Analysis of some factors driving ecological sustainability in construction firms

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A B S T R A C T

Construction management scholars, institutional investors, and construction practitioners are strongly emphasizing firms’ needs to respond adequately to the harmful effects of construction on human societies and the environment. This study contributes to the ongoing discussion on the environmental dimension of the triple bottom line of sustainability within the construction industry by considering regulatory framework and a set of organizational capabilities (organizational culture, flexible design, quality orientation, product diversity, and customer loyalty) that have been highlighted to aid firms’ achievement of ecological sustainability. Using survey data of Malaysian large construction firms, structural equation modelling was used to confirm the mediating role of organizational capabilities in the regulatory framework and ecological sustainability relationship. The findings of this study established how proactive firm core competencies can strengthen construction businesses in developing nations to discover new avenues of performing environmentally sound construction businesses. It also demonstrated how a favourable regulation targeted at the unique configuration of large construction firms in Malaysian context could contribute to their environmental sustainability performance. The limitations and future research directions are also discussed.

Keywords:
Ecological sustainability Organizational capabilities Regulatory frameworks Construction firms Construction management

1. Introduction

Sustainability in construction is a composite agenda which, in practice, is broken down into several inter-related keys with specific goals. While the sustainability goals are embedded in the triple bottom line of social justice, economic prosperity and ecological protection, the achievement of better sustainability outcomes in construction rest on reducing the ecological impacts of construction processes (Wong and Zhou, 2015). Therefore, this study’s main focus is on ecological sustainability in construction, considering the construction sector’s immense impact on the natural environment depletion, and its contribution to climate change and environmental pollution, such as air, water, and soil (Huisingh et al., 2015). Construction activities generate excessive solid waste, consume extensive land area, accentuate several health hazards and global climate change (Kucukvar and Tatari, 2013). In the United States, for example, almost 80 per cent of all resources are consumed by construction activities, including renovation and retrofitted infrastructures and buildings (Graedel and Allenby, 2010). Thus, ecological sustainability, if well implemented, could be a silver bullet for the harmful effects of construction on human societies and the environment. In its basic principles, ecological sustainability in construction deals with the analysis of construction industry’s impacts on the immediate environment from “cradle to grave” viewpoint, where issues of land utilization, material selection, energy conservation, water efficiency, waste minimization,