PROPOSED FRAMEWORK FOR TWO TIER MANAGEMENT CORPORATION FOR INTEGRATED STRATA DEVELOPMENT

TAN WEE VERN

UNIVERSITI TEKNOLOGI MALAYSIA

PROPOSED FRAMEWORK FOR TWO TIER MANAGEMENT CORPORATION FOR INTEGRATED STRATA DEVELOPMENT

TAN WEE VERN

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

Faculty of Built Environment and Surveying Universiti Teknologi Malaysia

DEDICATION

This thesis is dedicated to my beloved family members, who always support me to help me accomplish this massive task. It is also dedicated to my beloved supervisor, who was never selfish to teach me all the best kind of knowledge. Special thanks to my Ph.D. buddy, who shared all the knowledge with me so that we could succeed together.

ACKNOWLEDGEMENT

Firstly, I am grateful to all my family members, who are always supporting me financially and mentally to finish my Ph.D. study. Secondly, sincere appreciation to my beloved supervisor, Sr. Dr. Tan Liat Choon, who always provides me a lot of ideas, knowledge, guidance, and encouragement so that I could keep improving my thesis and complete my study.

In preparing this thesis, I was in contact with many people, researchers, academicians, authorities, and practitioners. They have contributed towards my understanding and thoughts and answer my questionnaire survey. Without their continued support and interest, this thesis would not have been the same as presented here.

I am also indebted to Universiti Teknologi Malaysia (UTM), which provided me conducive environment and some supports for me to complete my study.

My sincere appreciation, especially to my Ph.D. buddy, Dr. Toh Ming Liang, who has provided assistance on various occasions. My fellow postgraduate buddy should also be recognised for their support. Their views and tips are useful indeed. Unfortunately, it is not possible to list all of them in this limited space.

ABSTRACT

An integrated development comprises a group of different owners with different interests, resulting in management issues. Some common properties are not enjoyed or benefitted by all the owners in an integrated development. Thus, the Strata Management Act 2013 (Act 757) introduced a subsidiary management corporation to manage the designated limited common property. Even though the subsidiary management corporation was introduced into Malavsia legislation in 2013, it has been minimally implemented. Until today, One Mont Kiara is the only development that has successfully established its subsidiary management corporation in Malaysia. Therefore, this raises the research gap on the significance of the formation of the subsidiary management corporation on a stratified property and its efficacy in solving management issues. The reasons for the lack of efficiency of the established subsidiary management corporation are associated with the difficulty in obtaining comprehensive resolutions and the lack of funds in the maintenance account. Nevertheless, the establishment of a subsidiary management corporation is essential for integrated development, to clearly define the boundaries of a limited common property so that the owners can have the exclusive benefit over it. Therefore, the objectives of this research were to investigate the importance of the formation of the subsidiary management corporation, evaluate the enhancements suitable for strata property, and formulate a proposed framework for subsidiary management corporations in managing limited common property. This research employed both theoretical and empirical studies. The theoretical study defined the benefit of the subsidiary management corporation and identified issues that impeded the formation of the subsidiary management corporation; in contrast, the methodology in the empirical study applied a sequential mixed method. Ideas from the relevant authorities and specialists were first obtained for the quantitative data. This was followed by collecting qualitative data, where the relevant authorities with experience in forming and managing subsidiary management corporations were interviewed. Consequently, the quantitative and qualitative findings were integrated and explained by Ostrom's principles under the Common Pool Resources Theory. The results showed that the subsidiary management corporations significantly overcame management problems in the integrated development, and the Collective Action Theory could help encourage the formation of the subsidiary management corporations. Several improvements were proposed in the areas of legislation, regulation, institutional and administration, issues related to subsidiary management corporations, and enhancement to stratified properties. In conclusion, this study is significant in proposing a framework for a subsidiary management corporation's long-term establishment and management, and providing a two-tier management corporation system.

ABSTRAK

Pembangunan bersepadu terdiri daripada sekumpulan pemilik petak yang memiliki manfaat yang berlainan, menyebabkan berlakunya isu pengurusan. Sesetengah harta bersama tidak dinikmati atau dimanfaatkan oleh semua pemilik petak dalam pembangunan bersepadu. Oleh itu, Akta Pengurusan Strata 2013 (Akta 757) telah memperkenalkan perbadanan pengurusan subsidiari untuk menguruskan harta bersama terhad yang ditetapkan. Walaupun perbadanan pengurusan subsidiari telah diperkenalkan dalam perundangan Malaysia sejak 2013, ia telah dilaksanakan secara minimum. Sehingga hari ini, One Mont Kiara merupakan satu-satunya pembangunan yang berjaya menubuhkan perbadanan pengurusan subsidiari di Malaysia. Oleh itu, ini meningkatkan jurang kajian tentang kepentingan penubuhan perbadanan pengurusan subsidiari ke atas pembangunan berstrata dan keberkesanannya dalam menyelesaikan isu pengurusan. Punca kekurangan penubuhan perbadanan pengurusan subsidiari yang ditubuhkan dikaitkan dengan kesukaran untuk mendapatkan ketetapan komprehensif dan kekurangan dana dalam akaun penyenggaraan. Namun begitu, penubuhan sebuah perbadanan pengurusan subsidiari adalah penting untuk pembangunan bersepadu, bagi menentukan dengan jelas sempadan harta bersama terhad supaya pemilik boleh mendapat manfaat eksklusif ke atasnya. Oleh itu, objektif kajian ini adalah untuk mengkaji kepentingan pembentukan perbadanan pengurusan subsidiari; menilai penambahbaikan yang sesuai untuk pembangunan strata; dan merangka kerangka kerja yang dicadangankan bagi perbadanan pengurusan subsidiari dalam menguruskan harta bersama terhad. Kajian ini menggunakan kajian teori dan empirikal. Kajian teori menilai manfaat perbadanan pengurusan subsidiari dan mengenal pasti isu-isu yang menghalang pembentukan perbadanan pengurusan subsidiari; sebaliknya, metodologi dalam kajian empirikal menggunakan kaedah campuran berurutan. Idea daripada pihak berkuasa dan pakar berkaitan pertama kali diperoleh untuk data kuantitatif. Ini diikuti dengan menggumpul data kualitatif, yang terdiri daripada pihak berkuasa berkaitan yang berpengalaman dalam membentuk dan mengurus perbadanan pengurusan subsidiari telah ditemu bual. Hasilnya, dapatan kuantitatif dan kualitatif telah disepadukan dan dijelaskan oleh prinsip Ostrom di bawah Teori Kepemilikan Bersama. Keputusan menunjukkan bahawa perbadanan pengurusan subsidiari berjaya mengatasi masalah pengurusan dalam pembangunan bersepadu dengan ketara, dan Teori Aksi Kolektif boleh membantu menggalakkan pembentukan perbadanan pengurusan subsidiari. Beberapa penambahbaikan telah dicadangkan dalam bidang perundangan, peraturan, institusi dan pentadbiran, isu yang berkaitan dengan perbadanan pengurusan subsidiari, serta penambahbaikan kepada pembangunan berstrata. Kesimpulannya, kajian ini penting dalam mencadangkan kerangka bagi penubuhan dan pengurusan jangka panjang perbadanan pengurusan subsidiari dan menyediakan sistem perbadanan pengurusan dua peringkat.

TABLE OF CONTENTS

TITLE

DECI	LARATION	iii
DEDI	CATION	iv
ACK	NOWLEDGEMENT	v
ABST	TRACT	vi
ABST	TRAK	vii
TABI	LE OF CONTENTS	viii
LIST	OF TABLES	xiv
LIST	OF FIGURES	xvii
LIST	OF ABBREVIATIONS	xix
LIST	OF SYMBOLS	XX
LIST	OF APPENDICES	xxi
CHAPTER 1	INTRODUCTION	1
	1.1 Background of Study	1
	1.2 Problem Statement	8
	1.3 Research Aim	13
	1.4 Research Question	13
	1.5 Objective of The Research	14
	1.6 Scope of Study	14
	1.7 Significance of the Research	15
	1.8 Research contribution	16
	1.9 Structure of Study	16
CHAPTER 2	STRATA PROPERTY	19
	2.1 Introduction	19
	2.2 Strata Development	19
	2.2.1 Strata Title and Ownership	20

2.2.2 Strata Property Right 23

	2.2.3	Strata Legislation	24
	2.2.4	Boundary	25
	2.2.5	Roles of Licensed Land Surveyor	26
	2.2.6	Integrated Development	27
2.3	Strata	Management	28
	2.3.1	Management Period	30
	2.3.2	Good Management Practice for Strata Property	32
	2.3.3	Management Body	34
	2.3.4	Joint Management Body	37
	2.3.5	Management Corporation	37
	2.3.6	Common Property	39
	2.3.7	Subsidiary Management Corporation	41
	2.3.8	Limited Common Property	42
	2.3.9	Comprehensive Resolution	44
2.4	Cor	ation of Subsidiary Management poration in Managing Limited Common perty	44
2.5		w of Subsidiary Management Corporation Limited Common Property	45
2.6		tages and Disadvantages of Subsidiary nagement Corporation	48
2.7		Development that Suitable to Form sidiary Management Corporation	49
2.8		liary Management Corporation and Limited nmon Property in Singapore	50
2.9	-	arison of the Subsidiary Management poration in Singapore and Malaysia	52
	2.9.1	Similarities of Subsidiary Management Corporation in Singapore and Malaysia	52
	2.9.2	Differences of Subsidiary Management Corporation in Singapore and Malaysia	53
2.10)Theori	es Used in the Research	54
	2.10.1	Collective Action Theory	55
	2.10.2	Common Pool Resource Theory	57
2.1	l Summ	ary	59

CHAPTER 3	RE	SEAR	CH MET	HODOLOGY	61
	3.1	Introd	uction		61
	3.2	Metho	dology Fl	ow Chart	63
	3.3	Metho	dology Fr	amework	66
		3.3.1	Research	Approach	66
	3.4	Resear	rch Strateg	² y	67
		3.4.1	Methodo	logical Choice	68
		3.4.2	First Qua	antitative Phase	68
		3.4.3	Second (Quantitative Phase	70
			3.4.3.1	Population, Sampling and Size	75
			3.4.3.2	Data Collection Method	76
			3.4.3.3	Analysis Method for Second Quantitative Phase	78
		3.4.4	Qualitati	ve Phase	79
		3.4.5	Integratio	on Phase	80
	3.5	Techn	ique of Ar	alysis to Achieve Objectives	81
	3.6	Summ	ary		86
CHAPTER 4 ESTABLISHME				UDY - SIGNIFICANCE OF THE Y MANAGEMENT CORPORATION	87
	4.1	Backg	round		87
	4.2	Sig Sub	nificance sidiary N	Empirical Study – Analysis of the of the Establishment of the Management Corporation in the velopment	87
		4.2.1	2	of the Problems Faced by d Development	91
		4.2.2	Analysis Commor Developi		94
		4.2.3	Establish	of the Importance of the ment of Subsidiary Management ion for Limited Common Property	
					97
	4.3	Analy	sis of the I	Hypothesis	99

	4.3.1	Opinion of Respondents Towards the Important of the Establishment of Subsidiary Management Corporation	99
4.4	Esta	ablishment of Subsidiary Management poration	102
	4.4.1	Discussion on Social Rights or Community	102
	4.4.2	Discussion on Resources	104
	4.4.3	Discussion on Governance Features or Institution	105
	4.4.4	Discussion on Participant or User Groups	106
	4.4.5	Summary of the Collective Action Theory in the Integrated Development	107
4.5	Summ	ary	108

CHAPTER 5EMPIRICAL STUDY - THE ENHANCEMENT FORSTRATA DEVELOPMENT IN MALAYSIA109

5.1	Backg	round		109
5.2			Empirical Study – Analysis of the by Quantitative Phase	112
	5.2.1	Responde	ents' Details	112
	5.2.2	Cronbach	ı's Alpha	115
	5.2.3	Discussio	on of the Thematic Areas	116
		5.2.3.1	Strata Legislation	116
		5.2.3.2	Strata Regulation	125
		5.2.3.3	Institutional and Administrative	132
		5.2.3.4	Issues about Subsidiary Management Corporation	140
		5.2.3.5	Overall Enhancement for Strata Properties	145
	5.2.4	Cross Im	pact Matrix	151
	5.2.5	Summary	v of the Quantitative Analysis	157
5.3			Empirical Study – Analysis of the by Qualitative Analysis	158
	5.3.1	Coding o	f the Data from Respondents	160

		5.3.2 Opinion of Qualitative Analysis Respondents on Current Scenario of the Subsidiary Management Corporation	160
		5.3.3 Opinion of Qualitative Analysis Respondents on the Effective Enhancement for Subsidiary Management Corporation	169
		5.3.4 Summary of Qualitative Phase	181
	5.4	Integration Phase	183
	5.5	Case Study (Analyse the Features in Special Plan)	186
	5.6	Summary	188
CHAPTER 6 THE SUBSIDIA		IPIRICAL STUDY – PROPOSED FRAMEWORF MANAGEMENT CORPORATION	K OF 189
	6.1	Background	189
	6.2	Discussion on Before the Formation of Subsidiary Management Corporation	190
	6.3	Discussion on During the Formation of Subsidiary Management Corporation	200
	6.4	Discussion on After the Formation of Subsidiary Management Corporation	209
	6.5	Discussion on the Relationship of the Framework of the Sub-MC in Achieving the Research Objectives	218
	6.6	Framework for the Sustainable Formation of Subsidiary Management Corporation	219
	6.7	Framework for Two-tier Management Corporation System in the Integrated Development	226
	6.8	Summary	231
CHAPTER 7	CO	NCLUSION AND RECOMMENDATIONS	233
	7.1	Research Outcomes	233
	7.2	Research Objectives Achievement	233
		7.2.1 First Objective Achievement	234
		7.2.2 Second Objective Achievement	235

- 7.2.3 Third Objective Achievement 237
- 7.3 Contribution to Knowledge2387.4 Down in Line in the second s
 - 7.4 Research Limitations and Future Works 240

	a 1 '
15	Conclusion
1.5	Conclusion

REFERENCES		243
APPENDIX A	QUESTIONNAIRE SURVEY AND DATA COLI	LECTION
	OF FIRST QUANTITATIVE PHASE	262
APPENDIX B	QUESTIONNAIRE SURVEY AND DATA COLI	LECTION
	OF SECOND QUANTITATIVE PHASE	273
APPENDIX C	SPECIAL PLAN (CASE STUDY)	294
APPENDIX D	FINAL VALIDATION	304
LIST OF PUBL	ICATIONS	305

LIST OF PUBLICATIONS

241

LIST OF TABLES

TABLE NO.	TITLE	PAGE
Table 2.1	Review of Subsidiary Management Corporation and Limited Common Property	46
Table 2.2	Advantages and Disadvantages of Subsidiary Management Corporation	48
Table 2.3	Differences of Subsidiary Management Corporation and Limited Common Property in Singapore and Malaysia	53
Table 2.4	Benchmark the Collective Action in Strata Property of Other Countries	56
Table 2.5	Ostrom's Principles in Strata Management	58
Table 3.1	Content Validation in Second Quantitative Phase	70
Table 3.2	Discussion of Thematic Areas and Indicators	74
Table 3.3	Size of Respondents	76
Table 3.4	Qualitative Phase Respondents Details	80
Table 4.1	Respondents' Background	88
Table 4.2	Frequency of Common Properties in Integrated Development	91
Table 4.3	Problems in Integrated Development	92
Table 4.4	Other Problems in Integrated Development	93
Table 4.5	Analyse the Importance of the Establishment of Limited Common Property	95
Table 4.6	Opinion of Respondents on the Suitability to Establish Limited Common Property in Integrated Development	96
Table 4.7	Analyse the Important of the Establishment of Subsidiary Management Corporation	97
Table 4.8	Analyse the Important of Subsidiary Management Corporation in Integrated Development	98
Table 4.9	Cross Tabulation Between the Judgement of Owners and Residents about Limited Common Property and Important to Establish Subsidiary Management Corporation	100
Table 4.10	Chi-Square Test between Two Variables	101

Table 5.1	Thematic Area and Indicator of this Empirical Study	110
Table 5.2	Results of the Cronbach's Alpha for the Thematic Area of Empirical Study	115
Table 5.3	The Sufficiency of Strata Legislation	117
Table 5.4	Strata Legislation Requires Enhancement	118
Table 5.5	Items in the Indicators of Strata Legislation	119
Table 5.6	Chi-Square Test between Variables of Indicator in Strata Legislation	121
Table 5.7	Procedure of the Formation of Subsidiary Management Corporation	125
Table 5.8	Items in the Indicators of Strata Regulation	127
Table 5.9	Chi-Square Test of the Variables of Indicator in the Strata Regulation	128
Table 5.10	Significant of Subsidiary Management Corporation	133
Table 5.11	Items in the indicators of Institutional and Administrative	134
Table 5.12	Chi-Square Test of Variables of the Indicator in Institutional and Administrative	134
Table 5.13	Advantages of the Formation of Subsidiary Management Corporation	136
Table 5.14	Disadvantages of the Formation of Subsidiary Management Corporation	137
Table 5.15	Reason for the Low Establishment of Subsidiary Management Corporation	138
Table 5.16	Enhancement for the Formation of Subsidiary Management Corporation	140
Table 5.17	Items in the Indicators of Issues about Subsidiary Management Corporation	141
Table 5.18	Chi-Square Test of Variables for Indicator of Engage Professional Bodies related to the Sub-MC and Indicator of Obstacles and Problems to form Sub-MC	142
Table 5.19	Items in the Indicators of Overall Enhancement for Strata Properties	146
Table 5.20	Chi-Square Test of Variables for Indicator of Effective Enhancement towards Subsidiary Management Corporation	146

Table 5.21	Enhancement for Strata Properties that Suggested by Stratified Properties Professionals About the Suitable Period of the Formation of Subsidiary Management Corporation	148
Table 5.22	Enhancement for Strata Properties that Suggested by Stratified Properties Professionals About the Responsibilities of Certain Authorities	149
Table 5.23	Enhancement for Strata Properties that Suggested by Stratified Properties Professionals About the Collaboration of the Power of Certain Authorities	151
Table 5.24	Results of the Cross Impact Matrix for the Thematic Area of Empirical Study	152
Table 5.25	The Coding of the Respondents in Qualitative Phase	160
Table 5.26	Development that is Suitable to Establish Subsidiary Management Corporation	166
Table 5.27	Suitable Period to Form the Subsidiary Management Corporation	178
Table 5.28	Enhancement for the Subsidiary Management Corporation in Integration Phase	184
Table 6.1	The Assist of the Collective Action Theory	197
Table 6.2	Enhancement of the Formation of Subsidiary Management Corporation in Five Thematic Areas	204
Table 6.3	Involvement of the Common Pool Resource Theory to Succeed the Formation of Subsidiary Management Corporation	208
Table 6.4	Enhancements for the Management of Subsidiary Management Corporation	213
Table 6.5	Common Pool Resource Theory in Assisting the Management of Subsidiary Management Corporation	216
Table 6.6	Benefit of the Formation of the Subsidiary Management Corporation	221
Table 6.7	Overcome the Management Problems, Managing of Commons in the Integrated Development	229
Table 7.1	Validation of the Framework for Subsidiary Management Corporation	240

LIST OF FIGURES

FIGURE NO	. TITLE	PAGE
Figure 1.1	The Amendment of Strata Title Act 1985 until Year 2013	3
Figure 1.2	Research Problem	12
Figure 2.1	Scope of Strata Development	28
Figure 2.2	Application Procedure of Sub-MC	45
Figure 2.3	Theories Used in This Research	54
Figure 3.1	Methodology Flow Chart	64
Figure 3.2	Empirical Study Framework	65
Figure 3.3	Workflow for Second Quantitative Phase	77
Figure 3.4	Analyse the Results of the Qualitative Phase	83
Figure 3.5	Research Design to Achieve Second Objective	83
Figure 3.6	Method to Achieve Second Objective	85
Figure 4.1	Position of Respondents	89
Figure 4.2	Usage of Integrated Development	90
Figure 4.3	Collective Action Theory in the Integrated Development	107
Figure 5.1	Mind Map for Five Thematic Areas	111
Figure 5.2	Respondents' Organisation	113
Figure 5.3	Respondents' Occupation	114
Figure 5.4	Respondents' Years of Experience	114
Figure 5.5	SWOT Analysis for the Current Strata Legislation	124
Figure 5.6	SWOT Analysis for the Current Strata Regulation	132
Figure 5.7	SWOT Analysis for Current Institutional and Administrative	139
Figure 5.8	Scenario Suitable to form Subsidiary Management Corporation in Malaysia	143
Figure 5.9	SWOT analysis for Issues about Subsidiary Management Corporation	144

Figure 5.10	SWOT Analysis for Overall Enhancement for Strata Properties	147
Figure 5.11	Advantages and Disadvantages of Sub-MC	163
Figure 5.12	Problems and Difficulties during and after the Formation of Sub-MC	165
Figure 5.13	Impact to the Owners and Committee Member of Forming the Sub-MC	168
Figure 5.14	Enhancement in Strata Legislation	170
Figure 5.15	Enhancement in Strata Regulation	172
Figure 5.16	Enhancement in Institutional and Administrative	174
Figure 5.17	Enhancement for the Issue about Sub-MC	175
Figure 5.18	Enhancement for the Management of the Sub-MC	177
Figure 5.19	Enhancement in the Responsibilities of Relevant Authorities	180
Figure 5.20	SWOT analysis for the Case Study (Current Scenario for Integrated Development)	187
Figure 6.1	Framework of Before the Formation of Subsidiary Management Corporation	196
Figure 6.2	Framework of During the Formation of Subsidiary Management Corporation	203
Figure 6.3	Framework for the after the Formation of Subsidiary Management Corporation	212
Figure 6.4	Framework for the Sustainable Formation of the Subsidiary Management Corporation	224
Figure 6.5	Framework for the Sustainable Management of the Subsidiary Management Corporation	225
Figure 6.6	Better Management Framework for Two-tier Management Corporation System in the Integrated Development	228
Figure 6.7	Two-tier Management Scenario in the Integrated Development	230

LIST OF ABBREVIATIONS

AGM	Annual general meeting
BMSMA	Building Maintenance and Strata Management Act
COB	Commissioner of Buildings
CPR	Common Pool Resource
CPSP	Certificate of proposed strata plan
CVI	Content validation index
DBKL	Kuala Lumpur City Hall
JKPTG	Director General of Lands and Mines
JMB	Joint Management Body
JUPEM	Department of Survey and Mapping Malaysia
КРКТ	Ministry of Housing and Local Government
LCP	Limited Common Property
LLS	Licensed land surveyor
MC	Management Corporation
PA (B)	Strata Certified Plan
PTG	Director of Lands and Mines Office
REHDA	Real estate and housing developers' association
SiFUS	Certificate of Share Unit Formula
SMT	Strata Management Tribunal
SOP	Standard operating procedure
SPSS	Statistical Software for the Social Sciences
SUB-JMB	Subsidiary joint management body
SUB-MC	Subsidiary Management Corporation
SWOT	Strength, Weakness, Opportunity and Threat

LIST OF SYMBOLS

H_0	Null Hypothesis
H_1	Alternative Hypothesis
Х	Times
X^2	Chi-Square Test
\cap	Intersection

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
Appendix A	Questionnaire Survey and Data Collection of First Quantitative Phase	262
Appendix B	Questionnaire Survey and Data Collection of Second Quantitative Phase	273
Appendix C	Special Plan (Case Study)	294
Appendix D	Final Validation	304

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Rapid development in Malaysia lead to the unsubstantial vacant land or land scarcity (Tan, 2013), particularly in the urban area. The ambition of maximising the benefits of the acquired land in the urban area cause rapid increment of price in an urban area and promote more high-rise residential (Tian, 2014; Ewing and Hamidi, 2015). High-rise development is more practical from the economic point of view (Tawil et al., 2010) and further clarified by Altmann (2014a), which implies the expansion of higher density living as an important scene for policymakers and emergent economies, in fulfilling the demand of property developments. The increasing demand in urban areas lead to the ubiquity and an increasing number of strata developments with the subdivision of property ownership in numerous countries (Christudason, 2008a; Tan and Looi, 2014) and promote strata developments with lower cost for ideal utilisation of land (Robinson, 1985). With this in mind, strata developments become very common in developed countries.

Across the globe, many individuals live or own strata title property (Altmann, 2014b). This is similar in Malaysia, which has managed to stand at par with many developed countries (Ibrahim Akoum, 2016), where strata property and affordable scheme keep on getting empowered trend of demand in Malaysia (Noorsidi, Eves and Mutalib, 2013). To put it plainly, the scenario of high-rise building is demanded and influences the price of a strata building in countries such as Australia, Singapore and Malaysia (Ammar, Ali and Yusof, 2012; Wahab et al., 2015). Nowadays, living in strata community is trendier in Malaysia, information from REHDA Institute (2018) shows more than 6 million of Malaysian, which amounting to over 20 per cent individuals are staying in strata properties, such as apartment, condominium or other high-rise property, and the residents of strata properties are relied upon to increase

constantly. As indicated by Rashidah et al. (2015), the high demand and rapid growth for high-rise stratified buildings is also influenced by the present lifestyle of the community, particularly in the first world city (Christudason, 2018). These scenarios happen due to most of the populace prefer their residential scheme is privately governed (Altmann, 2014a). In addition, another explanation of the popularity of the strata residential building is due to the practical proposition for economic, where facilities and amenities provided in the housing area and the proximity to the public utilities and workplace (Darul et al., 2018).

As referenced by Asiah and Azlinor (2013), a high-rise building will associate individuals with various interests, cultures, values, ages and background under a strata property. Therefore, the crowded residents in the high-rise building are likewise promoting the integrated development, such as the development of serviced apartment, retail, office and leisure under a strata property. Integrated development or mixed-use development is a larger scale and higher density strata development (Dredge and Coiacetto, 2011). All in all, it will be a better strategy to expand residential density through the development of compact mixed-use development or simple-mixed development (Christudason, 2004). Notwithstanding, it is more complex in managing the mixed-use development in light of the fact that various parties engaged in a strata scheme and need to assemble opinions from the owners, tenants, management committees, local authorities and stakeholders (Asiah et al., 2013).

A strata scheme is more unique contrasted with a landed property, particularly when management period after property being occupied (Che et al., 2008), due to management is required for strata property since the strata property is furnished with the integrated facilities (Rashidah et al, 2015). This phenomenon prompted the growth of the property management profession (Lawrence and Lam, 1999), because strata management professionals could provide superior governance of the strata scheme for property owners (Enoma, 2005). Subsequently, building specialists are getting higher demand because of the rapid development of multi-owned residential buildings (Gao, 2015). In the interim, better governance requires the contribution of the residents in strata management to improve the quality and the sustainability of the strata development (Ogungbile and Oke, 2015). In addition, the majority of the multipossession properties were regulated by rules for management practices and responsibilities. This is described under Ostrom's principle, a collective choice arrangement, where the influenced parties can participate to modify the rules. In addition, some legal frameworks can likewise be created to promote the satisfaction of community living (Sherry, 2009), therefore, more researches for legal framework are important for strata property.

The jurisdiction of strata legislation in Malaysia was based on legislation in Australia (Altmann, 2014b). Be that as it may, strata legislation has to update occasionally, to guarantee better strata living (Izanda, Samsudin and Zainuddin, 2020). For the law of strata development in Malaysia, the strata title was first initiated under National Land Code 1965 (Act 56) as subsidiary titles in Peninsular Malaysia. However, the National Land Code 1965 (Act 56) has the limited provision in conveyancing the strata titles property (Hussain, 1999), follow by swift growth in Malaysia, give impetus to the Strata Titles Act 1985 (Act 318) to be introduced to guarantee the property rights. As a result, it is better in dealing with strata property issues after the existence of the Strata Titles Act 1985 (Che et al., 2008).

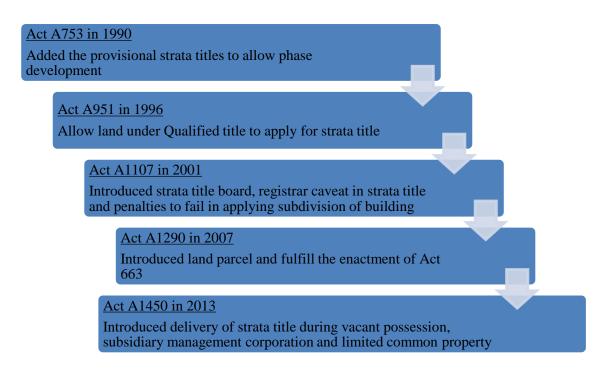


Figure 1.1 The Amendment of Strata Title Act 1985 until Year 2013

Precisely, there are few amendments of Strata Titles Act 1985 (Act 318), respectively under the Act A753 in 1990, Act A951 in 1996, Act A1107 in 2001, Act A1290 in 2007, Act A1450 and ultimately Act A1518 in 2016. The details of amendment of Strata Titles Act 1985 are shown in Figure 1.1, started in year 1990 under Act A753 until 2013 under Act A1450. The amendment of 2007 come into new era, where the revision of Strata Titles Act 1985 (Act 318) is under Act A1290 demonstrated the strata property introduces land parcel, by allowing the strata titles issue to the alienated land in strata scheme which has more than two buildings and less than four storeys building (excluded basement car park). The Act A1290 was amended alongside with the enactment of the Building and Common Property (Maintenance and Management) Act 2007 (Act 663), where there was the commencement of the self-governance by the Joint Management Body or Management Corporation (Shukri and Maidin, 2010).

Nevertheless, Act 663 was abolished and supplanted upon the introduction of Strata Management Act 2013 (Act 757) in 2013, this Act 757 legislation emphasised the right and restriction of strata title property's ownership, as well as strengthens the practice of strata management in terms of rule, regulation and implementation (Zan et al., 2018). In this way, the amendment of the Strata Titles Act 1985 (Act 318) aims to fulfill the prerequisite of the Strata Management Act 2013 (Act 757) and lead to new breath of strata building development, which is named as Strata Titles (Amendment) Act 2013 (Act A1450). The Act A1450 initiated the subsidiary management corporation to manage the limited common property which helps to conquer the unfair management, so that the parcel owners do not need to pay the management fee for common properties which are not enjoyed by them. The Strata Titles Act 1985 (Act 318) was amended recently under the Strata Titles (Amendment) Act 2016 (Act A1518), which introduced the parcel rent and land acquisition on strata scheme. This amendment assists with guaranteed rent of parcel is capable of each proprietor, which help to conquer the arrears for rent that will only affect the respective parcel and it will not influence the entire operation of the management corporation.

As a result, the major enhancements were in 2013, where the major transforms towards the strata legislation, to help the strata property in delivering the strata titles

during the vacant possession. Moreover, the initial strata legislation [(Strata Titles Act 1985 (Act 318)] was no express provision to govern matter for disputes (Asiah et al., 2013). Aforementioned, the Strata Management Act 2013 (Act 757) was gazetted on 8th February 2013 to conjunct with the provision of Act A1450 (Tan et al., 2016). Therefore, the improvement of the provision in the Strata Management Act 2013 (Act 757) shall be applied by the management body (Wahab et al., 2015). More provisions in the Malaysia strata acts endeavour to seek solutions, best practices, and proper governance of the strata property (Azmin, 2006). Therefore, the establishment of the Strata Management Tribunal is to supplant Strata Titles Board as a conflict resolution mechanism for strata property in ensuring the quality of living in strata property (Tawil et al., 2009a). For the current practice, two main government agencies that are in charge of monitoring strata schemes in Peninsular Malaysia and Federal Territory of Labuan are the Commissioner of Buildings (COB) and Strata Management Tribunal (SMT) (Wong, 2019). Whenever related to settle disputes concerning the strata management, the power was given to Strata Management Tribunal (SMT) to make decision to resolve any disputes (Strata Management Act 2013 (Act 757) & Regulations, 2015). Commissioner of Buildings (COB) has the power of monitoring, while Strata Management Tribunal (SMT) acts as the conflict resolution mechanism.

New legislations aim to improve the sustainability of a building, particularly for high-rise building to be widely developed in Malaysia (Zainal, Maizam and Azuin, 2015). Strata Titles Act 1985 (Act 318) caters for multi-storey buildings (Asiah et al., 2013), which also included common property in such buildings. Furthermore, the operation of the building becomes more efficient if initial construction with better planning by taking into consideration the lifetime cost and sustainability of property (Noorsidi et al., 2013), which additionally incorporates the operation of strata title is just for the individual parcel, while management corporation holds the ownership of common property. Individual rights for strata property consist of rights in the unit and common property are equally significant on the grounds that these common properties can be enjoyed exclusively by owners (Yiu, Wong and Yau, 2006). However, these different interests required the govern by the statutory system

to avoid dispute problems of ownership and it could unravel some management troubles in strata title development (Walters and Kent, 2000). This scenario could be enhanced under one of the Ostrom's principle graduated sanctions, which emphasises the punishment for the individual who offence the regulation.

The strata legislation also introduces management bodies liable for the management of the strata scheme and they shall follow the duties and powers under strata legislation (Robinson, 1985). Under the strata legislation, the management body could appoint a managing agent to conduct property management of the strata scheme in a strategic way (Yiu et al., 2006). Along these lines, it is essential to decide the appropriate legislation for the management of the strata scheme to support the building in a good environment (Christudason, 2008b; Au-Yong et al., 2018) and the management body could ensure it carries out legal responsibilities and duties for manage common property accurately (Zainal et al., 2015).

For current strata development in Malaysia, all strata schemes will be managed by a developer for not more than twelve months after vacant possession. After the developer management period, the developer must call for the establishment of a Joint Management Body (JMB) or Management Corporation (MC), depending on whether strata titles are issued or not. Upon acquired the strata titles, it is the obligation of the developer or JMB to compulsory the establishment of the MC for the strata scheme, which consists of all the parcel proprietors (Strata Titles Act 1985 (Act 318), Rules & Orders, 2018). Meanwhile, the Strata Management Act 2013 (Act 757) stated MC should be established upon the one-quarter (25%) of the aggregate share units have been transferred and strata titles were issued. In addition, the committee member of MC consists of at least three and not in excess of fourteen members and are elected in the first annual general meeting held by either developer or JMB (Strata Management Act 2013 (Act 757) & Regulation, 2015). Under the strata legislation, the MC should regulate and manage all amenities known as common property in a strata scheme (Che et al., 2010; Walters et al., 2000). All the maintenance account and sinking fund account, records, maintenance and management of common properties should be administered by the MC (Tawil et al., 2012). Relating to common property, all the common properties will benefit strata unit owners in common (Tan et al., 2016).

Accordingly, owners are not permitted to isolate their interests in the common property or common assets from their parcels.

Another changes in strata legislation in the year 2013 introduced another management body, which is subsidiary management corporation (Sub-MC) may be designated by the management corporation to manage the limited common property (LCP) (Tan et al., 2016). In accordance to Section 17A of the Strata Titles Act 1985 (Act 318), the boundaries and areas of limited common property shall be described and identified in the special plan prepared by the appointed licensed land surveyor. In addition, the limited common property is functioned like the common property in the strata scheme, but it will be benefited by specified proprietors only, and not for all proprietors. The determination of the limited common properties (LCP) is critical and helps to identify the rights for specific owners who have rights and exclusive benefits on the respective LCP. Meanwhile, it is more pleasant if the owners of strata units, not needed to pay the maintenance charges of the common properties, that are not benefited by them. However, the formation of a subsidiary management corporation (Sub-MC) is discretionary, which relies upon all the existence of common properties that are just enjoyable by certain strata unit owners but not all owners (REHDA Institute, 2018). It also depends on the willingness of MC to establish Sub-MC, with the condition that to obtain consents of parcel owners to pass the comprehensive resolution in the general meeting of the MC. Therefore, it raises the question to this research on whether the Sub-MC formation could benefit all the strata scheme or not?

Integrated development that with various types of common property requires a more structured and effective process of managing the common property (Ogungbile et al., 2015). Hence, formation of Sub-MC and designation of limited common property may benefit all parties in the integrated development, which is fairer in determining the maintenance charges and right of owners. Since formation of Sub-MC dependable on the consents of owners, Ostrom's principles were conducive and suitable for the collective action of the proprietors (Gao and Ho, 2016), they are valuable for multi-possessed housing management in tackling the collective action problems, management issues, and tragedy of commons (Ho and Gao, 2013).

1.2 Problem Statement

Living in the strata property meaning the owner is sharing interests of the common property (Yau, 2011a). Nevertheless, there are few issues concerning common property in the strata scheme (Tawil et al., 2012), such as majority of the managing body does not acquaint with the rights of common property (Christudason, 2004); disputes may emerge due to the different interests in common property is benefited by involved various owners (Teo, 2015); and also some issues regarding common properties did not arouse attention by the management body (Ho and Gao, 2013). These management problems in the usage of common properties are more severe in the integrated development for strata property due to more parties sharing the facilities (Zainal et al., 2015), where some common properties just capable and enjoyable by certain owners only. Nevertheless, these problems shall be solved by setting restrictions for the enjoyment of those common property or facility (Rashidah et al., 2016) to improve the management of the common properties and also protect the rights of parcel owners.

Management structure will be intricate for integrated development and strain relationship occurs between different usage of strata owners (Easthope and Randolph, 2016). The diverse group of owners would have different interests, for example inclination occur for commercial units with larger areas or usages compare to residential units (Christudason, 2009), which lead to unfair management and usage in common property. Someone may overuse the common properties (Ho et al., 2013) or someone did not have exclusive enjoyment or not fully use the facilities (Che et al., 2008). Subsequently, these unfair situations shall have a conflict resolution mechanism under Ostrom's principle to guarantee mutual benefit and a win-win situation in the integrated development. One of the solutions is to form the subsidiary management corporation to manage these special common properties, so call "the limited common property".

In Malaysia, the strata legislation allows management corporation to establish subsidiary management corporation (Sub-MC) in managing the designated limited common property (LCP) (REHDA Institute, 2018). With the establishment of the Sub-MC, it can solve the issue of this unfair management, where only those owners who have an exclusive benefit on the limited common properties will pay the management fee. Nonetheless, the formation of the Sub-MC is optional (REHDA Institute, 2018) because it is dependable on the willingness of the MC and owners, with the need of collection action of the owners for decision making (Zhang, 2010), in overcoming the issue of owners do not benefit some of the common properties. Nevertheless, not all strata properties require to have two-tier management corporation and limit the usage of common property to certain owners as it were. With this, it raises the research question for this research, on whether the Sub-MC formation is important for all strata property, and will it benefit all the parcel proprietors?

Until today, there was only one strata scheme in Malaysia had formed Sub-MCs, reported by EdgeProp (2018), where the 1 Mont' Kiara mixed-use stratified development will set up the first Sub-MC in Malaysia with a sum of three Sub-MCs are proposed to be established. In April 2019, EdgeProp (2019) revealed that, 1 Mont' Kiara development was the first stratified property to obtain their certificate of establishment of the Sub-MCs from the State Director of Land and Mines. Despite the fact Strata Titles Act 1985 (Act 318) and Strata Management Act 2013 (Act 757) introduced the Sub-MC formation to manage the limited common property since 2013, however, the formation of Sub-MC is still less to be implemented by the stratified property, although it is so important particularly for the integrated development or mixed-use development.

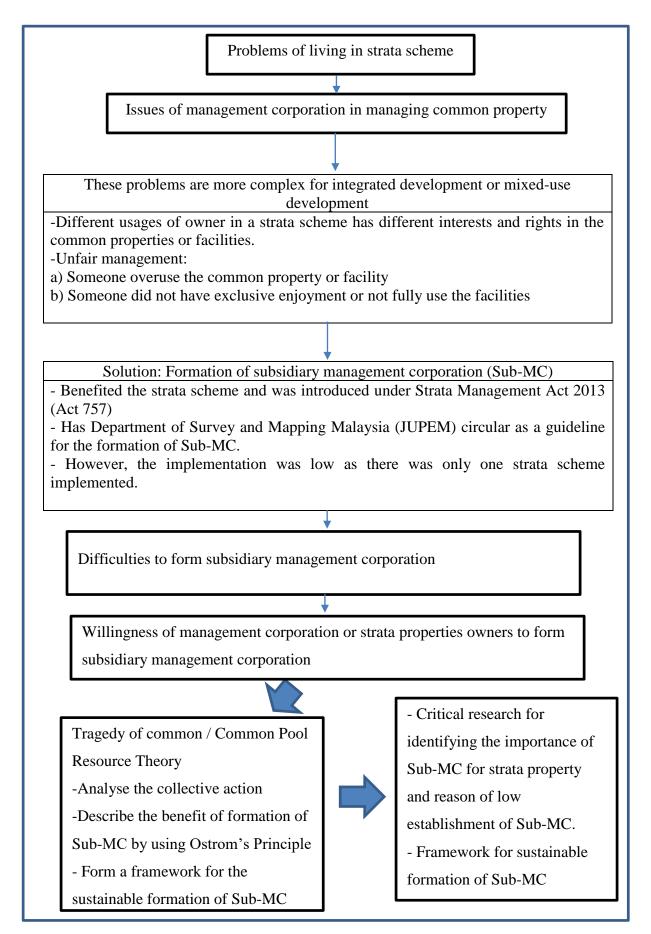
The less execution might due to the challenges to form Sub-MC (Yati, 2017), where the requirement to obtain a comprehensive resolution under the Strata Management Act 2013 (Act 757) is difficult to accomplish, due to all the owners who are consent to form Sub-MC must have at least two-third (2/3) of aggregate share units. Second, Survey and Mapping Director General Circular (PKPUP), Ref.1, (2017) necessitate management corporation to appoint licensed land surveyor to prepare the special plan in the designation of the limited common property, which require budget and time. Another factor of low implementation is the eagerness of the management corporation (MC) to form Sub-MC. These necessities that hard to be accomplished

might hinder the formation of Sub-MC in Malaysia. However, these difficulties could be depicted under the principle of Common Pool Resource (CPR) Theory by the principle of nested enterprises, where a clear guideline could be the reference for empowering the establishment of Sub-MC. Hence, it is more rational to propose some enhancements to ensure the effectiveness of the formation of the Sub-MC for the strata property, so that the Sub-MC could be formed sustainably.

Upon the formation of the subsidiary management corporation, effective management of the entire strata scheme shall be emphasised. Some more, lack of understanding of the current legislations and insufficient legislation likewise cause the ineffective management of the strata property (Aziz et al., 2014). Since the majority of the high-rise building in integrated development are not effectively managed (Yusuf, Hussin and Azali, 2015), Sub-MC shall have a fairer outcome and better assurance of their rights to ensure exclusive benefit will be enjoyed by specific user groups (Christudason, 2009) with several Sub-MCs to be set up. Hence, it will be two-tier management system in the strata scheme, upon the set-up of the Sub-MC (Federal Lands and Mines Director General Circular (PKPTG), Ref 6/2014, 2014; Christudason, 2009). Without legitimate management, more complaints and disputes from unsatisfied owners may emerge (Darul et al., 2018). Subsequently, there is a research gap to this research, on any enhancements could be proposed for the better management framework for the Sub-MC?

Common Pool Resource Theory designed by Ostrom (1990) will be the best approach to deal with dissect the willingness of MC to form Sub-MC; the better management on the limited common property matters; describe the benefit of the Sub-MC formation, which could assist to develop the framework of the sustainable formation and management of the subsidiary management corporation. Eight (8) principles of Ostrom's theory will describe the benefit to form Sub-MC and develop a framework for better management and governance of the residential building (Ling et al., 2014a) with two-tier management system. For instance, one of the principles clearly defining the boundaries helps to identify the rights in the limited common property. Strata property will isolate ownership into various units with common interests and rights and cause the tragedy of common (Buchanan and Yoon, 2000). The owner groups wish to exclude each other rights (Easthope et al., 2013, Heller, 1998), such as a Sub-MC prohibit other Sub-MC in a strata scheme, while the common properties are underutilised or not enjoyable by all owners (Buchanan et al., 2000). For the tragedy of common, proper institutional arrangement could decrease management problems, such as, to develop a common pool resource for the strata scheme (Ho et al., 2013), to prevent some common properties being overuse by a component's owners (Heller, 1998). Common pool resource theory helps a positive significant impact on strata management and help institutional management (Gao et al., 2016), therefore, this theory will be the reference to develop framework for the better management of the Sub-MC.

Integrated development could not escape from generating collective action problems, such as sharing the common property and management issues as well as the tragedy of commons, such as the common property being overuse by an owner group (Zhang, 2010). Henceforth, critical research should be carried out to identify problems and reasons for the low establishment of the Sub-MC as described in Figure 1.2. The first research question is investigating the willingness of owners to form Sub-MC. Meanwhile, enhancements for the management of Sub-MC is significant to ensure a better Sub-MC procedure and performance for strata management, which is the second research question in this research. Lastly, there ought to have a management framework and research for better strata property management (Gao et al., 2016) which is the third research question in this research.





1.3 Research Aim

This research is aimed to enhance the strata property governance in terms of legislation, regulation, and institutional by clearly define the better management of the strata buildings. The hypothesis is that - the formation of the subsidiary management corporation is effective in managing the limited common property and overcome the management issues in the integrated development.

1.4 Research Question

This research focusing on the enhancement could be made towards the strata scheme management, especially for the management corporation and subsidiary management corporation. Hence, some principal research questions based on this study include the following:

- i) For the current situation in Malaysia, does the establishment of subsidiary management corporation to manage limited common property is important for all strata scheme? Does the opinion of the owner and resident in integrated development is important to affect the establishment of the subsidiary management corporation?
- Any enhancement or improvement could be made towards the current practice of the strata scheme in Malaysia?
- iii) What might be implemented as a framework for subsidiary management corporation in managing the strata scheme?

1.5 Objective of The Research

The research objectives are:

- To investigate the importance of the establishment of subsidiary management corporation in managing limited common property for the strata scheme in Malaysia and overcome the management issues in integrated development.
- To evaluate the enhancement could be made towards the establishment and management of the subsidiary management corporation of the strata scheme in Malaysia.
- iii) To formulate the proposed framework of the subsidiary management corporation in managing strata scheme in Malaysia.

1.6 Scope of Study

The research area will be fundamentally on strata scheme management and method to manage the resources and facilities of common property as well as limited common property. Some management issues corresponding to subsidiary management corporation and limited common property will be discussed in this research. This research will be intended to include a framework in managing limited common property in a strata scheme as a guideline. The common pool resource (CPR) theory will be the main reference in developing a framework where one of the purpose in CPR is to configuration long-term cooperation which is suitable in managing the strata scheme and common property.

This research focus around the case study of some integrated developments or mixed-use developments. Some opinions of management corporation will also to be taken into consideration. A few issues related to the formation of subsidiary management corporation (Sub-MC) in managing limited common property (LCP) and managing period of Sub-MC will be discussed. This study has some objectives to find

out if any enhancement could be made on the strata scheme by developing a framework under Ostrom's principle and common pool resource (CPR) theory. This framework includes the sustainable formation of Sub-MC under better management of the strata scheme to encourage the formation of Sub-MC.

1.7 Significance of the Research

The land resource is getting less from day to day in Malaysia, therefore, strata development becomes more popular in Malaysia. The integrated development is one of the popular development in the urban area, in this case, it requires a long term relationship in managing the strata scheme. The integrated development could identify limited common properties (LCP), which only some owners of the strata scheme will enjoy it. Currently, the management corporation (MC) will manage the common property in a strata scheme for current strata property practice in Malaysia. However, MC was allowed to establish a Sub-MC and limited common property.

There is room for more critical researches in improving and restructuring the roles and responsibilities of MC and Sub-MC in managing the common property and limited common property respectively, whereas, currently Sub-MC established in Malaysia is still low in number. Therefore, this research is important to tackle the legal, organisational and lastly technical issues in enhancing the management of strata property.

15

1.8 Research contribution

This research could provide more understanding about the management of strata scheme and defines clearer roles and responsibilities of the respective bodies. More information could be added to the available literature relating to this research. This research has the main contribution in the following areas:

- To government, especially for State Land and Mines Office and Commissioner of Buildings (COB).
- ii) To developer, which including the handover procedure and building up their reputation.
- iii) To management body, such as a management corporation or subsidiary management corporation to have a clearer guideline on the management of the strata scheme.
- iv) To owners of strata unit, who have exclusive rights to the limited common property.
- v) To professional bodies, such as licensed land surveyor, property surveyor and Department of Survey and Mapping Malaysia.

1.9 Structure of Study

This study is divided into seven chapters. Chapter one is the introduction, which is the preliminary study of this research. This chapter will outline the basic of the study, which is presented and organised for the rest of this study. Meanwhile, the problem statement is presented, followed by research aim, research question as well as objective of the research. Chapter one also covers the scope of study, providing a clearer overview about this research. Lastly, the significance of the research and research contribution are also included in chapter one.

Chapter two will be the literature review, which is also the preliminary study of this research. There are two main areas in chapter two: strata titles and strata management for the strata property. Meanwhile, common pool resources theory is also included in this chapter, where it is the main idea to develop the framework of management for subsidiary management corporation in this study.

Chapter three is the research methodology. There are four main phases of research methodology in this research, which are first and second quantitative phases, qualitative phase and integration phase. This chapter also describes how each method in this study achieves the objectives of this research.

Chapter four will focus on the findings and results for quantitative phase of this study. The results of questionnaire collected from owners, residents and tenants in integrated development will be analysed using the method stated in chapter three and present in this chapter. Based on the primary data, that is the questionnaire survey, the data will be analysed using descriptive analysis to analyse the importance of the establishment of subsidiary management corporation for the strata scheme in Malaysia.

Chapter five is the results of the analysis of the questionnaire survey collected from government departments and professional bodies in the first phase. This phase will analyse the difficulties of forming subsidiary management corporation and enhancement of strata property as the sources for the qualitative phase. The next stage, which is qualitative phase, is the interview with experience authorities to obtain the results and findings, which provide an overview about the strata management and enhancement, especially for subsidiary management corporation in managing limited common property. This chapter has three main parts, which are results from quantitative phase, qualitative phase as well as integration phase. A sample of special plan of case study is discussed to address the difficulties in preparation the special plan.

Chapter six is the results of integration phase. In this chapter, a framework model will be formed using the Common Pool Resource Theory to analyse the benefit

of the formation of Sub-MC and form a framework for the sustainable formation of Sub-MC.

Chapter seven is the conclusion of the study, where the recommendation of the overall research will be discussed under this chapter. Finally, this chapter also provides some suggestions for further research to be carried out.

REFERENCES

Abend, G. (2008). The Meaning of 'Theory', Sociological Theory, 26(2): 173-199.

- Agrawal, A. (2001). Common Property Institutions and Sustainable Governance of Resources. World Development, Vol.29, No.10, pp 1649-1672.
- Altmann, E. (2014a). Apartments, Co-ownership and Sustainability: Implementation Barriers for Retrofitting the Built Environment, *Journal of Environmental Policy & Planning*, 16:4, 437-457.
- Altmann, E. (2014b). Industry Professionalisation of Strata Title Managers: What Are The Implications For Governance?, *Property Management*, Vol. 33 No. 2, 2015, 187-204.
- Altmann, E., Watson, P., Gabriel, M. (2018). Environmental Restriction in Multi-Owned Property. Multi-Owned Property in the Asia-Pacific Region, Palgrave Macmillan, London.
- Ammar, S. M. S., Ali, K. H. and Yusof, N. (2012). Effect of Residents' Participation in Management Works on Satisfaction in Multi-storey Housing, *Procedia -Social and Behavioral Sciences* 62, 837 – 843.
- Asiah, N. M. and Azlinor, S. (2013). Legal Development on Management of Strata Disputes in Peninsular Malaysia, *International Review of Management and Business Research*, June 2013, 2(2), 442-449.
- Asiah, N. M. (2015). An Exploratory Study of Strata Residential Properties Problems in Peninsular Malaysia and How They are Resolved, *Journal of the Korean Housing Association*, Vol. 26, No. 6, 53–60, 2015.
- Aspers, P. and Ugo, C. (2019). What is Qualitative in Qualitative Research, *Qualitative Sociology* (2019), 42:139–160.
- Au-Yong, C. P., Ali, A. S., and Ahmad, F. (2013). Office Building Maintenance: Cost Prediction Model. *Gradevinar*, 65(9), 803-809.
- Au-Yong, C. P., Ali, A. S., Chua, S. J. L. and Che-Ani, A. D. (2018). Maintenance Interval towards Different Facilities and Services in High-Rise Housing. *Journal of Design and Built Environment*, Special Issue (1) 2018, 54-61.

- Au-Yong, C. P., Ali, A. S. and Chua, S. J. L. (2019). Maintenance Priority in High-Rise Housings: Practitioners' Perspective Versus Actual Practice, *Journal of Engineering Research*, Vol. (2), June 2019, 167-177.
- Aziz, W. N. A. A., Haniff, N. R., Musa, Z. N., Aini, A. M., Sarip, A. G. and Zyed, Z. (2014). Vertical Living Phenomenon in Malaysia. FIG Congress 2014, Kuala Lumpur, Malaysia.
- Azmin N (2006). The Study of Problems Faced by Property Management in Managing the High Rise Condominium in Malaysia. Master's Thesis, Universiti Teknologi Malaysia, Malaysia.
- Bagdonavicius, V. B. and Nikulin M. S. (2011). Chi-Squared Goodness-of-Fit Test For Right Censored Data, *International Journal of Applied Mathematics & Statistics*, Int. J. Appl. Math. Stat.; Vol. 24; Issue No. SI-11A; 2011.
- Berkes, F. (1985). *The Common Property Resource Problem and the Creation of Limited Property Rights*, Human Ecology, Vol 13, No. 2, 1985. p187-208.
- Blakely, E. J. and Snyder, M. G. (1999). *Fortress America*, 2nd ed. (Washington, DC: The Brookings Institution).
- Blandy, S. (2010). Legal Frameworks for Multi-Owned Housing in England And Wales: Owners' Experiences. *Multi-Owned, Housing: Law, Power and Practice*, pp. 13–34.
- Buchanan, J. M. and Yoon, Y. J. (2000). Symmetric Tragedies: Commons and Anticommons, Journal of Law and Economics, Vol. 43, No. 1, Apr., 2000, 1-13.
- Building and Construction Authority, Singapore (2005). Strata Living in Singapore: A General Guide. Maxwell Road, Singapore: Building and Construction Authority, Singapore.
- Building Maintenance and Strata Management Act (Chapter 30C) (Act 47 of 2004) (2004). As at 31 July 2008. Singapore: Singapore Status Online. Retrieve from: https://sso.agc.gov.sg/Act/BMSMA2004
- Bugden, G. (2006). All about Strata and Building Management Statements and Building Management Committees. Retrieved from: http://www.bugdenallenlawyers.com.au/wp-content/uploads/2019/06/014-2006-BMS-Management-Paper.pdf
- Chao, K. (2008). A New Look at the Cross-Impact Matrix and its Application in Futures Studies, *Journal of Futures Studies*, May 2008, 12(4): 45 52.

- Charles, K. (2018). Distinguishing between Theory, Theoretical Framework, and Conceptual Framework: A Systematic Review of Lessons from the Field, *International Journal of Higher Education*, Vol. 7, No.6, 2018.
- Che, A. A. I., Tawil, M. N., Ahmad, N. A., Ramly, A. and Ishak, N. H. (2008). *Facility Management In Stratified Housing: Satisfaction Survey In Malaysia*. DBMC International Conference on Durability of Building Materials and Components, 11-14 May 2008. Istanbul, Turkey.
- Che, A. A. I., Tawil, M. N., Ahmad, N. A., Ramly, A. and Ishak, N. H. (2009). Sustainable Management of High-Rise Residential: A Gap Identification Among Stakeholders. Proceeding of the 4th IASME/WSEAS International Conference on Energy & Environment. pp: 103.
- Che, A. A. I., Tawil, M. N., Sairi, A., Abdullah, N. A. G., Tahir, M. M. and Surat, M. (2010). Facility Management Indicators for High-Rise Residential Property in Malaysia, WSEAS Transactions On Environment And Development, Issue 4, Volume 6, April 2010.
- Chen, T., Hui, E. C. M., Lang, W. and Tao, L. (2016). People, Recreational Facility and Physical Activity: New-Type Urbanization Planning for The Healthy Communities in China. *Habitat International*, 58, 12-22.
- Chong, A. K. W., Mohammed, A. H. and Abdullah, M. N. (2016a). Factors for Maintenance Priority in Malaysian University. *Sains Humanika*, 8(4-3), 1-5.
- Chong, A. K. W.; Mohammed, A.H. and Abdullah, M.N. (2016b), A Review of Maintenance Priority Setting Methods. *International Journal of Real Estate Studies*, 10 (2), 1-9
- Chong, A. K. W., Mohammed, A.H., Abdullah, M.N. and Rahman, M.S.A. (2019), Maintenance Prioritization – A Review on Factors and Methods, *Journal of Facilities Management*, Vol. 17 No. 1, pp. 18-39.
- Chris, T. (2015). *Owner's Manual & Guidebook*. Kuala Lumpur, Malaysia: Catizens Sdn Bhd.
- Christudason, A. (2004). Common Property in Strata Titled Developments In Singapore Common Misconceptions, *Property Management*, Vol. 22 No. 1, 2004, pp. 14-28.
- Christudason, A. (2007). Defects in Common Property Of Strata Developments In Singapore Representative Actions Against Developers, *Structural Survey*, Vol. 25 No. 3/4, 2007, pp. 306-318.

- Christudason, A. (2008a). Legislation Affecting Common Property Management in Singapore, *Property Management*, 26(3), 207-219.
- Christudason, A. (2008b). Choice of Property Management System for Residential Strata Developments in Singapore, *Property Management*, Vol. 26 No. 2, 2008, pp. 97-111.
- Christudason, A. (2009). Property Rights: Achieving A Fine Balance in Collective Sales of Strata Developments in Singapore, *International Journal of Law in the Built Environment*. Vol. 1 Issue: 1, pp.26-41.
- Christudason, A. (2010). Legal Framework For Collective Sale of Real Estate in Singapore: Pot Of Gold For Investors?, *Journal of Property Investment and Finance* 28(2) 109–122.
- Christudason, A. (2018). Termination Legislation: Property Rights or Wrongs?. Multi-Owned Property in the Asia-Pacific Region. Palgrave Macmillan, London.
- Colen, I. F. and Brito, J. D. (2003). *Methodology for Proactive Maintenance of Current Buildings*, XXX IAHS 31 World Congress on Housing Process & Product June 23-27, 2003, Montreal, Canada.
- Colen, I. F. and Brito, J. D. (2010). A Systematic Approach for Maintenance Budgeting of Buildings Facades Based on Predictive and Preventive Strategies. *Construction and Building Materials*, 24(9): 1718-1729.
- Cooper, J. (2015). Sustainable Building Maintenance Within Social Housing (Ph.D. thesis). University of Greenwich, January 2015.
- Creswell, J.W. (2009). Research Design: Qualitative, Quanitative, and Mixed Methods Approaches (3rd ed.). SAGE Publications, Lincoln: University of Nebraska.
- Dale, P. F. and McLaughlin, J. D. (1988). Land Information Management. (1st ed.). Clarendon Press, Oxford: Oxford University Press New York.
- Dale, P. F. and McLaughlin, J. D. (1999). Land Administration Systems. (1st ed.). Clarendon Press, Oxford: Oxford University Press New York.
- Darul, N. A., Rozana, Z., Eeydzah, A., Redzuan, A., Jam, S. K. and Shaza, R. S. (2018). An Outlook On Strategic Framework Development Needs of Roles and Involvement of Joint Property Management in High Rise Green Buildings in Malaysia, *Chemical Engineering Transactions*, 63, 427-432.

- Delice, A. (2010). The Sampling Issues in Quantitative Research, *Educational Sciences: Theory and Practice 10 (4) Autumn 2010. 2001-2018.* Retrieved from: http://files.eric.ed.gov/fulltext/EJ919871.pdf
- Detmar, S. W. (1990). "Effective Is Security: An Empirical Study," Information Systems Research, 1, 3, (1990), 255-276.
- Douglas, C. H. (2017). Anti-Social Behaviour, Explusion from Condominium, and the Reconstruction of Ownership. Osgoode Hall Law Journal, Vol. 54, Issue 1, 2017.
- Dredge, D. and Coiacetto, E. (2011). Strata Title: Towards a Research Agenda for Informed Planning Practice, *Planning Practice and Research*, 26:4, 417-433.
- Easthope, H., Hudson, S. and Randolph, B. (2013). Urban Renewal and Strata Scheme Termination: Balancing Communal Management And Individual Property Rights, *Environment and Planning A* 2013, volume 45, pages 1421 – 1435.
- Easthope H. and Randolph B (2016). Principal–Agent Problems in Multi-Unit Developments: The Impact of Developer Actions On The On-Going Management of Strata Titled Properties. *Environment and Planning A*, 0(0) 1–19.
- Easthope H. and Randolph B. (2018). *Collective Responsibility in Strata Apartments*. Multi-Owned Property in the Asia-Pacific Region. Palgrave Macmillan, London.
- EdgeProp. (2018, February 17). First Sub-MC in Malaysia to be Formed. Retrieved from https://www.edgeprop.my/content/1285237/first-sub-mc-malaysia-be-formed.
- EdgeProp. (2019, April 13). First Sub-MC Ready Soon. Retrieved from https://www.edgeprop.my/content/1511693/first-sub-mc-ready-soon.
- EdgeProp. (2021, October 01). High Court Rules Error of Law as 1 Mont' Kiara dan Kiara 2 MC Imposed Different Rates of Charges on Owners. Retrieved from: https://www.edgeprop.my/content/1900091/high-court-rules-error-law-1mont%E2%80%99kiara-dan-kiara-2-mc-imposed-different-rates-chargesowners?wref=edgemarkets
- Enoma, A (2005). The Role of Facilities Management at The Design Stage. In: Khosrowshahi, F (Ed.), 21st Annual ARCOM Conference, 7-9 September 2005, SOAS, University of London. Association of Researchers in Construction Management, Vol. 1, 421-430.

- Erlingsson, C. and Brysiewicz, P. (2017). A Hands-On Guide to Doing Content Analysis, *African Journal of Emergency Medicine* 7 (2017), 93-99.
- Eti, M. C., Ogaji, S. O. T. and Probert, S. D. (2006). Development and Implementation of Preventive-Maintenance Practices in Nigerian Industries. *Applied Energy*, 83(10), 1163-1179.
- Ewing, R. and Hamidi, S. (2015). Compactness Versus Sprawl: A Review of Recent Evidence from the United States. J. Plann. Lit.
- Federal Lands and Mines Director General Circular (PKPTG), Ref 6/2014. (2014).
 Penubuhan Perbadanan Pengurusan Subsidiari. As at 29 October 2014.
 Putrajaya, Malaysia: Department of Director General of Lands and Mines Malaysia, Ministry of Water, Land and Natural Resources.
- Federation Internationale de Geometres (1995). FIG Statement on the Cadastre, FIG
 Technical Report Publication 11, Federation Internationale des Geometres,
 Commission 7 (Cadastre and Land Management). Canberra, Australia: FIG.
- Finch E. and Zhang X. (2013). Facilities Management. In: Yao R. (eds) Design and Management of Sustainable Built Environments. Springer, London.
- Forster, A. M. and Kayan, B. (2009). Maintenance for Historic Buildings: A Current Perspective. *Structural Survey*, 27(3): 210-229.
- Gabriel, Hoh Teck Ling (2019). Ostromian Collective-Action in Neighbourhood Residential Public Open Space (NPOS) for Sustainable Community: Evidence Sabah, Malaysia, *Institutions and Economies*, Vol. 11, No. 4, October 2019, pp. 103-134.
- Gabriel, H. T. L., Ho, C. S. and Tsau, K.Y. (2019a). Interrelationship between Public Open Space, Common Pool Resources, Publicness Levels and Commons Dilemmas: A Different Perspective in Urban Planning, *International Journal* of Built Environment and Sustainability, 6(2)/2019, 13-21
- Gabriel, H. T. L., Leng, P.C. and Ho, C. S. (2019b). Effects of Diverse Property Rights on Rural Neighbourhood Public Open Space (POS) Governance: Evidence from Sabah, Malaysia, *Economies*, 2019, 7, 61.
- Gao, L. W. and Ho, D. C. W. (2016). Explaining The Outcomes of Multi-Owned Housing Management: A Collective Action Perspective, *Habitat International* 57, 2016, 233-241.

- Gao, W. (2015). Collective Actions for the Management of Multi-Owned Residential Building: A case of Hong Kong, *Habitat International* 49, 2015, 316-324.
- Ghani, Z. A., Sulaiman, N. and Mohammed, M. I. (2020). Challenges of Students Housing Provision in Malaysia, *Path of Science*. 2020. Vol. 6, No 11, 2001-2012.
- Godino, J. D. (2002). Studying the Median: A Framework to Analyse Instructional Processes in Statistics Education. *ICOTS* 6, 2002, Page 1-6.
- Guang, W. (2000). Application of Cross-Impact Analysis to the Relationship Between Aldehyde Dehydrogenase 2 Allele and the flushing Syndrome, *Alcohol & Alcoholism*, Vol. 35, No. 1, pp. 55–59, 2000.
- Hassanain, M., Fatayer, F. and Al-Hammad, A. (2015). Design-Phase Maintenance Checklist for Electrical Systems. *Journal of Performance of Constructed Facilities*, 30(2).
- Heller, M. A (1998). The Tragedy of the Anticommons: Property in the Transition from Marx to Markets. *Harvard Law Review*, 111 (1998), 621-688.
- Hilbert, M., Miles, I. and Othmer, J. (2009). Foresight Tools for Participative Policy-Making In Inter-Governmental Processes In Developing Countries: Lessons Learned from the eLAC Policy Priorities Delphi. *Technological Forecasting and Social Change*, 76(7), 880–896.
- Ho, D. C. W., Chau, K. W., and Yau, Y. (2008). Evaluating Unauthorized Appendages in Private Apartment Buildings. *Building Research & Information*,36(6), 568-579.
- Ho, D. C. W. and Gao, W. (2013). Collective Action in Apartment Building Management in Hong Kong. *Habitat International* 38, 2013, 10-17.
- Hussain, J. (1999). *Strata Title in Malaysia* (1st ed.). Selangor, Malaysia: Pelanduk Publication (M) Sdn Bhd.
- Ibrahim Akoum (2016). Asian Economic and Financial Review 2016, *Asian Economic And Social Society*. 6(7): 390-403
- Ipsen, K. L., Pizzol, M., Birkved, M. and Amor, B (2021). How Lack of Knowledge and Tools Hinders the Eco-Design of Buildings - A Systematic Review. Urban Sci. 2021, 5, 20.

- Ismail, Z. A. (2014). System Development Toward Effective Maintenance Management Practices. Built Environment Project and Asset Management, 4(4), 406-422.
- Izanda, N. S. S., Samsudin, S. and Zainuddin, M. (2020). Strata Title Reforms in Malaysia: A Review and Challenges of Regulatory And Governance Panacea, *European Journal of Molecular & Clinical Medicine*, Volume 07, Issue 08, 2020.
- Izran, S.M., Tsau, K. Y. and Rohaya, A. J. (2020). Content Validation of the User Attitudinal Component and Factors in Green Building. *International Journal of Built Environment and Sustainability*, 7(1), 2020, 21-35.
- Johnston, N. and Too, E. (2018). *Impediments to Effective Strata Governance. Multi-Owned Property in the Asia-Pacific Region*. Palgrave Macmillan, London.
- Jolaoso, B. A., Musa, N. A. and Oriola, O. A. (2012). Appraisal of the Maintenance of Public Residential Estates in Ogun State: Case Study of Ibara Housing Estate, Abeokuta. *Journal of Emerging Trends in Economics and Management Sciences*, 3(5), 509-516.
- Kamarazaly, M. A., Mbachu, J. and Phipps, R. (2013). Challenges Faced by Facilities Managers in The Australasian Universities. *Journal of Facilities Management*, 11(2), 136-151.
- Kamaruzzaman, S. N., Salleh, N. M. and AlZawawi, S. A. F. (2010). Assessment on problems of issuances and transferences of Strata title in Malaysia: The perception of the owner. In: COBRA 2010 RICS Research Conference, 02-03 Sep 2010, Paris, France.
- Kanniyapan, G., Mohammad, I.S., Nesan, L.J., Mohammed, A.H., Abdullah, M.N., Asmoni, M. and Ganisen, S. (2015). Implementing Maintainability in Building Material Selection: A Preliminary Survey. *Jurnal Teknologi*. 2015, 30, 145– 154.
- Karim, H. A. (2012). Low Cost Housing Environment: Compromising Quality of Life? Procedia - Social and Behavioral Sciences, 35, 44-53.
- Khalid, M. S., Ahmad, A. H., Zakaria, R., Arshad, R. and Pon, Y (2017). Towards Strengthening Building Maintenance and Management by Joint Management Bodies (Jmb) in High Rise/Stratified Housing in Malaysia. *International Journal of Social Science and Humanity*. 2017;7(4), 239.

- Khoo, Boo Khean (1984). Maximising the Potential of Land for Building Development. In: Conference on Property Development-The Vital Issues. 30-31 July 1984. Kuala Lumpur, Malaysia.
- Kuo, Y. C. and Chou J. S. (2012). Enhancement of condominium management based on the effect of quality attributes on satisfaction improvement. *Expert Systems with Applications* 39, 2012, 5418–5425.
- Larsson, G. (1997). Land Management–Public Policy, Control and Participation. Sweden, Stockholm: Byggforskningsrådet, The Swedish Council for Building Research.
- Lateef, O. A. (2008). Building Maintenance Management in Malaysia. Journal of Building Appraisal, 4(3), 207-214.
- Lawrence, C. and Lam, K. P. (1999). Implementing Quality in Property Management: The Case of Singapore, *Property Management*, Vol. 17 No. 4, 1999, pp. 310-320.
- Leone, C. M., Jayasekara, L., Sharp, J. and Fraser, A. (2015). Prevention and Control Practices for Human Noroviruses in Long-Term Care Facilities in South Carolina. *American Journal of Infection Control*, 43(12), 1276-1280.
- Linariza, H. and Ashok, V. (2003). Facility Management: An Introduction, *Journal of The Malaysian Surveyor*, 38.1), 13-19.
- Ling, G., Ali, N. B. H., Ho, C. S. and Ali, H. M. (2014a). Ostrom's Design Principles in Residential Public Open Space Governance: Conceptual Framework and Literature Review, *International Journal of Built Environment and Sustainability*, 1(1), 27-37.
- Ling, G., Ho, C. S. and Ali, H. M. (2014b). Institutional property rights structure, common pool resource (CPR), tragedy of the urban commons: A Review, *IOP Conference Series: Earth and Environmental Science*, Volume 18, Issue 1, 2014.
- Ling, G. H. T., Leng, P. C., Rusli, N., Ho, W. S. (2021). A DSR Methodology for Conceptual Solution Development of Public Open Space Governance, *Journal* of Regional and City Planning, Vol. 32, No. 1, Page 15-35, April 2021.
- Manikandan, S. (2011). Measures of Central Tendency: Median and Mode. *Journal of Pharmacology and Pharmacotherapeutics*, Vol.2, Issue 3, 214-215

- Mazliza, M. and Safinaz, M. H. (2018). Stratified Property Management: Islamic Aspect, *International Journal of Asian Social Science*. Vol.8, No.11, 1005-1016.
- McDonald, S., Malys, N. and Maliene, V. (2009) Urban Regeneration for Sustainable Communities: A Case Study, Technological and Economic, *Development of Economy*, 15(1), pp. 49–59.
- Meng, X. (2013). Involvement of Facilities Management Specialists in Building Design: United Kingdom Experience, *Journal of Performance of Constructed Facilities*, 27(5), 500-507.
- Mertens, D. M. (1998). Research Methods in Education and Psychology: Integrating Diversity with Quantitative And Qualitative Approaches. Thousand Oaks, CA: Sage.
- Ministry of Housing and Local Government (2020). Handbook Pengurusan Strata 2.0. Retrieved from: https://www.kpkt.gov.my/kpkt/resources/user_1/PROGRAM%20KPKT/2020 _STRATA/GP/Strata_Handbook_2.0.pdf
- Ministry of Housing and Local Government (2021). *Handbook Pengurusan Strata*. Retrieved from:

https://www.kpkt.gov.my/kpkt/resources/user_1/PROGRAM%20KPKT/2020 _STRATA/GP/HANDBOOK_PENGURUSAN_STRATA_VERSI_1.0.pdf

- Mohajan, H. K. (2018), Qualitative Research Methodology in Social Sciences and Related Subjects, *Journal of Economic Development, Environment and People*, Vol.7, Issue 01, 2018, pp. 23-48.
- Mohit, M. A., Ibrahim, M. and Rashid, Y. R. (2010). Assessment of Residential Satisfaction in Newly Designed Public Low-Cost Housing in Kuala Lumpur, Malaysia. *Habitat International*, 34(1), 18-27.
- Morgan, D. (2007). Paradigms Lost and Pragmatism Regained: Methodological Implications of Combining Qualitative and Quantitative Method. *Journal of Mixed Methods Research*, 1(1), 48-76.
- Muhamad Nazri Muhamad vs JMB Menara Rajawali and Denflow Sdn Bhd (2019) 10 CLJ 547, Retrieved from: https://www.skrine.com/insights/alerts/may-2020/jmb-has-no-power-to-fix-different-rates-of-mainten

- National Land Code (Act 56 of 1965) & Regulation (2018). As at 10 January 2018. Selangor, Malaysia: International Law Book Services.
- Nick, T.G. (2007). Descriptive analysis. *Methods in Molecular Biology, vol. 404: Topics in Biostatistics,* 33-52.
- Noorsidi, A. M. N and Eves, C. (2011). Malaysia High-Rise Residential Property Management: 2004-2010 Trends & Scenario. 17th Pacific Rim Real Estate Society Conference. [Residential markets/Real Estate market analysis]
- Noorsidi, M. N., Eves, C. and Mutalib, N. F. A. (2013). *High-rise Residential Building Quality: Residents Satisfaction Survey*. World Building Congress 2013, Brisbande: Queensland University of Technology, 5-9.
- Nunnally, J. and Bernstein, L. (1994). *Psychometric theory*. New York: McGraw-Hill Higher, INC.
- Ogungbile, A. J. and Oke, A. E. (2015). Assessment of Facility Management Practices in Public and Private Buildings in Akure and Ibadan Cities, South-Western Nigeria. *Journal of Facilities Management*, 13(4), 366-390.
- Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Cambridge: Harvard University Press.
- Olubodun, F. (2000). A Factor Approach to The Analysis of Components' Defects in Housing Stock, *Journal of Structural Survey*, 18, 46-48.
- Ong, A. (2009) The Production of Possession: Spirits and The Multinational Corporation in Malaysia, American Ethnologist, 15, 28-42.
- Onsrud, H. (2003). Making a Cadastre Law for 3D Properties in Norway. *Computers, Environment and Urban Systems*. 27(2003), 375-382.
- Ostrom, E. (1990). Governing the Commons: The Evolution of Institutions for Collective Action. New York: Cambridge University Press.
- Ostrom, E. (2011). Background on the Institutional Analysis and Development Framework. *The Policy Studies Journal*, 39(1), 7-27.
- Palmer, C. and Bolderston, A. (2006). A Brief Introduction to Qualitative Research, *The Canadian Journal of Medical Radiation Technology*, p. 16-19.
- Pan, H., Yang, Z. and Xu, F. (2016). Study on Concrete Structure's Durability Considering the Interaction of Multi-Factors. *Construction and Building Materials*, 118, 256-261.

- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*, Second Edition. Newbury Park, CA: Sage Publications.
- Paulsson, J. (2007). 3D Property Rights-An Analysis of Key Factor Based on International Experience. (Ph.D. Thesis), Royal Institute of Technology, Stockholm, Sweden.
- Perez, A. A., Vieira, A. C. V. and Cardoso, A. J. M. (2010). School Buildings Assets -Maintenance Management and Organization for Vertical Transportation Equipment. In D. Kiritsis, C. Emmanouilidis, A. Koronios & J. Mathew (Eds.), Engineering Asset Lifecycle Management: 4th World Congress on Engineering Asset Management (WCEAM 2009), pp.59-67.
- Prokesch, T., Heiko, A. V. D. G. and Holger, W. (2015). Integrating Prediction Market and Delphi Methodology into A Foresight Support System — Insights from An Online Game, *Technological Forecasting & Social Change 97* (2015), 47– 64.
- Pukite, I. and Geipele, I. (2017). Different Approaches to Building Management and Maintenance Meaning Explanation, *Procedia Engineering*, Volume 172, 2017, 905-912.
- Raberto, M., Scalas, E. and Mainardi, F. (2002). Waiting-Times and Returns in High-Frequency Financial Data: An Empirical Study, *Physica A 314* (2002) 749 – 755.
- Randolph, B. (2006) Delivering The Compact City in Australia: Current Trends and Future Implications, Urban Policy and Research. 473–490.
- Rashidah, S. H. A. W, Che, A. A. I, Ahmad, S., Husairi, A. H. H. and Mastor, S. (2015). Parameters Issues of Building Maintenance Management at High Rise Residential Building: A Review, *Australian Journal of Basic and Applied Sciences*, 9(7) April 2015, 143-146.
- Rashidah, S. H. A. W, Che, A. A. I, Ahmad, S., Tawil, M. N. and Razak, M. Z. A. (2016). Classification of High-Rise Residential Building Facilities: A Descriptive Survey on 170 Housing Scheme in Klang Valley. MATEC Web of Conferences Volume 66 (IBCC, 2016) March 7-8, 2016, Kuala Lumpur, Malaysia.
- Ratcliffe, J. (2000). Scenario Building: A Suitable Method For Strategic Property Planning?, *Property Management*, Vol. 18 No. 2, 2000, pp. 127-144.

- Ray, D. (2008). Proposed Changes to Strata Schemes Management Act and the Strata Schemes Management Regulations. The Owners Corporation Network Inc.
- REDHA (2016). Processes on SiFUS & Strata Title. Version 02. Retrieved from: http://rehdainstitute.com/wp-content/uploads/2016/06/Flow-Chart-for-SiFUS-Strata-Title-Application_final_size-A4_logo.pdf.
- REHDA Institute (2018). *Strata Management Handbook*. Selangor, Malaysia: LB Office Supplies Sdn Bhd.
- Robinson, L. (1985). Strata Title Units in New South Wales: A Guide to be the Strata Titles Act. Australia: Butterworths PTY Limited.
- Ryabko, B. Y., Stognienko, V.S. and Shokin, Y. I. (2004). A New Test for Randomness and Its Application to Some Cryptographic Problems, *Journal of Statistical Planning and Inference 123* (2004) 365 – 376.
- Salfarina, S. (2014). Decentralisation and Governance in Land Administration Systems. (Ph.D. thesis), Faculty of Art, Design and the Built Environment of the University of Ulster.
- Sandberg, H. (2003). Three-dimensional Partition and Registration of Subsurface Space, *Israel Law Review*, Vol. 37, 120-167.
- Sani, S. I. A., Mohammed, A. H., Misnan, M. S. and Awang, M. (2012). Determinant Factors in Development of Maintenance Culture in Managing Public Asset and Facilities. *Procedia - Social and Behavioral Sciences*, 65, 827-832.
- Schlager, E. (2004). *Environmental Governance Reconsidered: Challenges, Choices, and Opportunities.* (p 145-175). North America: Cambridge, MA.
- Seminar on Formation of Sub-MCs in Malaysia, KSL Resort, Johor Bahru, 11 March 2019.
- Sharp, M. and Jones, K. (2012). Perceived Inefficiency in Social Housing Maintenance. *Construction Innovation*, 12(4), 414-428.
- Shen, Q. (1997). A Comparative Study of Priority Setting Methods for Planned Maintenance of Public Buildings, *Facilities*, Vol. 15 No. 12/13, pp. 331-339.

- Shen, Q., Lo, K. K. and Wang, Q. (1998). Priority Setting in Maintenance Management: A Modified Multi-Attribute Approach Using Analytic Hierarchy Process. *Construction Management and Economics*, 16(6), 693-702.
- Sherry, C. (2009) The New South Wales Strata and Community Titles Acts: A Case Study of Legislatively Created High Rise and Master Planned Communities, *International Journal of Law in the Built Environment*, 1(2), pp. 130–142.
- Shukri, I. M., & Maidin, A. J. (2010). *Malaysia Strata Titles Law and Procedure*. Selangor, Malaysia: Sweet & Maxwell Asia.
- Soebiyan, V., Bobby, S. J., Tedja M. (2017). Study on High-Rise Building Using Wind Energy at Humid Tropical Climate, *Chemical Engineering Transactions*, 56, 241–246.
- Stevenson, G. G. (1991). Common Property Economics A General Theory and Land Use Applications (1st ed.). United States of America: Cambridge University Press, New York.
- Stoter, J. E. (2004). *3D Cadastre*. Ph.D. Thesis. Delft University of Technology, Delft, the Netherlands.
- Strata Management Act 2013 (Act 757) & Regulations. (2015). As at 15 July 2015. Selangor, Malaysia: International Law Book Services.
- Strata Titles Act 1985 (Act 318), Rules & Orders. (2018). As at 5 April 2018. Selangor, Malaysia: International Law Book Services.
- Suffian, A. (2013). Some Common Maintenance Problems and Building Defects: Our Experiences, *Procedia Engineering*, 54, 101-108.
- Survey and Mapping Director General Circular (PKPUP), Ref.1. (2015). Garis Panduan Pecah Bahagi Bangunan Atau Tanah Untuk Pengeluaran Hakmilik Strata. As at 15 June 2015. Kuala Lumpur, Malaysia: Department of Survey and Mapping Malaysia.
- Survey and Mapping Director General Circular (PKPUP), Ref.1. (2017). Garis Panduan Mengenai Penyediaan Pelan Khas Untuk Harta Bersama Terhad Bagi Tujuan Pemohonan Penubuhan Perbadanan Pengurusan Subsidiari. As at 31 May 2017. Kuala Lumpur, Malaysia: Department of Survey and Mapping Malaysia.

- Tan, Liat Choon (2013). Towards Developing A Three-dimensional Cadastre For Three-dimensional Property Rights In Malaysia. (Ph.D. thesis), Universiti Teknologi Malaysia.
- Tan, Liat Choon and Looi, Kam Seng (2014). Developing Infrastructure Framework to Facilitate the Malaysian Multipurpose 3D Cadastre, FIG Congress 2014. Kuala Lumpur, Malaysia.
- Tan, Liat Choon, Muhamad Uznir, Thoo Ai Chin, Ng See Eng, Goh Leong Sen, Mohd Hanif and Shaidatul Nur Wahidah (2016). Condominium Rights in Malaysia, Advanced Science Letters, Volume 22, Number 22. Page 4194-4196.
- Tavakol, M. and Dennick, R. (2011). Making Sense of Cronbach's Alpha, International Journal of Medical Education, 2011; 2: 53-55.
- Tawil, M. N., Ramly, A., Che, A. A. I., Usman, I. M. S, Tahir, M. M., Zain, M. F. and M., Zaharim, A. (2009a). Service Charge Collection of High-Rise Residential in Kuala Lumpur, Malaysia; Owner's Perspective, *European Journal of Social Sciences*, Volume 10, Number 1 (2009).
- Tawil, M. N., Che, A. A. I., Zain, M. F. M, Zaharim, A. and Jamil, M. (2009b). Owners' Satisfaction Towards Service Charge Collection of High-Rise Residential In Kuala Lumpur, Malaysia. Proceedings of the 4th IASME / WSEAS International Conference on ENERGY & ENVIRONMENT. February 24-26, 2009, Cambridge, UK.
- Tawil, M. N., Daud, M. N., Che, A. A. I., Ismar, M. N. S., and Zain, M. F. M. (2010). Management Difficulties in Managing High-Rise Residential Complexes In Malaysia: The Service Charge Aspect. *Proceedings of the 5th IASME/ WSEAS International Conference on Energy & Environment.* 23-25 February 2010. United Kingdom, 31-35.
- Tawil, M. N., Che, A. A. I., Ramly, A., Daud, M. N. and Abdullah, N. A. G. (2011). Service Charge Issue in Malaysian High-Rise Residential Management: An Analysis Using A Fuzzy Conjoint Model, *International Journal of the Physical Sciences* Vol. 6(3), pp. 441-447, 4 February, 2011.
- Tawil N. M., Yusoff, Y. M., CheAni, A. I., Abdullah, N. A. G. and Surat, M. (2012). A Study of Management Corporation Financial in High Rise Residential with Correlation of Management Fund and Facilities Provided. *International Business Management* 6(3), 304-307.

- Teo, K. S. (2015). Enhancing Strata Management in Malaysia Selected Aspects Strata Management Act 2013. Singapore Journal of Legal Studies, July 2015, pp 251-260.
- Teo, K. S. (2019). *Strata Title in Malaysia and Singapore*, sixth edition, Lexis Nexis, Singapore.
- Tian, L. (2014). Property Rights, Land Values and Urban Development: Betterment and Compensation in China. Books, Edward Elgar Publishing, number 15856, April.
- Tian, L., Yongfu, L., Yaqi, Y. and Boyi, W. (2017). Measuring Urban Sprawl and Exploring The Role Planning Plays: A Shanghai Case Study, *Land Use Policy* 67 (2017), 426–435.
- Timmermans, S. and Tavory, I. (2012). Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis, *Sociological Theory*, 30(3), 167-186.
- Tiun, L. T. (2006). *Managing High-Rise Residential Building In Malaysia: Where Are We?*.
- United Nations Economic Commission for Europe (2002). *Guidelines on Condominium Ownership of Housing for Countries in transition*. United Nations Economic Commission for Europe. ECE/HBP/123.
- Van Der Merwe, C. G. (2014). The Various Policy Options for the Settlement of Disputes in Residential Community Scheme. *Stellenbosch Law Review*, 25(2), 385-407.
- Van Zomeren, M., Postmes, T., and Spears, R. (2008). Towards an Integrative Social Identity Model of Collective Action: A Quantitative Research Synthesis of Three Socio-Psychological Perspectives, *Psychological Bulletin*, 134, 504-535.
- Velmurugan, R. S. and Dhingra, T. (2015). Maintenance Strategy Selection and Its Impact in Maintenance Function: A Conceptual Framework. *International Journal of Operations & Production Management*, 35(12), 1622-1661.

- Vern, Tan Wee, Tan, Liat Choon, Toh, Ming Liang, Nabilah, H. B. Y., Muhamad, U. B. U and Thoo, Ai Chin (2019). Analysis Towards The Current Management Of Limited Common Property In Malaysia, *International Journal of Engineering and Advanced Technology (IJEAT)*, Volume-8 Issue-5C, May 2019, 798-807.
- Wahab, S. R. H. A., Sairi, A., Che A. A. I., Tawil, N. M. and Johar, S. (2015). Building Maintenance Issues: A Malaysian Scenario for High-Rise Residential Buildings, *International Journal of Applied Engineering Research*, 10 (6), 15759-15776.
- Walters, M. and Kent, P. (2000). Institutional Economics and Property Strata Title A Survey and Case Study, *Journal of Property Research*, 17:3, 221-240.
- Wilkinson, I. (1981). Power, Conflict and Satisfaction In Distribution Channels An Empirical Study, Int J Phys Distrib Mater Manage 1981;11(7):20–31.
- Wong, J. F. (2010). Factors Affecting Open Building Implementation in High Density Mass Housing Design in Hong Kong. *Habitat International*, 34(2), 174-182.
- Wong, J. Z. (2019). Towards Enforceable Standards, Rules and Rights in Strata Management: An Analysis. *IIUM Law Journal*, Vol. 27, No. 2, 2019.
- World Bank (1989). World Development Report-Financial Systems. New York, USA: Oxford University Press.
- Wu, S., Clements-Croome, D., Fairey, V., Albany, B., Sidhu, J., Desmond, D. and Neale, K. (2006). Reliability in the Whole Life Cycle of Building Systems. Engineering, *Construction and Architectural Management*, 13(2), 136-153.
- Xin, J. and Huang, C. (2013). Fire Risk Analysis of Residential Buildings Based On Scenario Clusters and Its Application in Fire Risk Management. *Fire Safety Journal*, 62, 72-78.
- Yati, M. (2017). Permasalahan Permohonan Penubuhan Perbadanan Pengurusan Subsidiari Seksyen 17A Menurut Akta Hakmilik Strata 1985, (Master Degree Thesis), Universiti Teknologi Malaysia.
- Yau, Y. (2011a). Collectivism and Activism in Housing Management in Hong Kong. *Habitat International* 35, 2011, 327-334.

- Yau, Y. (2011b). Willingness to Participate in Collective Action: The Case of Multi-Owner Housing Management, European Real Estate Conference 2011, 15-17 June 2011, Eindhoven.
- Yau, Y. (2014). Perceived Efficacies and Collectivism in Multi-Owned Housing Management, *Habitat International*, 43 (2014), 133-141.
- Yip, N. M., and Forrest, R. (2002). Property Owning Democracies? Home Owner Corporations in Hong Kong. *Housing Studies*, 17, 703-720.
- Yiu, C. Y., Wong, S. K. and Yau, Y. (2006). Property Management as Property Rights Governance Exclusion and Internal Conflict Resolution, *Property Management*, Vol. 24 No. 2, 2006, pp. 87-97.
- Young, R. (2003). *Planning Guide for Maintaining School Facilities*, NCES 2003-347, Washington, DC: 2003.
- Yusof, N. A., Abdullah, S., Zubedy, S. and Najib, N. U. M. (2012). Residents' Maintenance Priorities Preference: The Case of Public Housing in Malaysia. *Procedia - Social and Behavioral Sciences*, 62, 508-513.
- Yusuf, S. Z., Hussin, K. and Azali, N. H. (2015). Child Safety Policy in High-Rise Building as Preventive Measures of Child Falls–A Review, *Jurnal Teknologi*, 73, 79–84.
- Zainal, A. A., Maizam, A. and Azuin, R. (2015). Architectural Building Safety and Health Performance Model for Stratified Low-Cost Housing: Education and Management Tool for Building Managers. *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering.* Vol: 9, No: 4.
- Zairul, N. M., Abdul, G. S., Aini, A. M., Aziz, W., Hanif, N. R., Al-Sadat, Z. and Tedong, P. A. (2015), 09-12 April. *Issues in Managing Vertical Residential Building in Malaysia*. Paper presented at the Asia Pacific Network for Housing Research Conference (APNHR), Gwangju, South Korea.
- Zan, R. M. (2016). Rationalisation of Strata Management Act 2013, Act 757 and Practices in Strata Residential Buildings. *International Academic Research Journal of Business and Technology*, 2(2), 2016, page 69-76.
- Zan, R. M., Roslan, S. N. A., Mustafa, N. K. F. and Senawi, A. (2018). Establishment of Share Unit Formula for Strata Residential Buildings and Its Implication to Buyer and Unit Owner. *International Journal of Engineering & Technology*, May 2018, 7(2),119-124.

- Zawawi, E. M. A., Kamaruzzaman, S. N., Ithnina, Z. and Zulkarnain, S. H. (2011). A Conceptual Framework for Describing CSF of Building Maintenance Management. *Procedia Engineering*, 20, 110-117.
- Zhang, Y. (2010). Institutional Approach of Self-Governance on Cultural Heritage as Common Pool Resources. International Centre for Research on the Economics of Culture, Institutions, and Creativity (EBLA), Working paper No. 22/2010.
- Zhang, Y. (2017). Governing the Commons in China. London: Routledge, 2017.

LIST OF PUBLICATIONS

Published Scopus Indexed Journal

- Tan Wee Vern, Tan Liat Choon, Toh Ming Liang, Nabilah Huda Binti Yaccub, Muhamad Uznir Bin Ujang, Thoo Ai Chin, Analysis Towards the Current Management of Limited Common Property in Malaysia, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume 8, Issue 5C, May 2019, Page 798-807. Retrieved from: https://www.ijeat.org/wpcontent/uploads/papers/v8i5C/E11130585C19.pdf (First Author)
- Tan Wee Vern, Aminah Binti Mohsin, Mohd Shahril Bin Abd Rahman, Gabriel Ling Hoh Teck, Tan Liat Choon, Toh Ming Liang, The Effects of Proximity to Cemetery on Purchasing Residential Properties in Malaysia, International Journal Of Scientific & Technology Research ISSN 2277-8616, Volume 9, Issue 3, March 2020, Page 6692-6698. Retrieved from: https://www.ijstr.org/paperreferences.php?ref=IJSTR-0320-32007 (First Author)
- Toh Ming Liang, Tan Liat Choon, Tan Wee Vern, Muhamad Uznir bin Ujang, Thoo Ai Chin, A Preliminary Study on The Formation of Land Legislation and Cadastre System in Sarawak, Malaysia, Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume 8, Issue 5C, May 2019, Page 788-797. Retrieved from: https://www.ijeat.org/wpcontent/uploads/papers/v8i5C/E11120585C19.pdf (Co-author)
- 4. Tan Liat Choon, **Tan Wee Vern**, Looi Kam Seng, Toh Ming Liang, Muhamad Uznir bin Ujang, Suhaibah binti Azri, Thoo Ai Chin, Shanmugapathy A/l Kathitasapathy, Willingness of the Owners in the Integrated Development to Establish the Subsidiary Management Corporation, Property Management (ISSN 0263-7472), Retrieved from: https://www.emerald.com/insight/content/doi/10.1108/PM-04-2021-0025/full/html (First student author)

Published Non-Indexed Journal

- Tan Wee Vern, Tan Liat Choon, Muhamad Uznir Bin Ujang, Toh Ming Liang, Nor Suhaibah Binti Azri, Looi Kam Seng, Thoo Ai Chin, Challenger in Forming the Subsidiary Management Corporation: Malaysian Experience, JKPTG Land Administration Journal Volume 4 Bil 1/2020 (ISSN 2600-7703), Page 135-150. Retrieved from: https://www.jkptg.gov.my/images/pdf/jurnalpentadbiran/Jurnal_Pentadbiran2020.pdf (First Author)
- 2. Tan Wee Vern, Tan Liat Choon, Looi Kam Seng, Toh Ming Liang, Shanmugapathy A/L Kathitasapathy, Muhamad Uznir Bin Ujang, Nor Suhaibah binti Azri, and Thoo Ai Chin, Establishment of The Subsidiary Management Corporation in The Integrated Development, International Graduate Conference of Built Environment and Surveying (GBES 2021). Published in Journal of Islamic, Social, Economics and Development (JISED), Volume: 7 **Issues:** 44. March. 2022. 11 19. Retrieved from: pp. _ http://www.jised.com/PDF/JISED-2022-44-03-02.pdf (First Author)
- 3. Toh Ming Liang, Tan Liat Choon, Looi Kam Seng, Tan Wee Vern, Muhamad Uznir bin Ujang, Thoo Ai Chin, Nurlaila binti Ali, Cadastre for native land: a legal perspective from Malaysia and Indonesia, International Journal of Psychosocial Rehabilitation (ISSN:1475-7192), Year 2020, Volume 24, Issue 6, Page 10545-10558, Retrieved from: https://www.psychosocial.com/article/PR261048/23305/ (Co-author)
- 4. Toh Ming Liang, Tan Liat Choon, **Tan Wee Vern**, Muhamad Uznir Bin Ujang, Nor Suhaibah binti Azri, Thoo Ai Chin, Looi Kam Seng, The Adaptability of Native to Land Administration in Sarawak, Malaysia, International Graduate Conference of Built Environment and Surveying (GBES 2021). Published in INTERNATIONAL JOURNAL OF LAW, GOVERNMENT AND COMMUNICATION (IJLGC), Volume 7, Issue 27 (March 2022), PP. 33-43, Retrieved from: http://www.ijlgc.com/PDF/IJLGC-2022-27-03-04.pdf (Coauthor)

Published Conference Paper

 Tan Wee Vern, Tan Liat Choon, Zufiqah Jaafar, Toh Ming Liang, Thoo Ai Chin, Muhamad Uznir Bin Ujang, Procedure in Forming Subsidiary Management Corporation in Malaysia, 1st International Graduate Conference of Built Environment and Surveying, Page 129-137, Retrieved from: <u>https://builtsurvey.utm.my/gbes2019/files/2019/09/GBES-2019-Conference-Proceedings-Real-Estate_1.pdf</u> (First Author)

- Toh Ming Liang, Tan Liat Choon, Tan Wee Vern, Lintan Bin Assat, Muhamad Uznir Bin Ujang, Thoo Ai Chin, Understanding The Challenges of Native Communal Titles in Sarawak: A Lesson from Sabah, 1st International Graduate Conference of Built Environment and Surveying, Page 146-152, Retrieved from: <u>https://builtsurvey.utm.my/gbes2019/files/2019/09/GBES-2019-Conference-Proceedings-Real-Estate_1.pdf</u> (Co-Author)
- 3. Tan Liat Choon, Ho Lai Chaim, Muhamad Uznir bin Ujang, Thoo Ai Chin, Suhaibah binti Azri, Looi Kam Seng, Toh Ming Liang, **Tan Wee Vern**, Shanmugapathy A/l Kathitasapathy, Geh Joun Ann, An Application of Cadastral Fabric System in Improving Positional Accuracy of Cadastral Databases in Malaysia, Geospatial Asia-Europe 2021 (GAE 2021). Retrieved from: https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLVI-4-W3-2021/79/2022/ (Co-author)

Accepted (Scopus Indexed Journal)

1. Tan Liat Choon, Toh Ming Liang, Looi Kam Seng, **Tan Wee Vern**, Muhamad Uznir bin Ujang, Thoo Ai Chin, Suhaibah binti Azri, Shanmugapathy A/l Kathitasapathy, Towards 'good' native land governance: An evaluation in Sarawak, Malaysia, International Indigenous Policy Journal (ISSN 1916-5781) (Co-author).