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**MODERATING EFFECTS OF GOVERNMENT  
SUPPORT ON THE RELATIONSHIP BETWEEN  
ORGANIZATIONAL INNOVATIVENESS, CULTURE  
AND SUSTAINABLE CONSTRUCTION AMONG  
MALAYSIAN CONTRACTORS**



**DOCTOR OF PHILOSOPHY  
UNIVERSITI UTARA MALAYSIA  
2016**

**Moderating Effects of Government Support on the Relationship between  
Organizational Innovativeness, Culture and Sustainable Construction among  
Malaysian Contractors**



By  
**BAMGBADE, JIBRIL ADEWALE**

**UUM**  
Universiti Utara Malaysia

**Thesis Submitted to  
School of Technology Management and Logistics, College of Business,  
Universiti Utara Malaysia  
In Fulfilment of the Requirement for the Degree of Doctor of Philosophy**



**Kolej Perniagaan**  
(College of Business)  
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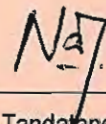
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## ABSTRACT

Drawing upon organizational readiness for change and resource-based view theories, this study examined the role of government support in moderating the effects of organizational innovativeness and organizational culture on sustainable construction among Malaysian large contractors (the G7 contractors). A total of 172 contractors from the eleven states in peninsula Malaysia participated in the survey. The data collected were initially screened using SPSS (version 21), while Partial Least Squares Structural Equation Modeling (PLS-SEM) algorithm and bootstrap techniques were employed to test the hypothesized paths in this study. Specifically, the results indicated that the extent of sustainable construction among Malaysian large contractors is high (mean score: 3.95). The empirical evidence also supported the hypothesized direct effects of organizational innovativeness and organizational culture on sustainable construction. However, government support was found to be negatively but significantly related to sustainable construction. There also was a stronger positive relationship between organizational innovativeness and sustainable construction, to such an extent that this relationship becomes stronger (i.e. more positive) for contractors that are being aided by the government than it is for those that are disadvantaged in that regard. Similarly, the result regarding the moderating effect of government support on the relationship between organizational culture and sustainable construction was supported. Generally, these findings supported the view that government support has a strong contingent effect on the influence of contractors' innovativeness and culture on sustainability adoption in construction project execution. Therefore, to enhance sustainable construction adoption, more efforts are suggested to be applied to developing and utilising organizational innovativeness and organizational cultural dimensions, while more government support is also encouraged. Some limitations of the study are indicated, suggesting opportunities for future research.

**Keywords:** sustainable construction, organizational innovativeness, organizational culture, government support, Malaysian contractors.



## ABSTRAK

Berbekalkan teori kesediaan organisasi untuk perubahan dan teori pandangan berasaskan sumber, kajian ini mengkaji peranan sokongan kerajaan dalam mengantarkan kesan inovasi organisasi dan budaya organisasi dalam memampankan sektor pembinaan dalam kalangan kontraktor besar Malaysia (kontraktor G7). Seramai 172 kontraktor dari sebelas buah negeri di Semenanjung Malaysia telah mengambil bahagian dalam kajian ini. Data yang dikumpul disaring menggunakan SPSS (versi 21), manakala teknik algoritma dan butstrap dalam Permodelan Persamaan Kuasa Dua Terkecil Berstruktur (PLS-SEM) telah digunakan untuk menguji laluan hipotesis dalam kajian. Secara khusus, keputusan menunjukkan tahap pembinaan yang mampan dalam kalangan kontraktor besar Malaysia adalah tinggi (min: 3.95). Kajian ini menunjukkan bukti empirikal yang menyokong kesan langsung hipotesis inovasi organisasi dan budaya organisasi yang mampan dalam pembinaan. Walau bagaimanapun, sokongan kerajaan didapati negatif tetapi berkait secara signifikan dengan pembinaan yang mampan. Sekali lagi, terdapat hubungan positif yang lebih kuat antara inovasi organisasi dan pembinaan yang mampan, sehingga tahap yang menyebabkan hubungan ini menjadi lebih kuat (iaitu lebih positif) bagi kontraktor yang sedang dibantu oleh kerajaan berbanding mereka yang kurang bernasib baik dalam hal itu. Begitu juga hasil berkaitan dengan kesan pengantara sokongan kerajaan terhadap hubungan antara budaya organisasi dan pembinaan yang mampan turut disokong. Secara umumnya, dapatan kajian ini menyokong pandangan bahawa sokongan kerajaan mempunyai kesan luar jangka yang kuat ke atas pengaruh inovasi dan budaya kontraktor terhadap pengadopsian kemampanan dalam pelaksanaan projek pembinaan. Oleh itu, untuk meningkatkan pembinaan pengadopsian yang mampan, lebih banyak usaha dicadangkan untuk digunakan bagi membangunkan dan menggunakan inovasi organisasi dan dimensi budaya organisasi, manakala lebih banyak sokongan kerajaan juga digalakkan. Beberapa batasan kajian dikemukakan sebagai cadangan bagi penyelidikan pada masa hadapan.

**Kata kunci:** pembinaan yang mampan, inovasi organisasi, budaya organisasi, sokongan kerajaan, kontraktor Malaysia.



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## LIST OF ABBREVIATIONS

ADC	Adhocracy
AVE	Average Variance Extracted
BIZ	Business Innovativeness
CCP	Construction Certification Program
CPD	Continuing Professional Development
CIDB	Construction Industry Development Board
CIMP	Construction Industry Master Plan
CMV	Common Method Variance
CREAM	Construction Research Institute of Malaysia
CVF	Competing Values Framework
D <sup>2</sup>	Mahalanobis distance
ECP	Economic Prosperity
EDI	Electronic Data Exchange
EIA	Environmental Impact Analysis
EnSF	Environmental Sustainability Factors
ESF	Economic Sustainability Factors
EVT	Environmental Prosperity
f <sup>2</sup>	Effect Size
FAO	Food and Agriculture Organization
GASSIC	Green Assessment System in Construction
GDP	Gross Domestic Product
G7	Grade 7
GoF	Goodness-of-Fit
GOVT	Government Support

HCM	Hierarchical Component Model
IBS	Industrialised Building System
LCA	Life Cycle Assessment
LCC	Life Cycle Costing
MKT	Market Orientation
NEWT	New Technology
PRC	Product Innovativeness
PhD	Doctor of Philosophy
PLS	Partial Least Squares
PLS-SEM	Partial Least Squares-Structural Equation Modeling
PPP	Public-Private Partnership
PRO	Product Innovativeness
Q <sup>2</sup>	Construct Cross-validated Redundancy
R&D	Research and Development
R <sup>2</sup>	R-squared values
RBV	Resource-Based View
SEM	Structural Equation Modelling
SMEs	Small and Medium-sized Enterprises
SPSS	Statistical Package for the Social Sciences
SSF	Social Sustainability Factors
SWB	Social Wellbeing
UNCHS	United Nations Centre for Human Settlement
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural
Organization	

VIF

Variance Inflated Factor

WWF

World Wildlife Fund



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## CHAPTER ONE

### 1.1. Introduction

The first section in this chapter introduces the background of the study by explaining the concept of sustainability as the basis of this study's variable of interest - sustainable construction. It then went further to espouse the background of organizational innovativeness and organizational culture within the context of this study. This was swiftly followed by the scenarios within the Malaysian construction industry in terms of sustainable construction attainment. Then, the related issues and research gap were identified, and the research questions and objectives that this study intends to achieve were presented, followed by the scope of the study. The last section in this chapter is the significance of the study.

### 1.2 Background

Sustainable construction emerged as a new concept to provide a favourable built environment that meets humans' present needs without jeopardising the ability of the future generation to meet theirs (Opoku & Fortune, 2011). In principle, sustainable construction essentially covers environmental, social and economic attributes that are exemplified in the sustainable development mantra. Du Plessis (2002) affirms that sustainable construction came up to fundamentally address the complex problems of construction and the environment in order to restore balance between the natural environment and the built environment, as both realms are highly interconnected.

The construction industry in the twenty-first century is faced with greater challenges than any other industry, because the century is associated not only with technological advances, but also an increasingly sophisticated and competitive market, requiring improved sustainability performance of both the construction products and the

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