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TIMELY DELIVERY OF PROJECTS AND ECONOMIC DEVELOPMENT IN NIGERIAN CONSTRUCTION INDUSTRY: A CASE STUDY OF ONDO STATE

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ABSTRACT

Purpose: The relationship between timely delivery of construction projects success and economic development in Nigerian construction industry involves managing the resources—workers, machines, money, materials and methods used. Some projects are effectively and efficiently managed while others are mismanaged, incurring much delay and cost overruns and negatively affecting the economy. This paper assessed the relationship between timely delivery of construction projects and economic development in Nigerian construction industry.

Design/methodology/approach: Survey design was adopted to collect data from professionals from the study area. Questionnaires were administered to construction professionals in Ondo state which include Architects, Builders and Quantity Surveyors. The quantitative research method was adopted for this study and the adopted questionnaire was structured on a five-point Likert scale to elicit the opinion of respondents on timely delivery of projects and economic development in the Industry. Spearman correlation coefficient was used for assessing the relationship between timely delivery of construction projects and economic development.

Findings: It was evident from the study that there is slightly high relationship between timely delivery of construction projects and economic development within Nigerian construction industry with the highest degree being 55.1% and lowest as 31%. The findings revealed that timely delivery of construction projects tends to increase economic growth in the study area.

Originality/value: This study recommends that there should be proper planning of a project before the commencement of the construction so every activity can go smoothly and the project can be delivered on time. Likewise, contractors should be familiar with the site of the construction so they can have knowledge of the topography so there would not be problem of unforeseen ground conditions.

Keywords: Construction industry; economic development; infrastructure; project success.

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1. INTRODUCTION

Project success can be defined as meeting goals and objectives as prescribed in the project plan. A successful project means that the project has accomplished its technical performance, maintained its schedule, and remained within budgetary costs (Anaman 2007). Construction industry has contributed to changes in the level of development in the country through generation of employment; direct creation of wealth and reduction of poverty by contributing to the Nigeria Gross National Product (GNP) and GDP (Satope and Akanbi, 2014). According to Olajide (2004) Economic development is the process whereby the real per capita income increases over a long period of time. Development from the standpoint of what has been happening to poverty, unemployment and inequality over time. One of the important role in the effective management of a project is Project management tools and techniques. Therefore, a good project management lies in the management tools and techniques used to manage the project (Kumaraswamy and Chan, 2002). Project management involves managing the resources—workers, machines, money, materials and methods used. Some projects are effectively and efficiently managed while others are mismanaged, incurring much delay and cost overruns and negatively affecting the economy (Frimpong, 2003). Assessing construction projects' delivery time is critical in today's market-driven economy.

According to Eriksson (2007), to improve the economy and maximize long-term return on public investment, government agencies have recently started utilizing new types of contracting methods that are designed to achieve multiple project objectives, including minimizing construction cost and duration, while maximizing its quality. When time factors in construction of projects are allocated correctly, this leads to timely delivery of the projects and there won't be cost overruns, the project can be put to good use and this will improve the social and economic development (Odeyinka, 1997). The timely delivery of a construction project would not cause high overhead costs because there won't be need for longer time of work and increase in labour costs (Assaf, 2006). Long et al., (2004) opined that the delivery of construction projects on time leads to the satisfaction of all construction parties involved. Timely delivery of a project serves as a crucial benchmark for assessing the performance of a project and the efficiency of the contractor (Kumaraswamy and Chan, 2002).

Significant research advancements have been made in the area of optimizing construction resource utilization (Calderon and Serven (2004); Estache (2005); Assaf, (2006) and Frimpong, (2003)). This led to a number of optimization models. These models can be classified according to their optimization objectives into models that attempted to minimize project time and/or improve resource utilization, minimize time and cost for non-repetitive construction using time-cost trade-off analysis and minimize time and/or cost for repetitive construction. So, this research assessed the relationship between timely delivery of construction projects and economic development in Nigerian construction industry. While the above research study seeks to provide significant contributions to the area of optimizing construction resource utilization, there has been little or no reported research focusing on multi objective models for optimizing construction time, cost, and quality. All construction contracts allocate time between clients and contractors. Hence the benefit of this study would better inform improved project relationships and communications and also improve construction administration practices between clients and contractors.

2. LITERATURE REVIEW

2.1. The relationship between the timely delivery of construction projects and economic development

The construction industry is an important part of thee economical backbone in many countries, often accounting for between 7—10 percent of the Gross Domestic Product, (Winch, 1996; Voordijk et al, 2000). Construction products and processes have a large impact on safety, health and environmental aspects, (Bayliss et al., 2004). Since all human beings in modern societies are directly affected by its processes and/or products, the importance of a well-functioning construction industry is beyond doubt (Cheung et al., 2004; Eriksson, 2007). In many countries the construction industry has, however, attracted criticism for inefficiencies in outcomes such as time and cost overruns, low productivity, poor quality and inadequate customer satisfaction (Latham, 2004). Practitioners, researchers and society at large have, therefore, called for a change in attitudes, behaviors and procedures in order to increase the chances for construction projects to be successful and result in improved end products (Dubois and Gadde, 2002).

Both developing and developed nations have realized and understood the significance of construction sector in socio-economic and sustainable development of a country. Construction activities are closely linked with the various phases of economic development of a country. This has been discussed for several years at macroeconomic level in America. Historically construction activities have been associated with the process of industrial and urban development since the dawn of Industrial Revolution, (Rostow, 2003). Construction is an industry that involves complex and dynamic processes. It consists of successful coordination of multiple discrete business entities such as professionals, tradesmen, manufacturers, trade unions, investors, local authorities, specialists, trade contractors and others.

Construction projects impact on a nation's economy. Successful completion of construction projects leads to wealth creation; socio-economic growth and improved standards of living. Nations are evaluated as "developed", "developing" and "underdeveloped" based on the quantity and quality of completed construction projects in their domain. The key role of construction sector in aggregate economy has been widely highlighted in the literature. It is stated that there is a direct relationship between construction output and national output. It is also pointed out that the construction output grows more rapidly than national output when economy grows and vice versa, Wells (2006). This implies that the construction sector is highly integrated with other sectors of the economy through both backward and forward linkages and strongly linked with many economic activities. These linkages are stems for the sector through which it generates higher multiplier effect in the economy. So that any change in the construction sector must affect other sectors of the economy and finally impact goes to national income (Ofori, 2000). Hence the construction industry is often considered as an engine of economic growth specifically in developing economies. The industry can activate and successfully- consume locally produced material and manpower in the construction and maintenance of buildings and infrastructures to motivate local employment and improve economic efficiency (Anaman 2007). Construction sector thus has a great impact on socio-economic development of a country.

2.2. Infrastructural facilities extension

Infrastructure is basic essential services that should be put in place to enable development to occur, (Jodie and Ogunrinola, 2011). Economic development of Nigeria can be facilitated and accelerated by the presence of infrastructure. If these facilities and services are not in place, development will be very difficult and in fact can be likened to a very scarce commodity that can only be secured at a very high price and cost. The provision and development of infrastructures has been the subject of much theoretical analysis and empirical studies. The relationship between infrastructural development and economic growth has, in recent years become one of the most important economic topics in both academic and policy cycle, (Roller and Waverman 2009). Economic growth implies increase in per-capital Gross Domestic Product hereafter written as GDP.

2.3. Wealth creation

Construction projects impact on a nation's economy. Successful completion of construction projects leads to wealth creation; socio-economic growth and improved standards of living. Nations are evaluated as "developed", "developing" and "underdeveloped" based on the quantity and quality of completed construction projects in their domain. The key role of construction sector in aggregate economy has been widely highlighted in the literature. It is stated that there is a direct relationship between construction output and national output. It is also pointed out that the construction output grows more rapidly than national output when economy grows and vice versa. (Wells, 2006).

2.4. Socio-economic growth

Given the recognized importance of timely delivery of construction project to economic development and growth, construction has been used mainly by policy makers as a tool, and changes to the portion of public spending going towards construction activity has been a feature of various governments' fiscal policy measures. Indeed, the importance of the industry to economic growth, especially in the case of developing countries, where evidence suggests that the share of construction output to national output is highest and of greater importance (Ruddock and Lopes, 2006), continues to motivate research into the sector. Hosein and Lewis (2004) suggested that the importance of construction in particular to a developing country, is due to its size, the fact that it provides investment goods, and the size of government investment.

2.5. Improved standard of living

Improvement in standard of living is the direct result of economic growth. Per capita consumption of goods and services increase because per capital production of goods and services increase. When more is been produced, more can be consumed. Therefore, when a construction project is delivered on time, the infrastructure can be used for what it is meant for and it can affect the economy positively. The ideal measure would include GDP or GNP per capita and they include investments in equipment and industries which increase the ability to produce more and ultimately consume more, in turn improving living standards.

3. RESEARCH METHODOLOGY

3.1. Survey

The research design used was quantitative research using survey technique to get results. Survey research uses questionnaires to collect data from a sample that has been selected to represent a population to which findings can be generalized (Kothari, 2004). Since the building construction industry was being considered, both consultants and contractors in Akure was focused on as respondents. Moreover, the population falls within manageable size, therefore, census method is adopted. The completed and returned questionnaires were analysed. The respondents were asked to express their level of assessment on a 5-point Likert. 124 questionnaires were administered to construction firms in Ondo on a 5-point Likert-type scale with focuses 1 and 5 representing strongly disagree and strongly agree, respectively. Other parts of the questionnaire are intended to assemble demographical data about the respondents.

3.2. Data collection

For the purpose of this research the research population was registered professionals in the Construction industry in Akure, Ondo State which include 27 Architects, 40 Builders & 57 Quantity Surveyors. 124 questionnaires were administered to construction professionals in Ondo state where 102 were retrieved and 90 were suitable for analysis. This is representing a response rate of 82 percent, which is far above the usual response rate of 20-30 percent for questionnaire surveys in construction management studies which were suggested by Akintoye (2000).This research work employed the use of primary data. The procedure for data collection for this research work as span a month and the questionnaire was self-administered to professionals. Out of 124 distributed questionnaires 90 were returned which 15 represent Architects, 32 Builders, and 43 Quantity surveyors. 60% of the respondents were from consulting firms and 40% were from contracting.

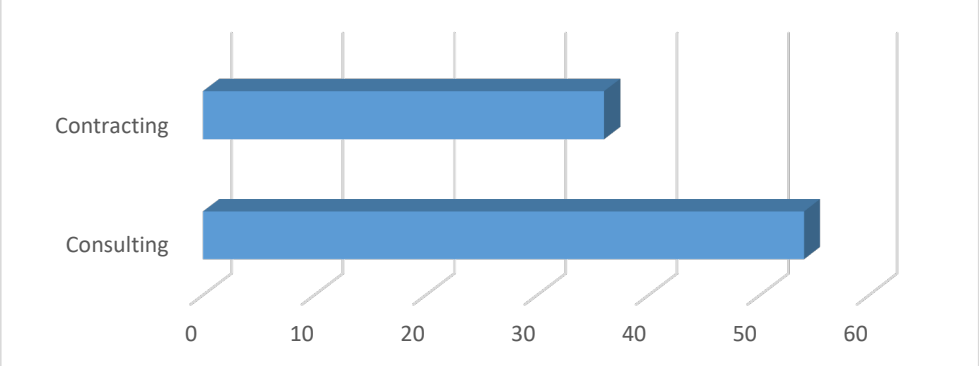


Figure 1: Type of organization

Also 46.7% of the respondents has an experience between 1-5 years, 26.7% of the respondents has an experience between 6-10 years, 6.7% of the respondents has an experience between 11-15 years, 8.9% of the respondents has an experience between 16-20 years while 11.1% of the respondents has an experience above 20 years. This means that they are appropriate to fill the questionnaire according to level of experience

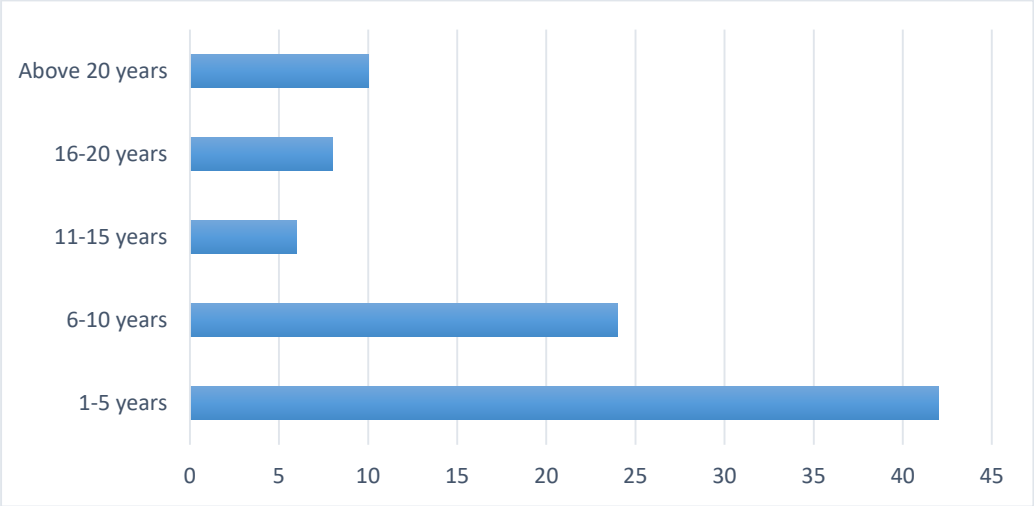


Figure 2: Years of experience

3.3. Data analysis

An appropriate technique of analyzing data is very important to be able to process the data collected accurately. Correlation is the technique that is concerned with describing the strength of the relationship between two variables by measuring the degree of scattering of the value data (Kothari & Garg, 2014). Spearman correlation coefficient was used for assessing the relationship between timely delivery of construction projects and economic development. Its value ranges from -1.0 to +1.0 and it is used to examine the association level or the strength of the relationship between two variables (Oke, Aghimien and Olatunji, 2015).

4. Presentation of Results

A spearman's rank-order correlation was used to determine the relationship among infrastructural facilities extension, wealth creation. Socio economic growth and improved standard of living. The table 1 is presented.

The values of the Spearman's rank correlation coefficients show that there is relatively good agreement among the variables in ranking the relationship between the timely delivery of projects and economic development of Ondo State, Nigeria. The highest degree of agreement is between is between socio-economic development and reduction of number of abandoned projects (55.1), followed by 48.9% which is between Cost and time optimum use and reduction of number of abandoned projects, 42.4% between infrastructural facilities extension and socio economic growth, followed by 37.9% between socio economic growth and Cost and time optimum use, followed by 32.7% between Cost and time optimum and infrastructural facilities extension, then 31% between Reduction in number of abandoned projects and Infrastructural Facilities Extension. The correlation coefficient as positive coefficients, this shows that the increase in one variable (timely delivery) brings about the increase in the other variables (economic development). The 0.551 implies there is large strength of relationship of the two variables. The lowest correlation coefficient which is 0.31 has medium relationship strength.

Table 1: Spearman's Rank Correlation Coefficients

			Infrastructural Facilities Extension	Cost and time optimum use	Socio-economic growth	Reduction in number of abandoned projects
Spearman's rho	Infrastructural Facilities Extension	Correlation Coefficient	1	.327*	.424**	.310*
		Sig. (2-tailed)		0.028	0.004	0.038
		N	90	90	90	90
	Cost and time optimum use	Correlation Coefficient	.327*	1	.379*	.489**
		Sig. (2-tailed)	0.028	.	0.01	0.001
		N	90	90	90	90
	Socio-economic growth	Correlation Coefficient	.424**	.379*	1	.551**
		Sig. (2-tailed)	0.004	0.01	.	0
		N	90	90	90	90
	Reduction in number of abandoned projects	Correlation Coefficient	.310*	.489**	.551**	1
		Sig. (2-tailed)	0.038	0.001	0	.
		N	90	90	90	90

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

5. Discussion of Findings

From the analysis in Table 1, there is slightly high relationship between timely delivery of construction projects and economic development of Ondo State, Nigeria with the highest degree being 55.1% and lowest as 31%. This agrees with Bayliss (2004), Wells (2006), and Hosein and Lewis (2004). The importance of the construction industry and the timely delivery of construction projects to economic growth, especially in the case of developing countries where evidence suggests that the share of construction output to national output is highest and of greater importance (Ruddock and Lopes, 2006). Hosein and Lewis (2004) suggested that the importance of construction in particular to a developing country, is due its size, the fact that it provides investment goods.

6. Conclusion and Recommendations

The relationship between timely delivery of construction projects success and economic development in Nigerian Construction Industry involves managing the resources—workers, machines, money, materials and methods used. Some projects are effectively and efficiently managed while others are mismanaged, incurring much delay and cost overruns and negatively affecting the economy. Assessing construction projects' delivery time is critical in today's market-driven economy. According to Eriksson (2007), to improve the

economy and maximize long-term return on public investment, government agencies have recently started utilizing new types of contracting methods that are designed to achieve multiple project objectives, including minimizing construction cost and duration, while maximizing its quality.

From the study, there is slightly high relationship between timely delivery of construction projects and economic development within Nigerian construction industry with the highest degree being 55.1% and lowest as 31%. The importance of the construction industry and the timely delivery of construction projects to economic growth, especially in the case of developing countries where evidence suggests that the share of construction output to national output is highest and of greater importance. This stand with Hosein and Lewis (2004) that the importance of construction in particular to a developing country, is due its size, the fact that it provides investment goods. This study recommends that there should be proper planning of a project before the commencement of the construction so every activity can go smoothly and the project can be delivered on time. Likewise, contractors should be familiar with the site of the construction so they can have knowledge of the topography so there would not be problem of unforeseen ground conditions. Cost and time should be utilized optimally so there would not be any overrun and the construction project will be delivered.

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