument**

The questionnaire was personally administered by the researcher to the respondents (Technical teachers and construction workers) and the completed questionnaires will also be collected by the researcher.

### **3.7 Method of Data Analysis**

The data collected was analyzed using Mean ( $\bar{x}$ ) and Standard deviations (SD) to analyze the research questions, while independent t-test will be used to analyze the formulated hypotheses. SPSS package 23.0 version will be used to carry out the analysis. In order to determine the level of acceptance or rejection of any items, a mean score of 2.50 will be use.

This is relatively to the four-point rating scale used for the study. Therefore, any item with a mean response of 2.50 and above was accepted and any item with a response of 2.49 and below is rejected.

## CHAPTER FOUR

### 4.0

### RESULTS AND DISCUSSION

#### 4.1 Research Question One

What are the need for partnership between building construction industries and technical colleges?

Analysis of research question one is presented in Table 4.1.

**Table 4.1: Mean and standard deviation of respondents on the need for partnership between building construction industries and technical colleges**

S/N	ITEMS	$\bar{X}_I$ n <sub>1</sub> =122	$\bar{X}_2$ n <sub>2</sub> =28	$\bar{X}_T$ N=150	SD	Decision
1	To bridge the gap between theory and practice	2.70	2.49	2.60	0.56	Agree
2	To facilitate smooth transition from school to work	2.88	2.98	2.93	0.57	Agree
3	Procurement of efficient training	2.97	2.02	2.50	0.62	Agree
4	For knowledge transfer	2.87	2.92	2.90	0.69	Agree
5	For technology transfer between both parties	2.40	2.60	2.50	0.69	Agree
6	For offering training and retraining programmes for technical college staff on innovative practices in building construction	2.52	2.62	2.57	0.68	Agree
7	Strengthening good relationship between building industry and technical colleges	2.94	2.70	2.82	0.63	Agree
8	Enhancing effective teaching of building trade courses through collaborative efforts	2.50	2.54	2.52	0.64	Agree
9	Providing industrial training opportunities for building trade students in technical colleges	2.51	2.80	2.66	0.64	Agree
10	To encourage students to on the job training opportunities industry	2.60	2.67	2.64	0.51	Agree

Key:  $\bar{X}_I$  = Mean response of Construction workers,  $\bar{X}_2$  = Mean response of Technical Teachers, n<sub>1</sub> = No of Construction workers, n<sub>2</sub> = No of Technical Teachers,  $\bar{X}_T$  = Average mean response

Table 4.1 shows the responses of respondents on the need for partnership between building construction industries and technical colleges. The result revealed that items 1-10 agreed with the mean range from 2.50-2.60 on the need for partnership between building construction industries and technical colleges based on the decision. The result also revealed that the standard deviations (SD) of all items are within the ranges from 0.51 to 0.69, each of these values was less than 1.96 which indicated that respondents were not too far from the mean and from one another in their responses on the need for partnership between building construction industries and technical colleges. This indicated most of the respondents agreed that there is need for partnership between building construction industries and technical colleges

#### 4.2 Research Question Two

What are the possible challenges face by building construction industry in working with technical colleges?

Analysis of research question two is presented in Table 4.2.

**Table 4.2: Mean and standard deviation of respondents on the possible challenges face by building construction industry in working with technical colleges**

S/N	ITEMS	$\bar{X}_1$ n <sub>1</sub> =122	$\bar{X}_2$ n <sub>2</sub> =28	$\bar{X}_T$ N=150	SDA	Decision
1	Poor financing from technical colleges to build industry	2.60	2.67	2.64	0.51	Agree
2	Some building industry do not have standard facilities	2.60	2.81	2.71	0.78	Agree
3	Lack of building space in Technical colleges.	2.72	2.40	2.56	0.78	Agree
4	Poor structural accommodation to suit equipment	2.94	2.25	2.60	0.63	Agree
5	Lack of available teachers to meet training standard	2.39	2.72	2.56	0.68	Agree
6	Lack of space for building industry to bring in their facilities into technical colleges	2.62	2.65	2.64	0.60	Agree

7	Uncompleted project in technical colleges	2.62	2.55	2.59	0.66	Agree
8	Poor financial strength to run the training in technical college	2.65	2.56	2.61	0.56	Agree
9	Lack of resources to meet the training need	2.62	2.55	2.59	0.78	Agree
10	Proper collaboration between building construction industry and technical colleges	2.65	2.45	2.55	0.51	Agree
11	Corrupt practice among technical college staff hinder sustainable collaboration	2.94	2.70	2.82	0.63	Agree

Key:  $\bar{X}_1$  = Mean response of Construction workers,  $\bar{X}_2$  = Mean response of Technical Teachers,  $n_1$  = No of Construction workers,  $n_2$  = No of Technical Teachers,  $\bar{X}_T$  = Average mean response

Table 4.2 shows the responses of respondents on the possible challenges face by building construction industry in working with technical colleges. The result revealed that items 1-10 agreed with the mean range from 2.56-2.71 on the possible challenges face by building construction industry in working with technical colleges based on the decision. The result also revealed that the standard deviations (SD) of all items are within the ranges from 0.51 to 0.69, each of these values was less than 1.96 which indicated that respondents were not too far from the mean and from one another in their responses on the possible challenges face by building construction industry in working with technical colleges. The result indicates that most of the respondents agreed that these are the challenges faced by building construction industry in working with technical colleges.

### 4.3 Research Question Three

What are the strategies that can enhance effective partnership between building industry and technical colleges?

Analysis of research question three is presented in Table 4.3.

**Table 4.3: Mean and standard deviation of respondents on strategies that can enhance effective partnership between building industry and technical colleges.**

S/N	ITEMS	$\bar{X}_1$ n <sub>1</sub> =122	$\bar{X}_2$ n <sub>2</sub> =28	$\bar{X}_T$ N=150	SDA	Decision
1	Organizing seminars for technical teachers	2.96	2.22	2.59	0.55	Agreed
2	Properly orientate technical teacher for the need to have partnership with construction industries	2.98	2.42	2.70	0.57	Agreed
3	Inscribe the name of the company on clothes during training.	2.87	2.52	2.70	0.54	Agreed
4	Having books to guide both teachers and student.	2.98	2.33	2.66	0.65	Agreed
5	Sending student to building industries for SIWES	2.61	2.42	2.52	0.61	Agreed
6	Building industries should send the worker to technical colleges for practical	2.51	2.52	2.52	0.60	Agreed
7	Training of technical college staffs in order to meet the standard of construction industries operations	2.52	2.64	2.58	0.63	Agreed
8	Inviting building industries to view the available equipment in technical colleges	2.84	2.74	2.79	0.64	Agreed
9	Award scholarship to good staff in the industries for additional training.	2.65	2.75	2.70	0.64	Agreed
10	Technical colleges staff should visit building industry in order to refresh the training skills acquired.	2.62	2.54	2.58	0.39	Agreed
11	Building construction industry should strictly keep to their corporate social responsibilities to the technical colleges	2.96	2.22	2.59	0.69	Agreed

Key:  $\bar{X}_1$  = Mean response of Construction workers,  $\bar{X}_2$  = Mean response of Technical Teachers, n<sub>1</sub> = No of Construction workers, n<sub>2</sub> = No of Technical Teachers,  $\bar{X}_T$  = Average mean response

Table 4.3 shows the responses of respondents on the strategies that can enhance effective partnership between building industry and technical colleges. The result revealed that items



1-11 agreed with the mean range from 2.52-2.70 on the strategies that can enhance effective partnership between building industry and technical colleges based on the decision. The result also revealed that the standard deviations (SD) of all items are within the ranges from 0.51 to 0.69, each of these values was less than 1.96 which indicated that respondents were not too far from the mean and from one another in their responses on the strategies that can enhance effective partnership between building industry and technical colleges. The result indicates that all the respondents agreed that these are the needed strategies that can enhance effective partnership between building industry and technical colleges

#### 4.4 Testing of Hypotheses

**Hypothesis One:** There is no significant difference in the mean responses between Technical teachers and construction workers on the possible challenges face by building industry in working with technical colleges.

Analysis of hypothesis one is presented in Table 4.4.

**Table 4.4: t-test analysis on the possible challenges face by building industry in working with technical colleges**

<b>Variables</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>T</b>	<b>p-value</b>	<b>Remarkeable</b>
Construction worker	122	2.55	0.70	0.77	0.52	Accepted
Technical Teachers	28	2.59	0.73			

Table 4.4 shows the comparison of t-test of the mean rating of the responses of the respondents on the possible challenges face by building industry in working with technical colleges. The results revealed that the mean and standard deviation of Construction worker are 2.55 and 0.70 while the mean and standard deviation of technical teachers are 2.59 and 0.73 respectively. Since the p-value (0.52) is greater than 0.05, the result revealed that there was no significant difference in the mean responses between Technical teachers and

construction workers on the possible challenges face by building industry in working with technical colleges.. Therefore, the null hypothesis was accepted.

**Hypothesis Two**

There is no significant difference in the mean responses between Technical teachers and construction workers on the strategies that can enhance effective partnership between building industry and technical colleges.

Analysis of hypothesis two is presented in Table 4.5.

**Table 4.5: t-test analysis on the strategies that can enhance effective partnership between building industry and technical colleges**

Variables	N	Mean	SD	T	p-value	Remarkable
Construction worker	122	2.71	0.75	0.83	0.69	Accepted
Technical Teachers	28	2.59	0.68			

Table 4.5 shows the comparison of t-test of the mean rating of the responses of the respondents on the strategies that can enhance effective partnership between building industry and technical colleges. The results revealed that the mean and standard deviation of Construction workers are 2.71 and 0.75 while the mean and standard deviation of technical teachers are 2.59 and 0.68 respectively. Since the p-value (0.69) is greater than 0.05, hence there was no significant difference in the mean responses between Technical teachers and construction workers on the strategies that can enhance effective partnership between building industry and technical colleges. Therefore, the null hypothesis was accepted.

**4.3 Summary of Major Findings**

1. There is need for partnership between building construction industries and technical colleges among them are to facilitate smooth transition from school to work, procurement of efficient training, strengthening good relationship between building industry and technical colleges

2. There are challenges faced by building construction industry in working with technical colleges among them are poor financing from technical colleges to build industry, some building industry do not have standard facilities, poor structural accommodation to suit equipment, lack of available teachers to meet training standard and corrupt practice among technical college staff hinder sustainable collaboration
3. There are strategies that enhances effective partnership between building industry and technical colleges among them are organizing seminars for technical teachers, properly orientate technical teacher for the need to have partnership with construction industries, technical colleges staff should visit building industry in order to refresh the training skills acquired and building construction industry should strictly keep to their corporate social responsibilities to the technical colleges.
4. There was no significant difference in the mean responses between Technical teachers and construction workers on the possible challenges face by building industry in working with technical colleges.
5. There was no significant difference in the mean responses between Technical teachers and construction workers on the strategies that can enhance effective partnership between building industry and technical colleges

#### **4.4 Discussion of Result**

The findings on the need for partnership between building construction industry and technical colleges, revealed that the respondents agreed with all the items among them are to facilitate smooth transition from school to work, procurement of efficient training, strengthening good relationship between building industry and technical colleges. The findings of the study support a study conducted by Rumbarge (2016) conducted a study on the potential impact of

technology on skills requirement for the future jobs. The study adopted the survey method with a population of 1018 with no sampling in Tokyo Japan. The result revealed that new technological innovations are yielding an increased array of new components which are incorporated into modern machineries including the automobile. The dynamic and complex nature of construction works, diverse backgrounds and hostile attitudes of participants are also believed to be contributing greatly to rapid changes taking place within the construction industry in general (Wong, 2016). The nature and diverse in skills between technical colleges and industries will help in building more knowledge among technical students, and this will go a long way in future to create a systematic way in building construction design, and also help to train technical teachers, so that they can be professionals in teaching building technology.

The findings on the possible challenges face by building construction industry in working with technical colleges, the result revealed that the respondents agreed with all the items among them are poor financing from technical colleges to build industry, some building industry do not have standard facilities, poor structural accommodation to suit equipment, lack of available teachers to meet training standard and corrupt practice among technical college staff hinder sustainable collaboration. The finding of the study corroborate with Ehizogie (2016) who carried out a study on industry-college Relationship. A tool for functional technology. The study investigated the relationship between industries and technical colleges and the effect of such relationship on practical ability of students in Edo state technical colleges. The findings of the study revealed that the factors responsible for non functionality of technical college students were ranked in the order that technical colleges products are not able to match theory and practical, no equipped workshop for adequate practical work, must instructors have no practical knowledge and experience, technical college curriculum is not well relevant to the training need of industries, among others.

The findings on the strategies that can enhance effective partnership between building industry and technical colleges revealed that the respondents agreed with all the items among them are organizing seminars for technical teachers, properly orientate technical teacher for the need to have partnership with construction industries, technical colleges staff should visit building industry in order to refresh the training skills acquired and building construction industry should strictly keep to their corporate social responsibilities to the technical colleges. The findings of the study is inline with Bala (2017) who conducted a study on strategies for improving school- industry relations in North–Western Nigeria. The study was designed to identify strategies for improving school-industry relations in North-Western Nigeria. Some of the findings revealed that National Board for Technical Education (NBTE) and Industrial Training fund (ITF) should set up school industry advisory committee, industries should be involved in the screening and recommendation of courses or trades for students in technical institutions among others.

## **CHAPTER FIVE**

### **5.0 CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary of the Study**

The study identify the strategies for improving partnership between building construction industry and technical colleges in F.C.T Abuja. Three objectives were formulated the study, three research questions were raised to guide the study, three hypotheses were formulated at 0.05 level of significance. The research design that was used in carrying out this study is a survey research design. The targeted Population for this study is consists of 122 construction workers and 28 Technical teachers. The entire population for the study is 150 respondents

which are registered members of technical college and construction industry in Abuja. There is no sampling technique, due to the manageable size of the population. The data collected was analyzed using Mean ( $\bar{x}$ ) and Standard deviations (SD) to analyze the research questions, while independent t-test will be used to analyze the formulated hypotheses. SPSS package 23.0 version will be used to carry out the analysis. The result revealed that items 1-10 agreed with the mean range from 2.50-2.60 on the need for partnership between building construction industries and technical colleges based on the decision. The result revealed that items 1-10 agreed with the mean range from 2.56-2.71 on the possible challenges face by building construction industry in working with technical colleges based on the decision. The study concluded this partnership program will help promote good skill acquisition, reduce lack of skill management and improve the competencies among building technology students and construction workers.

## **5.2 Implication of the Study**

The study implies that there is need for partnership between building construction industries and technical colleges among them are to facilitate smooth transition from school to work, procurement of efficient training, strengthening good relationship between building industry and technical colleges.

## **5.3 Contribution to Knowledge**

The study contribute to knowledge by establishing the need for partnership between building construction industries and technical colleges. The study also establishes that the possible challenges face by building construction industry in working with technical colleges.

## **5.4 Conclusion**

The study identify the strategies for improving partnership between building construction industry and technical colleges in F.C.T Abuja. Three objectives and research questions were formulated and raised to guide the study Base on the findings of the study and considering the strategies in partnering with construction industries, it is expected that there should be an improvement in skill management among technical teachers when teaching the students. The findings of this study will also inform the government about its role in promoting a partnership program between construction industry and technical college, and also private company can also play a role to strengthen this program. This partnership program will help promote good skill acquisition, reduce lack of skill management and improve the competencies among building technology students and construction workers..

## **5.5 Recommendations**

Based on the findings of the study the following recommendations were made;

1. Strategies should be put in place by the government in providing a seminar for both technical colleges and construction industries, and discussion of the seminar should be the benefit of partnership if technical colleges are in partner with construction industries.
2. The Government should look at the lapses in technical colleges and ensure that those materials and equipment needed for this partnership is provided.
3. The government and construction industries should ensure that they give teachers the necessary benefits for the effectiveness of the partnership program.

4. The technical colleges should properly orientate technical teacher for the need to have partnership with construction industries

### **5.6 Suggestion for Further Study**

The following suggestions were made for further study;

1. Assessment on the need of partnership in building project among technical colleges in Kwara State
2. Strategies to be adopted in improving the skills of technical teachers in building management in Technical Colleges in North Central.



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**QUESTIONNAIRE ON THE STRATEGIES FOR IMPROVING PARTNERSHIP  
BETWEEN CONSTRUCTION INDUSTRIES AND TECHNICAL COLLEGES IN  
F.C.T ABUJA**

Dear respondent, This Questionnaire is designed to obtain information on strategies for improving partnership between construction industries and technical colleges in F.C.T Abuja. Please, kindly assist by filling the necessary information where appropriate. Any information obtained will be held in strict confidence and will be used solely for the purpose of this academic study.

**SECTION A: PERSONAL DATA**

Technical Teachers [ ]      Construction Worker [ ]

Strongly Agreed      = SA (4)

Agreed                = A (3)

Disagreed            = D (2)

Strongly Disagreed = SD (1)

## SECTION B

**Instruction:** Respond to the items provided by ticking of the options (SA, A, SD, D)

### Research Question One

**What are the need for partnership between building construction industries and technical colleges?**

S/N	ITEMS	SA	A	D	SD
1	To bridge the gap between theory and practice				
2	To facilitate smooth transition from school to work				
3	Procurement of efficient training				
4	For knowledge transfer				
5	For technology transfer between both parties				
6	For offering training and retraining programmes for technical college staff on innovative practices in building construction				
7	Strengthening good relationship between building industry and technical colleges				
8	Enhancing effective teaching of building trade courses through collaborative efforts				
9	Providing industrial training opportunities for building trade students in technical colleges				
10	To encourage students to on the job training opportunities industry				

### Research Question Two

**What are the possible challenges face by building construction industry in working with technical colleges?**

S/N	ITEMS	SA	A	D	SD
1	Poor financing from technical colleges to build industry				
2	Some building industry do not have standard facilities				
3	Lack of building space in Technical colleges.				
4	Poor structural accommodation to suit equipment				
5	Lack of available teachers to meet training standard				
6	Lack of space for building industry to bring in their facilities into technical colleges				
7	Uncompleted project in technical colleges				
8	Poor financial strength to run the training in technical college				
9	Lack of resources to meet the training need				
10	Proper collaboration between building construction industry				

	and technical colleges				
11	Corrupt practice among technical college staff hinder sustainable collaboration				

### Research Question Three

**What are the strategies that can enhance effective partnership between building industry and technical colleges?**

S/N	ITEMS	SA	A	D	SD
1	Organizing seminal for technical teachers				
2	Properly orientate technical teacher for the need to have partnership with construction industries				
3	Inscribe the name of the company on clothes during training.				
4	Having books to guide both teachers and student.				
5	Sending student to building industries for SIWES				
	Building industries should send the worker to technical colleges for practical				
6	Training of technical college staffs in order to meet the standard of construction industries operations				
7	Inviting building industries to view the available equipment in technical colleges				
8	Award scholarship to good staff in the industries for additional training.				
9	Technical colleges staff should visit building industry in order to refresh the training skills acquired.				
10	Technical college staff should freely provide assistance to support building construction industry in knowledge sourcing to solve industrial problems				
11	Building construction industry should strictly keep to their corporate social responsibilities to the technical colleges				

