

PROJECT PERFORMANCE FRAMEWORK FOR STAKEHOLDER OF  
RESIDENTIAL CONSTRUCTION PROJECT

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A thesis submitted in fulfilment of the  
requirements for the award of the degree of  
Doctor of Philosophy

Razak Faculty of Technology and Informatics  
Universiti Teknologi Malaysia

DECEMBER 2018

## DEDICATION

*To the soul of my father, the strongest man I've ever known, even he couldn't see me get so far in life, but he is with me in every step I make, and I'm making his proud of what I turned to be.*

*To my precious mother, my greatest mentor, who encouraged me to start this journey, she had faith in me and gave me the strength to keep going. Hope I could follow her steps.*

*To my beloved son, he has made me stronger, better and more fulfilled than I could have ever imagined. I love you to the moon and back.*

*To my amazing friends, I may not be able to thank you enough. You believed in me, supported me, made me patient and draw a smile on my face every time I talked to you.*

*To my family, who never let me go, pulled me out of bad times and shared the good moments together. Not enough words can express my feelings and love toward you. I'm extremely thankful for it.*

*To all of you, I'm grateful for having you by my side through this journey, which was not easy, but it went well with your prayers, wishes and support, all the time. From the bottom of my heart, thank you. I love you all.*

## ACKNOWLEDGEMENT

First and foremost, the most important reason for me to get this far has always been because of the blessings of Allah, who guided me all days and nights, where ever I am, and I never felt alone because I know I am leaning on the ultimate power.

This study would not be accomplished without the significant help of my fabulous supervisor, Associate Prof. Ts. Ir. Dr. Syuhaida Ismail and my co-supervisor, Associate Prof. Dr. Normawati Mohd. Shariff. They tolerated my mistakes and questions and showered me with 100 percent of their efforts to help me do it correctly. Thank you from the bottom of my heart. You are the best.

Finally, I would like to thank my amazing friends I met in UTM, who took my hand through this journey, gave me a very warm welcome in their lives, taught me to pay attention to many things I was missing and made my stay in Malaysia more fun, more comfortable and happier. Thank you all, you are all such a blessing, and I am very thankful for you all.

## **ABSTRACT**

Residential construction projects are obnoxious with high-profile problems of poor performance due to non-engagement of key stakeholder and lack of consideration on stakeholder's needs and interest, although the effects of fulfilling the needs and the interest of stakeholders on organisational performance have been well established in other industries. In this study, an attempt is made empirically to achieve the aim of analysing the moderating effects of project size on the relationships between variables and mediator. This aim is achievable via the main objective of developing a framework on improving residential construction project performance through stakeholder satisfaction in Malaysia. This study is undertaken via a survey on purposive sample of 156 developers and 468 buyers of residential construction projects in Malaysia, and the analysis is done through structural equation modelling (SEM). This study finds that the framework on improving residential construction project performance through stakeholder satisfaction in Malaysia consists of 2 variables, 1 mediator, 1 moderator and 13 constructs which are divided into 85 items. This framework is validated by 5 experts via expert focus group interview, who confirmed that the framework could be used for improving project performance in residential construction project and providing suitable feedback to Project Management Institute (PMI) practitioners to develop appropriate standard for different sectors on project size basis. Overall, this study which combined resource-based theory (RBT), resource dependence theory (RDT) and stakeholder theory (ST) has successfully developed a new theoretical framework to demonstrate the importance of social capital as a part of resource based on the variables of improving residential construction project performance in Malaysia.

## ABSTRAK

Projek-projek pembinaan kediaman terkenal dengan masalah berprofil tinggi disebabkan prestasi buruk yang berpunca dari tiada penglibatan pemegang taruh utama dan kurangnya pertimbangan terhadap kepentingan dan kehendak pemegang taruh, walaupun kesan akibat memenuhi kepentingan dan kehendak pemegang taruh terhadap prestasi organisasi telah pun wujud dalam industri lain. Dalam kajian ini, percubaan dibuat secara empirikal untuk mencapai matlamat menganalisa kesan penyederhanaan saiz projek terhadap hubungan antara pembolehubah-pembolehubah dan mediator. Matlamat ini boleh dicapai melalui objektif utama iaitu membangunkan rangka kerja untuk meningkatkan prestasi projek pembinaan kediaman melalui kepuasan pemegang taruh di Malaysia. Kajian ini dilakukan melalui soal selidik terhadap 156 pemaju dan 468 pembeli projek pembinaan kediaman di Malaysia, dan analisa dijalankan melalui pemodelan persamaan struktur (SEM). Kajian ini menemui bahawa rangka kerja untuk meningkatkan prestasi projek pembinaan kediaman melalui kepuasan pemegang taruh di Malaysia terdiri daripada 2 pembolehubah, 1 pengantara, 1 moderator dan 13 konstruk yang dibahagi kepada 85 item. Rangka kerja ini telah disahkan oleh 5 pakar melalui temubual kumpulan tumpuan pakar, yang mengesahkan bahawa rangka kerja itu dapat digunakan untuk meningkatkan prestasi projek pembinaan kediaman dan menyediakan maklum balas yang sesuai kepada pengamal *Project Management Institute* (PMI) untuk membangunkan aras yang sesuai untuk sektor yang berbeza berdasarkan saiz projek. Secara keseluruhan, kajian ini yang menggabungkan teori berasaskan sumber (RBT), teori kebergantungan sumber (RDT) dan teori pemegang taruh (ST) telah berjaya membangunkan satu rangka kerja teoritikal baru untuk menunjukkan kepentingan modal sosial sebagai sebahagian daripada sumber berdasarkan pembolehubah dalam meningkatkan prestasi projek pembinaan kediaman di Malaysia.

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## LIST OF ABBREVIATIONS

AMOS	-	Analysis of Moment Structures Association
AVE	-	Average Variance Extracted
CBSEM	-	Covariance-Based Structural Equation Modelling
CEOs	-	Chief Executive Officers
CFA	-	Confirmatory Factor Analysis
CR	-	Construct Reliability
CRI	-	Composite Reliability Index
CSR	-	Corporate Social Responsibility
EFA	-	Exploratory Factor Analysis
EM	-	Expectation Maximisation
EMS	-	Environmental Management System
GoF	-	Goodness of Fit
GPM	-	Green Project Management
IPMA	-	International Project Management Association
KMO	-	Kaiser-Mayer–Olkin
LISREL	-	Linear Structural Relations
MCAR	-	Missing Completely at Random
MGA	-	Multiple Group Analysis
ML	-	Maximum Likelihood
MNAR	-	Missing Not At Random
MVA	-	Missing Value Analysis
OLS	-	Ordinary Least Squares
PLS	-	Partial Least Squares
PMBOK	-	Project Management Body of Knowledge
PMI	-	Project Management Institute
PRINCE2	-	Project in Control Environment
RBT	-	Resource-Based Theory

RDT	-	Resource Dependence Theory
ROI	-	Return on Investment
SEM	-	Structural Equation Modelling
SPSS	-	Statistical Packages of Social Science
ST	-	Stakeholder Theory
VBSEM	-	Variance-Based Structural Equation Modelling
VIF	-	Variance Inflation Factors
VRIN	-	Valuable, Rare, Inimitable and Non-Substitutable
WLS	-	Weighted Least Squares



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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Research Background**

The residential construction projects face continual challenges and demands, due to market conditions and coercion by governments, for improvements in safety, quality and cost control as well as in the avoidance of contractual disputes. To meet these challenges, residential construction project companies need to constantly seek new directions and business models in the construction management (McGeorge and Zou, 2012). While the residential construction project everywhere faces problems and challenges, the complexities and difficulties are most critical in developing countries due to the general situation of socioeconomic issues, lack of resources, organisational weaknesses, and inability to deal with critical situations (Ofori, 2011). In Malaysia for instance, the residential construction projects accounts for about 67.6 percent of overall construction work and is considered to be an essential element of the construction industry (Campbell, 2006). A number of tools, methods and concepts have been developed and advocated as the aids to achieve improved residential construction projects performance, but many in the industry find them confusing or are uncertain of their relevance. The discipline of project management is a broad field with many profit and non-profit organisations offering project management standards and certifications for project professionals.

Currently, the Project Management Institute (PMI) is the largest organisation worldwide with more than 500,000 members in 185 countries (PMI, 2013). Besides the PMI, there are many other organisations and standards, such as International Project Management Association (IPMA), Green Project Management (GPM) or

Project in Control Environment (PRINCE2) as discussed by Ahlemann (2009). Since the foundation of the PMI during the 1960s in Pennsylvania, project management standards have been expanded to a global reference book called the Project Management Body of Knowledge (PMBOK) (PMI, 2013), which illustrates all relevant PMI project management processes. The PMBOK and other international standards, however, are also giving contributions to an on-going debate in the project management community, resulting into continuous improvement and changes to the PMBOK processes.

The PMI publishes and documents major changes, where in 2017, the 6th edition of the PMBOK becomes available to the project management community. Although with the establishment of this PMBOK, residential construction projects still affect the community in both positive and negative ways. Positive effects are for instance, better communications, better residential construction projects, and a higher standard of living. However, residential construction projects inevitably bring with them deterioration and changes on the local plane, at the site of the residential construction project. Thus, in residential construction projects, many different and sometimes controversial interests must be considered, where the representatives of these interests are referred to as the project stakeholder (Olander, 2003). Stakeholder project management has been recognised as successful drivers in residential construction project performance that comprises identify the residential construction project stakeholder, analyse the residential construction stakeholder expectations, and develop appropriate management strategies in residential construction project decisions and execution (Bourne and Walker, 2005).

The stakeholder in any construction project (including the residential construction projects) can be divided into internal and external stakeholder. The internal stakeholder are those who are members of the residential construction project coalition or who provide finance; the external stakeholder are those others affected by the project in a significant way (Calvert, 1995; Winch and Bonke, 2002). Stakeholder management is an essential part of the project management process. Both the guidelines to the PMBOK and Quality Management Guidelines ISO 10006: 1998

emphasise the need to identify and manage all the relevant stakeholder in order to ensure the success of the project sector.

To ensure the residential construction project performance is as per the expectation of the stakeholder, project managers must consider the requirements of the stakeholder in their residential construction project. Stakeholder management is a crucial issue in the management of residential construction projects (Olander and Landin, 2005). It is necessary that managers and project practitioners be well informed of the methods and strategies that facilitate a better understanding of the interest of different groups and stakeholder who play a role in a residential construction project. This is where the stakeholder theory (ST) gives a strong standing point for identifying, organising and classifying stakeholder, as well as comprehending their behaviour so as to better manage them. Mitchell *et al.* (1977) further clarify that stakeholder are consistent with their power, legitimacy and urgency of their claim and propose that these ascribes can be applied to define remarkable feature of stakeholder claims to determine how much and which type of attention stakeholder receive from the management.

Therefore, project management is designed to stimulate the utilisation of proactive project management for limiting residential construction stakeholder activities that may influence the residential construction project negatively, and to help the project team's ability to take opportunities that empower stakeholder support of project objectives since the motivation behind stakeholder management is to address the variety views of stakeholder, enhance communication among them and clear up their needs (Yang *et al.*, 2009). According to Lim *et al.* (2005), the stakeholder management is expressed as effective relationships management of stakeholder in management theories. In terms of stakeholder management, where the scholars such as Karlsen (2002) and Bourne and Walker (2005) applied distinctive explanations, it is all centred on the activities management associated to stakeholder.

The scholarly use of stakeholder satisfaction has received increased attention, including a dynamic debate in literature regarding the satisfaction of project stakeholder (García-Marzá, 2005; Yigitcanlar, 2010; Benn *et al.*, 2009; Brooks *et al.*, 2002). The key factors to success or project failure are comparable across the literature,

but stakeholder satisfaction is an important observation, which is not changed with time. This is where the resource-based theory (RBT) view is often described as being a valuable and rare focus in residential construction project. The RBT view underscores the residential construction companies' internal assets in order to competitive advantage involving organisational, physical, financial, human, and social assets (Barney, 1998).

The stakeholder satisfaction view looks to the marketplace to help the residential construction projects' companies to determine the areas in which they want to compete. The basic assumption of resource dependence theory (RDT) is to minimise the uncertainty and dependency of a residential construction companies by focusing on the contingencies in the external factor (Pfeffer and Salancik, 1978). The extent to which an organisation is dependent upon external organisational factors and stakeholder depends on the importance of a particular resource to the company. Due to RDT, managers do not have an unbridled strategic choice (Andrews, 1991), but must make strategic choices within constraints (Hrebiniak and Joyce, 1985; Pfeffer and Salancik, 1978) of residential construction projects.

In general terms, the stakeholder theory (ST) has been described in ways of a powerful means, thus achieve rising in construction industry environment (Oakley, 1991). This approach is intended to broaden the residential construction project management's vision statement of its activities and environmental responsibility more than the profit maximisation function (Mansuri and Rao, 2004). In addition, ST enables the managers to understand stakeholder and manage them strategically (Patton, 2008). The managerial importance of ST has been highlighted in various studies as Ramabodu and Verster (2010) demonstrate that the just treatment of stakeholder is related to the long-term survival of the company, which is also supported by McManus (2004).

During residential construction project management performance, the measuring is based on time, cost and quality (Barkley and Saylor, 1994). Based on the study by Atkinson (1999), these three components of the project management performance are named as the iron triangle. Furthermore, Kumaraswamy and Thorpe

(1996) include meeting budget, schedule, quality of workmanship, stakeholder satisfaction, technology transfer as well as health and safety in measuring a residential construction project management performance. Finally, Adams *et al.* (1996) counted other key components in measuring residential construction project performance, such as health and safety, environmental performance, user expectation/satisfaction, stakeholder satisfaction, and commercial value.

Thus, seeing as the concern on residential construction project performance has significantly arisen, it is observed by this study that it is important to explore the improvement measures for the residential construction projects that could be materialised via the development of framework that would tackle the specific problems causing the poor performance of residential construction projects in general. Although the effect of fulfilling of the interests and needs of stakeholder on organisational performance have been well-established in the other industries, namely manufacturing sectors, nevertheless, generally the stakeholder management process was less formally implemented within the construction project-based (Bourne and Walker, 2006), including the residential construction projects.

## **1.2 Problem Statement**

The construction sector is a very important and productive sector of the Malaysian economy. As a developing nation, Malaysia has realised the crucial role of this sector not only in economic growth but also in improving the quality of life and living standards (Khan *et al.*, 2014), especially the important role of the residential construction industry. The study of project failure is broadly aligned, where in between 60 to 80 percent of residential construction projects are deemed to fail with massive changes in project scope have caused up to 70 percent poor time performance (Assaf and Al-Hejji, 2006). This poor performance has also affected the unsold 34,500 completed residential units in Malaysia with a total of RM 22 billion in the first quarter of 2018 (National Property Information Centre, 2018), that is an increase of 55.72 percent compared to 2017 at 22,175 unsold residential units. In the literature, it was recognised that there are frequent reports of the residential construction industry about

the poor performance (Ofori, 2011; Olanrewaju and Abdul-Aziz, 2014), neglect to engage key stakeholder (of which include the buyers and developers) and consider their need and interests (Masrom, 2013; OHalloran, 2014), neglect to apply effective models for project governance (PMI, 2013), low quality and productivity, delays, poor maintenance, non-conducive working condition, and high accident rates on site (Mustafa Kamal and Flanagan, 2012). Moreover, delays in hand-overs, poor quality, reluctance to pay compensation for late delivery, rework, and conflict (Chai *et al.*, 2015) and failure in achieving the goals of affordable housing; including delays in delivery as well as over cost higher than original estimate (Ramli, 2013) are also reported in the Malaysian residential construction industry.

The Project Management Body of Knowledge (PMBOK) is a distinguished standard for the project management profession (PMI, 2013). The standard in project management is a formal document that describes established norms, methods, processes, and practices. Therefore, resource-based theory (RBT), resource dependence theory (RDT) and stakeholder theory (ST) should be considered as an important tool for stakeholder management to fulfil its needs and interests in the residential construction industry. Scholars, in line with ST, suggested that fulfilling stakeholder needs and interests should be incorporated with the strategies of the residential construction projects in the new millennium (Overton-de Klerk and Verwey, 2013).

It is therefore generally accepted that in the face of internal and external drivers, large and small companies within the residential construction industry have different behaviours. PMBOK has been expanding its use in both small and large organisations in the past two decades. However, the generic role of project size on the effectiveness of PMBOK and project performance is not clear. Scholars tried to describe the effect of the standard on different companies in the residential construction industry in terms of size. It is claimed that large and higher-priced residential construction project can more beneficially employ PMBOK and other project management guidelines to manage their stakeholder. Thus, this is expected to significantly affect the findings of this study since residential construction projects pricing RM200,000 and below accounted for nearly 45 percent of the Malaysian

residential market volume in 2017 (Valuation and Property Services Department, 2018).

Scholars have provided some scholarly evidences on the relationship between stakeholder satisfaction and general project performance. However, scholars have neglected to provide sufficient evidence that have examined the effect of project stakeholder management on project performance directly and through stakeholder satisfaction considering moderating effect of project size, of which include the residential construction project performance. Therefore, it is the intense need of the time to look in depth to the effect of stakeholder management on residential construction project performance directly and through mediating the variables of stakeholder satisfaction.

There exist literatures on critical success factors for specific country, specific organisation, and specific industry. In some instances, a few literatures exist on the critical factors of a project management on a particular part of the project life cycle, namely risk management and planning, however rarely on tangible goals, such as time, cost and quality, as well as intangible goals, such as satisfaction related to project performance. Hence, the effective implementation of the standard is one of the important factors that impact on the effectiveness of construction project, including the residential construction projects. Effective implementation of the standard in a residential construction company is highly dependent on qualified human resources and other residential construction project attributes. Consistent with the RBT, intangible resources, such as the standard (Ganiyu, 2011), can enhance a residential construction project's performance when it is effectively implemented.

Despite many studies done on project management guidelines, none has ever been carried out on the effect of intangible resources on the overall project performance, including the residential construction. Intangible resources are more difficult to measure, evaluate and transfer and include stakeholder's knowledge, experiences, skills and satisfaction, company's reputation, brand name and organisational procedures (Johnson *et al.*, 2008).



It is in the light of what is discussed above that the researcher endeavours to fill the knowledge gap by assessing the role of stakeholder management and stakeholder satisfaction in performance of residential construction project with special focus on residential construction project size factor.

### **1.3 Research Questions**

The main questions of this study are:

- a) How does project stakeholder management influence the residential construction project performance and on stakeholder satisfaction?
- b) How does stakeholder satisfaction influence the residential construction project performance?
- c) How does mediating effect of stakeholder satisfaction assess relationships between project stakeholder management and residential construction project performance?
- d) How can the residential construction project performance be improved through stakeholder satisfaction?

### **1.4 Aim and Objectives of Study**

The aim of the study is to analyse the moderating effect of project size on the relationships variables and mediator. The specific objectives are:

- a) To identify the influence of project stakeholder management on residential construction project performance and on stakeholder satisfaction;
- b) To examine the influence of stakeholder satisfaction on improving residential construction project performance;

- c) To assess the mediating effect of stakeholder satisfaction on the relationships between project stakeholder management and residential construction project performance;
- d) To develop a framework for improving residential construction project performance through stakeholder satisfaction.

## **1.5 Scope of Study**

The present study intends to comprehensively and theoretically examine the impact of Project Management Book of Knowledge (PMBOK) stakeholder management on the Malaysian residential construction project performance directly and through stakeholder satisfaction by considering the moderating effect on project size. In this study, the focus is on the sixth edition of PMBOK published in 2017. It is important to note that the first time the Project Management Institute (PMI) recognised project stakeholder management as one of its ten knowledge areas added to the existing nine knowledge areas in the previous edition of PMBOK was in its fifth edition published in 2013. An empirical study that is quantitative in nature is conducted in the residential construction project in Malaysia. There are two reasons to select the residential construction projects as a context for the study. The first reason is related to the importance of residential construction project in the Malaysian construction industry. Residential construction project is a sector that plays a vital role in development of Malaysia (Abdullah *et al.*, 2011). Hence, proper and systematic management of this sector should be applied and implemented by the parties involved, particularly the developers or the contractors. The residential construction project covers both small and big projects. The application and implementation of modern project management methods should be adopted by residential construction project based companies regardless of the size.

The second is related to the importance of stakeholder management in satisfying their interest and needs in the residential construction projects of construction industry. Cooperation is key to the achievement of the residential construction project in construction industry, where the residential construction project

members should have understanding that sharing of necessary information is one of the key components of a fruitful contractual relationship (Rahman *et al.*, 2014). There appears to be no clear guidelines on the process of collaboration between main stakeholder in the residential construction projects, thus making it hard to successfully cooperate and accomplish a typical task objectives inside the limits of expense, quality, and time (Rahman *et al.*, 2014).

Many researchers have investigated collaboration by the general construction industry players, where Douma *et al.* (2000) discussed about stakeholder management and found that fulfilling their interests and needs from the angle of strategic relationship due to the ever-increasing speed of technological developments and access to new technologies, have led the relationship become a key success factor in many industries. Moreover, Douma *et al.* (2000) additionally found that there was a movement from conventional expense driven relationship to information concentrated relationship, where inter-partner accomplice learning was a noteworthy target.

In addition, Stiles (1995) claims that fruitful community oriented companies and vital relationship should have been produced as a feature of the general method of the developing companies, for example distinguishing of sound goal and targets, and substantial thoughtfulness regarding the decision and sort of accomplice, which is very relevant to the residential construction projects. Crouse (1991) presumes that the power of companies had critical parts, which were listed by clear advantages of a balanced partnerships relationship, including collaboration that gave the capacity to influence interior ventures, concentrated on centre abilities, influenced centre skills, of different companies (namely the developer and contractor), decreased capital needs, grew item offerings, got entrance or quicker section into new markets, shared rare assets, spread danger and opportunity, enhanced quality and efficiency, had admittance to option advancements, gave rivalry to in-house designers, utilised a bigger ability pool, and fulfilled the stakeholder satisfaction in the residential construction projects. For this case, joining forces to community-oriented companies include a promise by the association to chip in and accomplish normal business targets (Bresnen and Marshall, 2000), where the constructive feedback by the companies are well implemented in the Malaysian construction industry.

In general, the Malaysian construction industry is classified into four sectors, namely residential construction sector, non-residential construction sector, civil engineering construction sector and special trade construction sector (Olanrewaju and Abdul-Aziz, 2014). The residential construction sector involves the construction of low-rise housings and high-rise housings (Marc Bogaerts, 2014), whilst the non-residential construction comprises of all building construction other than residential of which include the construction of commercial and industrial buildings. Civil engineering construction sector pertains to the construction of public infrastructure, such as bridges and highway (Olanrewaju and Abdul-Aziz, 2014). In order to achieve the objectives, this study only focuses on residential construction project of high-rise housings, particularly the condominiums, which are delivered by the developers registered with the Real Estate and Housing Developers' Association (REHDA). REHDA is the largest developer association in the Malaysian residential construction project, where REHDA directory records that Selangor and Kuala Lumpur compose the highest REHDA residential construction project in Malaysia. Therefore, the data were collected on the condominiums projects due to the population density and land scarcity of these two states.

In this study, the focus is also done on developers and buyers, where according to Greenly and Foxell (1997), they are the key stakeholder in residential construction project, which is also supported by PMI (2013), who claims that buyer satisfaction is important for the success of a project. The proper sampling process is discussed in depth in Chapter 3.

## **1.6 Significance of Study**

The significance of this study is classified into two main categories namely, theoretical and practical significance. The theoretical significance relied on several viewpoints, namely project stakeholder management on the basis of Project Management Book of Knowledge (PMBOK) that is a guideline for the project management in the global level. PMBOK is a process-based framework that widely used methodology for managing projects around the world (Madsen, 2012). According

to literature, research on creating project based capabilities that forms benefits of the standard in the construction industries have not yet been firmly established or well-structured despite unique characteristics of the standard. Thus, this study contributes to theoretically and comprehensively to facilitate towards a better understanding about the impact of standard on project performance in construction industry by bridging among resource-based theory (RBT), resource dependence theory (RDT), and stakeholder theory (ST).

The second one is related to the possibility of indirect effect of PMBOK stakeholder management on residential construction project performance in construction industry. This study is consistent with RBT, RDT, and ST that seem to provide a better understanding on the indirect effect of PMBOK stakeholder management on residential construction project performance in construction industry by examining the effect of stakeholder management on project performance through stakeholder satisfaction. Moreover, this study attempts to provide some scholarly evidences about how social capital (namely stakeholder satisfaction) obtained from the standard implementation is able to improve residential construction project performance in construction industry.

The third one is related to the influence of physical characteristic of project (namely project size) and its effect on the effectiveness of the guidelines. Based on the RBT, providing the needed resources and effective utilisation of them may enhance the residential construction project's achievement. However, due to some limitations, it may not be possible for some residential construction projects in the construction industry to employ required resources. Previous studies have not provided some scholarly evidences on effectiveness of the guideline considering the residential construction project. This study in line with RBT to contribute the body of knowledge by providing some explanations on the role of physical characteristic of a residential construction project on the effectiveness of the guideline. This study attempts to examine how to change the effectiveness of the guideline on different residential construction project on the basis of size.

The fourth significance is contributing to relevant international organisations, such as Project Management Institute (PMI) and another international organisation related to project management. Since this standard is periodically reviewed, therefore, the results of the comprehensive study can be valuable to the organisations and help them in the future decision-making.

In addition, the fifth one is contributing to developers, owners, and board of company in the residential construction industry. As the residential construction companies want to implement the standard to manage their residential construction project, thus knowing the capabilities of the standard can help them to adopt an effective and appropriate approach to the implementation of the standard. Furthermore, this would also remind them of their mutual responsibilities for effective implementation of the standard in their residential construction projects. From the practical standpoint, this is demonstrated as the contribution of these residential construction companies to the government. Nowadays, many of the government bodies, especially in the developing countries like Malaysia, have decided to grant some financial aids to the companies who develop the standards for improving the project performance, including the residential construction projects. Thus, knowing the effectiveness of these guidelines may help to the government to make decisions about the continuation of this standard and policy.

## **1.7 Outline of Thesis**

This study consists of five chapters. Chapter 1 introduces the background of the study and a summary about the location of study. This chapter also addresses the research problem, research motivation, opportunities and gap, research questions and establishes of the research objectives. It includes a discussion of the research contribution.

Chapter 2 presents a review the relevant literature related to stakeholder management. It includes a review of the effect of stakeholder management on residential construction project performance directly and through stakeholder

satisfaction considering the moderating effect of the residential construction project size. It provides an analysis about the relationship between stakeholder management, stakeholder satisfaction, and project performance. It contains explanations on the role of project size as a moderating variable and its effect on relationship between stakeholder management and project performance stakeholder management and stakeholder satisfaction as well as stakeholder satisfaction and project performance.

Chapter 3, subsequently, was designated for research methodology in terms of, research instrument that includes data collection and sample frame as well as determining data analysis method. In Chapter 4, an analysis of collected data and evidences with the initial framework are presented. In Chapter 5, framework development and validation are discussed. Finally, Chapter 6 concludes and provides recommendations for future research.

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