

Dynamics in the Adoption of Offsite Construction in the Federal Capital Territory, Abuja

¹Olubajo. O. O., ¹Olawuyi B. J. and ²Ndanusa, W. F.

¹Department of Building, Federal University of Technology Minna

²Department of Building, University of Jos

Corresponding Author-mail: builderolubajo@gmail.com

Abstract

Construction work involves three major activities namely; material selection, fabrication of components and elements and lastly erection or assembling. The methods of fabrication are either onsite or offsite. Offsite construction is established in literature as the most efficient means of erecting high-density housing units within short periods. The slow rate of its adoption and innovation in Nigeria's construction industry is however a matter of concern. This prompted a study on the dynamics of offsite construction processes in the Federal Capital Territory, Abuja with a view to assessing the issues and parameters involved which may assist in stimulating its improved adoption in housing projects. The specific objectives are to identify mechanisms for increasing innovations in construction, to evaluate the level of use of offsite construction processes across housing supply chains and to examine the interplay of significant prevailing parameters that influence offsite construction processes across the housing supply chain; with a view to fast tracking the adoption of offsite construction in the Nigerian construction industry. A survey design approach was used with data collected from structured questionnaires using a 5 point Likert scale and analyzed. Fifty questionnaires were administered among supply chain participants from 20 housing projects within the F.C.T. Abuja with 94% respondents. Critical components in the questionnaires included supply chain characteristics, offsite construction adoption, issues affecting offsite construction amongst others. Results of the study reveal that raw material and labour availability were the most significant factors affecting housing supply chain and these also have direct impact on the performance of the construction industry. It was concluded that effective management of raw materials and labour supply are critical factors that should be given due consideration in fast tracking the adoption of offsite construction in housing projects. Another critical outcome is that stakeholders in the construction industry should view themselves critical components of the supply chain and collaborate more effectively to ensure better project outcome.

Keywords: Adoption, housing projects, dynamics, supply chains, offsite construction.

1.0 INTRODUCTION

Professionals in Nigeria's construction industry have been advocating for a departure from the traditional means of construction to more innovative methods (Dada, 2013). Offsite construction has been identified as the driving force for innovations in construction globally (Yu et al, 2006; Benjaoron & Dawood, 2006). Several professionals have described off-site construction as the vehicle for improving the effectiveness of construction processes and housing delivery efforts (Blismas et al, 2010; Azman et al, 2010). However, the adoption of offsite construction in Nigeria has been rather slow (Kolo et al, 2014; Taylor, 2010).

These dynamics when adequately isolated and analyzed can assist in fast tracking the adoption of offsite construction. The issues to be addressed may include an assessment of mechanisms that can increase innovations in the construction industry, an assessment of the current level of