

FACTORS INFLUENCING CONTRACTORS RISK  
ATTITUDES AMONG KUANTAN MALAYSIAN  
CONSTRUCTION COMPANIES: THE  
MODERATING ROLE OF GOVERNMENT POLICY

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MASTER OF SCIENCE

UNIVERSITI MALAYSIA PAHANG



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We hereby declare that we have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Master of Science.

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I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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## ABSTRAK

Salah satu faktor kritikal yang terlibat dalam kejayaan pengurusan projek pembinaan ialah faktor individu. Faktor-faktor ini memainkan peranan penting yang menentukan sikap pembuat keputusan terhadap aspek pengurusan risiko. Banyak kajian terdahulu mengenai pengurusan projek pembinaan telah memberi tumpuan kepada faktor-faktor yang menyumbang kepada kejayaan pengurusan risiko. Walau bagaimanapun, perhatian yang kecil telah diberikan kepada faktor-faktor yang menjejaskan sikap risiko pembuat keputusan dengan merujuk kepada faktor risiko individu dalam syarikat pembinaan. Oleh itu, kajian ini bertujuan untuk mengenal pasti faktor individu yang mempengaruhi sikap risiko kontraktor dan kemudian menentukan hubungannya dengan dasar kerajaan. Teori kawalan organisasi dan teori tingkah laku terkawal telah digunakan untuk mengembangkan kerangka teori bagi menyelidiki kontraktor G-7 di Kuantan Pahang bagi syarikat pembinaan Malaysia. Kajian semula literatur dan soal selidik yang berkaitan telah diambil untuk mengenalpasti faktor individu yang mempengaruhi sikap risiko kontraktor. Untuk mencapai kadar respon yang bersesuaian, sebanyak 160 soal selidik telah diedarkan kepada syarikat pembinaan di Kuantan Malaysia secara rawak. Daripada 160 borang soal selidik yang diedarkan, 6 soal selidik tidak dikembalikan dengan peratusan sebanyak 3.75%, 154 soal selidik telah diterima dengan peratusan 96.25%. Selain daripada itu, sebanyak 8 soal selidik didapati tidak dapat digunakan kerana kehilangan data dengan peratusan 5.19%. Secara keseluruhannya, 94.81% daripada jumlah borang soal selidik yang diterima boleh digunakan untuk membuat kesimpulan dengan sampel yang berkesan iaitu sebanyak 146. Di samping itu, pendekatan pemodelan persamaan struktur digunakan untuk mengkaji hubungan langsung dan sederhana seperti yang ditunjukkan oleh hipotesis. Sebagai tambahan, reka bentuk penyelidikan kuantitatif digunakan mengikut paradigma penyelidikan positif, di mana metodologi ini direka fokus bagi menjawab persoalan kajian dan juga objektif kajian. Soal selidik ini direka dengan menggunakan skala pengukuran interval tertutup dengan pendekatan yang betul dalam merancang instrumen tinjauan. Hasil kajian ini melalui Model Persamaan Struktur (SEM) membuktikan bahawa faktor individu (Latar Belakang Pendidikan, Pengalaman Kerja, Kecerdasan Emosi, Kompetensi Profesional dan Kesihatan Fizikal) mempunyai pengaruh yang signifikan terhadap sikap risiko kontraktor dalam industri pembinaan di Kuantan. Penemuan kajian ini juga mengesahkan bahawa dasar kerajaan (undang-undang dan peraturan) memainkan peranan yang sederhana dalam meningkatkan hubungan faktor individu yang mempengaruhi sikap risiko kontraktor dalam syarikat pembinaan di Kuantan. Ini menunjukkan bahawa penemuan kajian ini memberikan lebih banyak pemahaman tentang faktor individu yang mempengaruhi sikap risiko kontraktor untuk memudahkan proses membuat keputusan bagi kontraktor dan berfungsi sebagai rujukan berguna yang memerlukan kajian lebih lanjut dalam bidang pengurusan projek pembinaan.

## ABSTRACT

One of the critical factors responsible for the successful management of construction projects is individual factors. These factors play a significant role in the decision-makers' attitudes towards risks management. Many previous studies regarding the management of construction projects have been focusing on the factors contributing to the success of risk management. However, little attention has been given to factors severely affecting the decision-makers' risk attitudes with particular reference to an individual's risk factors in construction companies. Therefore, this study aims to identify the individual factors affecting contractors' risk attitudes and then determine its relationship with government policy. Organizational control theory and Theory of planned behaviour was used to develop the theoretical framework that investigated G-7 contractors in the Kuantan Pahang, Malaysian construction companies. A review of relevant literature and questionnaire were adopted to identify the individual factors affecting contractors' risk attitudes. To achieve the proper response rate for this study, in total 160 questionnaires were distributed to the construction companies in Kuantan Malaysia randomly. Of the 160 questionnaires distributed, 6 questionnaires were not returned with an equal percentage of 3.75%, 154 questionnaires were received with an equal percentage of 96.25%. Conversely, 8 questionnaires were found to be unusable due to missing data with a percentage of 5.19%. Thus overall, 94.81% of the total questionnaires received were usable concluding with an effective sample of 146. Besides, a structural equation modelling approach was employed to examine the direct and moderating relationship as drawn by the hypotheses. Moreover, with quantitative research design following the positivist research paradigm, the methodology was designed to focus on the research questions and the objectives. The questionnaire was designed by using a closed interval measurement scale with proper care taken in designing the survey instruments. The results of this study through Structural equation modelling (SEM) proved that individual factors (Educational Background, Work Experience, Emotional Intelligence, Professional Competence and Physical Health) have a significant influence on contractor risk attitudes in Kuantan construction industry. The findings of this research also confirm that government policy (rules and regulations) plays a moderating role in enhancing the relationship of individual factors affecting contractors' risk attitudes in construction companies in Kuantan. This implies that the findings of the study provide more understanding of the individual factors that affect contractors' risk attitudes to facilitate contractors' decision-making process and serve as a useful reference for further studies in the field of construction project management.

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## LIST OF ABBREVIATIONS

RBDM	Risk-Based Decision Making
PMBOK	Project Management Body of Knowledge
CIDB	Construction Industry Development Board
GNP	Gross National Product
GDP	Gross Domestic Product
LDC	Less Developed Country
NIC	Newly Industrialized Country
AIC	Advanced Industrialized Country
MPOB	Malaysian Palm Oil Board
EPCC	Engineering Procurement Construction and Commissioning
PMI	Project Management Institute
RC	Relational Contracting
DDC	Demonstration and Documentation Centre
CETDEM	Centre for Environment, Technology and Development
MEC	Malaysia Energy Centre
DOSH	Department of Occupational Safety and Health
IBS	Industrialized Building System
D&B	Design and Build
AEC	Architecture, Engineering, and Construction
BIM	Building Information Modelling
VFM	Value for Money
MCDA	Multi-Criteria Decision Analysis
MCDMM	Multi-Criteria Decision Making Methods
OJT	On-the-Job Training
OJT	Of-the-Job Training
MASTIC	Malaysian Science and Technology Information Centre
BIPV	Building Integrated Photovoltaic
PAM	Persatuan Arkitek Malaysia
ACEM	Association of Consulting Engineers Malaysia
GBI	Green Building Index

HSC	Health and Safety Commission'
RQ	Research Question
RO	Research Objective
SPSS	Statistical Package for the Social Sciences
IV	Independent Variable
DV	Dependent Variable
MV	Moderating Variable
CRA	Contractor Risk Attitudes
EB	Educational Background
WE	Working Experience
EI	Emotional Intelligence
PC	Professional Competence
PH	Physical Health
GP	Government Policy
RR	Rules and Regulations
PLS-SEM	Partial Least Square-Structural Equation Modelling
CR	Composite Variables
CA	Cronbach's Alpha
AVE	Average Variance Extracted
VIF	Variance Inflation Factors
SEM	Structural Equation Modelling

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