



**Developing a Project Management Maturity Model to Initiate Sustainable Project
Performance and Modernisation in the Kingdom of Saudi Arabia**

Thesis submitted by

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Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

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Abstract

This research thesis involves the analysis of sustainable development activities in project management and project management maturity, taking organisational culture as a contributing factor to success in project-driven organisations (PDO) in Saudi Arabia. It was felt that the best way to do this was to introduce a model that would provide insight and increase our understanding of current performance levels of projects in Saudi Arabia's organisations, with a view to integrating concepts of sustainability into project management in the country.

Saudi Arabia's need to diversify its economic productivity and be less reliant on oil reserves in the long run and by implementing projects like those currently undertaken in infrastructure and construction gaining long-term value through sustainable project management will serve to maximise investment.

A key element in the process is to better appreciate the importance of achieving a suitable organisational culture in project driven organisations. This is regarded as an important condition for improving professional capability in project managers.

This research extends previous research by creating a model for evaluating and assessing the maturity of the sustainable dimension into project management practice. Assessing the project management maturity will help organisations integrate the ideas of sustainable development and modernisation through projects and project management by highlighting the areas in which an organisation should focus in order to reach project management best practice. The commitment of project stakeholders, project managers and decision makers in Saudi Arabia is critical to making changes to organisational culture and project management performance.

An online self-administered questionnaire was distributed to 4,948 project driven organisations in Saudi Arabia. Questions were asked of project managers about their organisational project management maturity considering their awareness and knowledge of the relevance of sustainability ideas to current and future project management practice. 644 valid responses were secured (13% response). The responses were analysed and a proposed model for assessing project management maturity was tested.

This research included extensive statistical analysis, which was divided into three different analyses. Firstly, it included descriptive statistical analysis using IBM *SPSS* version 20. Secondly, it introduces the use of structure equation modelling to demonstrate the validity of the proposed model via partial least squares analysis (PLS-SEM). Thirdly, it included further statistical analysis using (ANOVA) for different comparisons to test the relationships between the model components, which showed different results from the one expected.

The research demonstrated the correlation between the three dimensions of sustainable development (economic, social, and environmental), and variables of organisational culture as efficient for developing a sustainable project management maturity model for Saudi projects. It suggests that organisations that are likely to incorporate these elements would achieve project sustainability.

The study showed that Saudi organisations have average level of sustainable maturity of 3 out of 5 maximum points. This level of sustainability is not sufficient for organisations to achieve long-term project performance. This means that the project-driven organisations in Saudi Arabia need to put more effort into their project management practices to drive the Saudi economy to achieve sustainable modernisation.

The research makes an original contribution at two levels. At the scholarly level, it contributes toward theory development. At practical level, the research has implications for project managers and policy makers in Saudi Arabia. There is a need for Saudi organisations to integrate the concept of sustainable development into project management practice for the purpose of improving project performance. Also, the research findings should encourages the Saudi project management profession to reach higher standards of knowledge-based practice by incorporating some of the leading ideas of the sustainability movement through continuing professional development. This can be implemented by increasing the maturity of project management in Saudi organisations as well as the awareness and responsibility of project managers in respect to the concept of sustainable development. Such an outcome would reinforce the modernisation process taking place in the country.

The creation of a model for assessing the maturity of the sustainability dimension in project management practice would enable an organisation to identify strengths and weaknesses in their approach, and help stakeholders form and realise sustainable visions. It is anticipated that such a model would foster sustainable project outcomes that will directly impact the modernisation process in Saudi Arabia in the long-run.

Synonyms and Abbreviations

AMOS	Analysis of a Moment Structures
ANOVA	Analysis of Variance
ANSI	American National Standards Institute
AVE	Average Variance Extracted
BP	Business Performance
CB-SEM	Covariance-Based Structural Equation Modelling
CFA	Confirmatory Factor Analysis
CMM	Capability Maturity Model
CSR	Corporate Social Responsibility
CSV	Comma Separated Values
CVF	Competing Values Framework
ECIC	Entrepreneurship, Commercialization and Innovation Center
EMS	Environmental Management Systems
GCC	The Gulf Cooperation Council
GDP	Gross Domestic Product
GHG	Green House Gas
GUI	Graphical User Interface
H	Hypothesis
IMF	International Monetary Fund
ISO	International Organisation For Standardisation
KAEC	King Abdullah Economic City
KPI	Key Performance Indicators
LEED	Leadership in Energy & Environmental Design
LISREL	Linear Structural Relations
MLR	Multiple Linear Regression
NCC	The National Competiveness Centre
OC	Organizational Culture
OCAI	Organizational Culture Assessment Instrument
OPIC	Overseas Private Investment Corporation
OPM3	Organizational Project Management Maturity Model
PDO	Project Driven Organisation
PLS-SEM	Partial Least Squares Structural Equation Modeling
PMBOK	Project Management Body of Knowledge

PMI	Project Management Institute
PMKA	Project Management Knowledge Area
PMM	Project Management Maturity
PMMM	Project Management Maturity Model
PMO	Project Management Office
PMP	Project Management Professional
PP	Project Performance
PPP	(People, Planet, Profit)
PRINCE2	Projects IN Controlled Environment
R&D	Research and Development
RBV	Resources Based View
SAGIA	Saudi Arabian General Investment Authority
SBP	Sustainable Business Performance
SDI	Sustainable Development Indicators
SEM	Structure Equation Modeling
SPMKA	Sustainable Project Management Knowledge Area
SPMM	Sustainable Project Management Maturity
SPMM-Ec	Sustainable Project Management Maturity – Economic
SPMM-En	Sustainable Project Management Maturity – Environmental
SPMM-So	Sustainable Project Management Maturity – Social
SPMMM	Sustainable Project Management Maturity Model
SPP	Sustainable Project Performance
SPSS	Statistical Package for the Social Sciences
TBL	The Triple Bottom Line
WCED	The World Commission on Environment and Development