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# Motivation and Owner Commitment for Improving the Delivery Performance of Green Building Projects: A Research Framework

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## Abstract

This paper proposes a research framework for evaluating the relationship between motivation and owner commitment for improving the delivery performance of green building projects in the construction industry. The research framework can generate knowledge in a positivistic manner, and the quantitative methodology for planning and devising the survey method of data collection and the structural equation modelling technique of data analysis. Theoretically, the research framework can be modified or extended by other researchers for investigating the delivery performance of green building projects, while in practical terms, it will help in identifying how to increase project owners' commitment for improving the delivery performance of green building projects in the construction industry. Finally, a research agenda is proposed towards achieving the aim of establishing empirical relationship between motivation and owner commitment for improving the delivery performance of green building projects.

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*Keywords:* Delivery performance; framework; green building projects; motivation; owner commitment; theory

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## 1. Introduction

Building activities such as extraction, processing and transportation of raw materials, design, construction, operation and demolition adversely affect the environment and the ecosystem together [1] in form of emission of carbon dioxide to the atmosphere [2], excessive resources use and wastages, and greenhouse gas (GHG) emission

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[3]. In order to reduce the adverse effects of building activities, green building projects – which have minimum environmental foot print [4] are proposed as model of development in the building sector [5]. Green building projects are designed and constructed based on the principle of sustainable construction, whereby constructed products are created by using best-practice, clean and resource-efficient measures from the extraction of the raw materials to the demolition and disposal of its components [6, 7] thereby reducing the adverse effect of building activities on the environment and the ecosystem [8]. However, for these objectives to be achieved, there is need for enhanced project delivery of green building projects [9].

There are many factors which contribute to the successful delivery of green building projects. Of these, owner commitment (OC), or the commitment of project owners to the delivery of green building projects, is very important because it concerns project owners who are the most important of the participants involved in the delivery of green building projects [10], providing information concerning the mission and the overall aim of the project [11]. In addition, they dictate the course of project delivery of green building projects as key decision makers [12]. Therefore project owners drive the delivery of green building projects [13, 14]. As suggested by Bornais [15] and Korkmaz, Riley and Horman [16], OC is very important for successful delivery of green building projects.

However, there is very little evidence of OC, or that project owners exemplify their commitment to the delivery of green building projects in the construction industry, despite the enormous complexities in the delivery of green building projects, which ultimately affect delivery performance. For instance, green building projects require additional project delivery requirements such as energy modelling [17], while new and sophisticated features are installed in an integrated manner into the building system [18]. Additionally, multidisciplinary project participants, often with added competencies, have to work together in a non-sequential, iterative and interconnected manner [19]. Given these complexities, which are comparably higher than conventional building projects [20, 21], green building projects experience low delivery performance [22]. For instance, to account for the additional requirements posed by green building projects, higher cost is incurred [23].

To increase the level of OC, it is imperative to improve project owners' motivation. Originally motivation is majorly conceived as a psychological concept because it relates to human behaviour [24] and it describes the reasons why a person or a group of people act or behave in a certain way [25]. Additionally, it is the force acting either on or within a person or a group of people to initiate a behaviour or perform an action [26]. The concept of motivation is usually employed for accelerating the change from conventional to green building practices in the construction industry [27]. Similarly, the concept of motivation has been indicated to increase the level of OC to the delivery of green building projects in the construction industry [12, 15].

Although it is observable that motivation can be linked to owner commitment for improving the delivery of green building projects, there is currently no research exploring the perceived relationship. Specifically, there is no empirical support for the interdependency in the green building context. Thus as part of a larger research seeking to establish empirical relationship between motivation and owner commitment for improving the delivery performance of green building projects, this paper specifically proposes the research framework which identifies and describes the major elements, variable and constructs to be studied, and the presumed relationships [28, 29]. The research framework is useful to theory and practice in the following ways. First, the research framework provides a theoretical framework of research which can be modified or extended by other researchers for investigating the delivery performance of green building projects. Second, the research framework will help in identifying how to increase project owners' commitment for improving the delivery performance of green building projects in the construction industry.

## **2. Literature review**

### *2.1 Research concepts and the linking theory*

#### *2.1.1 Motivation for green building practices*

Within the green building context, motivation refers to the drivers compelling project owners towards green building practices [30]. Motivation is also key towards ensuring that other building stakeholders such as constructors constantly engage in green building practices. There are different drivers of motivation for green building practices

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