Southern Cross University
ePublications@SCU

Theses

2002

Application of the project management body of knowledge and practice for urban renewal project implementation in Hong Kong special administrative region, China

Dennis Heung-Fu Mui
Southern Cross University

Publication details
Mui, DH 2002, 'Application of the project management body of knowledge and practice for urban renewal project implementation in Hong Kong special administrative region, China', DBA thesis, Southern Cross University, Lismore, NSW.
Copyright DH Mui 2002

ePublications@SCU is an electronic repository administered by Southern Cross University Library. Its goal is to capture and preserve the intellectual output of Southern Cross University authors and researchers, and to increase visibility and impact through open access to researchers around the world. For further information please contact epubs@scu.edu.au.

Application of the Project Management Body of Knowledge and Practice for Urban Renewal Project Implementation in Hong Kong Special Administrative Region, China

A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF
THE DEGREE OF DOCTOR OF BUSINESS ADMINISTRATION
AT THE SOUTHERN CROSS UNIVERSITY, NSW, AUSTRALIA

Dennis Heung-fu Mui
BSc(Eng), MSc(Eng), MBA(Tech Mgt)
CEng, CPEng, RPE
FIMechE, FCIBSE, FIEAust, FHKIE, MAIPM

December 2002

Declaration

I certify that the work presented in this thesis is, to the best of my knowledge and belief, original, except as acknowledged in the text and that the material has not been submitted, either in whole or in part, for a degree at this or any other university.

I also certify that to the best of my knowledge any help received in preparing this thesis, and all sources used have been acknowledged in this thesis.

SIGNED: _____

DATED: _____

Candidate: Dennis Heung-fu Mui

Acknowledgement

First, I would like to dedicate this thesis to the memory of my beloved mother who passed away on 2 August 2002, especially to her deeds in teaching me the value of learning and professional attitude. It is my deep regret that she was unable to see my completion of this thesis.

My debts of gratitude for assistance in the execution of this research are numerous. Outstanding amongst them are Associate Professor Shankar Sankaran of Southern Cross University who supervised the research and the writing of the thesis. His guidance, encouragement, patience and critical comments enabled me to produce a thesis which is my own but which is better than anything I could have produced without his assistance. It has been my privilege to have researched under his supervision.

I am also deeply indebted to those who were kind enough to contribute generously of their precious time in participating the personal interviews and providing useful information to this research. This thesis would not have been possible without their generous support, participation, advice and informational assistance. I would like to offer my wholehearted wish to them for achieving their personal goals in the future. I also hope that any contribution by this thesis to the future urban renewal project implementation will sufficiently reward their time invested in it.

Special thanks to those overseas urban renewal organisations and their staff. The research would not be able to be completed without their contribution of the invaluable information about their cases.

I am deeply appreciative of the administrative support offered by the SCU DBA staff during the time I undertook this research.

Lastly, but most significantly, I thank my wife, Martha, and our two children, Stephanie and Stasia, for enabling me to find the time necessary to complete the research.

Abstract

The Hong Kong Special Administrative Region is faced with the rapid rate of urban deterioration. With the unique and densely populated nature of the city, the road to urban revitalisation can be envisaged to be a long and painful one. The government is determined to expedite the urban renewal work by establishing of the Urban Renewal Authority in May 2001 to replace Land Development Corporation that was established in 1988 to tackle the issue. The new set up is to operate with more public accountability and transparency as demanded by the community at large. It is also commissioned with the task of completing 225 projects in the next 25 years involving an estimated cost of over A$75 billion. The government has also decided to make Hong Kong Special Administrative Region a truly sustainable city by incorporating both urban sustainability and quality in urban renewal. Thus, a re-thinking of the project management application to enhance urban renewal project implementation is necessary and is beneficial in terms of finance, public confidence and maintenance of the sustainable competitive advantage of the Hong Kong Special Administrative Region. This research is therefore justified. The research question formulated is:

> ***How can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR?.***

Investigation of the extant literature in chapter 2 identified gaps in the body of knowledge and practice of applying professional project management principles and practices to urban renewal projects. A project management application model was formulated with five research issues that need to be resolved before the research question could be answered. These five research issues covered:

- project organisational structure;
- team structure;
- attributes of team members;
- stakeholder management; and

- communication and information technology enablers.

The five research issues considered were:

- **Research Issue 1**: What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?
- **Research Issue 2**: What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?
- **Research Issue 3**: What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?
- **Research Issue 4**: What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?
- **Research Issue 5**: What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?

The case study research methodology was adopted to answer each of the research issues. In-depth studies of Urban Renewal Authority with functional departments as embedded sub-units were designed. Less in-depth case studies were also conducted for overseas cases in developed countries like Australia, United State of America, United Kingdom, Singapore, Denmark, Austria, Ireland and Spain for cross-case analysis. A total of 13 personal interviews with different levels of staff were conducted for seven embedded sub-units in the Urban Renewal Authority case. Information was obtained from ten overseas cases from their Web site and also via e-mail correspondence with the appropriate staff in the organisations.

The data obtained were then analysed to show the patterns of the results for each of the five research issues developed in the literature review and also for the new findings that were not

planned from the literature review. The findings were then compared with the extant literature to identify the contributions that this research makes to understanding how the project management body of knowledge and practice can be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region. The application model for effective and efficient implementation of urban renewal projects modified to take into account the resolution of the research issues and the new findings is subsequently concluded.

This research has contributed to both the knowledge of project management and urban renewal. The project management body of knowledge may need to put more emphasis on aspects of sustainability, multi-disciplinary and integrated approach, team hierarchical structure, team member attributes, stakeholder involvement and information technology enablers. Government support in both policy and implementation levels are of paramount importance in urban renewal work and needs more attention and focus. This research also provides some suggestions on the practice and policy especially on change management for introducing the application model in the existing organisation and the need of new legislation to supplement the existing one, on which the operation of Urban Renewal Authority is based.

Finally, suggestions for further research are presented. These include quantitative research to test the application model built, generalisation of the research to other places with different operating environments for both governmental and non-governmental organisations, strategy for urban renewal, attributes of top management for managing urban renewal organisation, and cultural risk in managing urban renewal projects.

Key Words: Sustainable urban renewal, project management, stakeholder management, partnering, public participation

Table of contents

		Page
Declaration		i
Acknowledgement		ii
Abstract		iii
Table of contents		vi
List of tables		ix
List of figures		xii
List of Abbreviations		xiii
Chapter 1	**Introduction**	1
1.1	Background to the research	1
1.2	Research question	4
1.3	Justification for the research	5
1.4	Methodology	6
1.5	Outline of the thesis	7
1.6	Definitions	9
1.7	Limitations	11
1.8	Conclusion	11
Chapter 2	**Literature review**	12
2.1	Introduction	12
2.2	Definition and objectives of urban renewal	13
2.3	Parent discipline 1 – urban renewal	16
2.4	Parent discipline 2 – project management	26
2.5	Immediate discipline – application of project management body of knowledge to urban renewal projects	49
2.6	Project management application model for urban renewal projects	54
2.7	Conclusion	58
Chapter 3	**Research methodology**	60
3.1	Introduction	60

3.2 Selection and justification of the methodology 61
3.3 Selection and justification of the case design 67
3.4 Criteria for case selection and their numbers 70
3.5 Case study procedure 74
3.6 Case study protocol 76
3.7 Pilot interviews 78
3.8 Case study and analysis procedures 80
3.9 Quality of research 83
3.10 Ethical considerations 85
3.11 Conclusion 86

Chapter 4 Analysis of data 88
4.1 Introduction 88
4.2 Brief description of the cases 89
4.3 Patterns of data for Research Issue 1 96
4.4 Patterns of data for Research Issue 2 100
4.5 Patterns of data for Research Issue 3 103
4.6 Patterns of data for Research Issue 4 105
4.7 Patterns of data for Research Issue 5 109
4.8 Patterns of data for relevant results that were not planned from literature review 112
4.9 Conclusion 115

Chapter 5 Conclusions and implications 116
5.1 Introduction 116
5.2 Conclusions about Research Issue 1 118
5.3 Conclusions about Research Issue 2 122
5.4 Conclusions about Research Issue 3 125
5.5 Conclusions about Research Issue 4 128
5.6 Conclusions about Research Issue 5 131
5.7 Conclusions about the relevant results not planned from the literature review 133
5.8 Summary of conclusions about the five research issues and the new 136

findings
5.9 Conclusions about the research question 139
5.10 Implications for theory 142
5.11 Implications for practice and policy 144
5.12 Limitations 145
5.13 Further research 146
5.14 Conclusion 147

Bibliography 149

List of appendices 164
Appendix A: Case study research protocol 164
Appendix B: Data display matrices of the case studies for the research issues 176

List of tables

		Page
Table 2.1:	Summary of CRMP body of knowledge model for project management	28
Table 2.2:	Summary of the key project-related characteristics of different organisational structure	34
Table 2.3:	Pros and cons of functional, matrix and projectised organisations	35
Table 3.1	Important differences between positivist and interpretive research paradigms	62
Table 3.2	Key features of positivist and phenomenological paradigms	63
Table 3.3	Aspects of a unified thesis	66
Table 3.4	Three conditions of determining the appropriate type of a research method	66
Table 3.5	Case design options	69
Table 3.6	Criteria for selection of cases	73
Table 3.7	The linking of research issues to the interview questions	78
Table 3.8	Questions of reliability, validity and generalisability	84
Table 3.9	Methods to enhance the quality of the case study research	85
Table 4.1:	Summary of the embedded sub-units data analysis for Research Issue 1 – regional team approach and organisation	97
Table 4.2:	Summary of overseas cases data analysis for Research Issue 1	99
Table 4.3:	Summary of the embedded sub-units data analysis for Research Issue 2 – effect of the headquarters structure on enhancing regional team performance	100
Table 4.4:	Summary of the alternatives suggested by the embedded sub-units for the headquarters structure in Research Issue 2	102
Table 4.5:	Summary of the overseas cases data analysis for Research Issue 2	103
Table 4.6:	Summary of the embedded sub-units data analysis for team hierarchical structure and attributes of team members in Research Issue 3	104
Table 4.7:	Summary of overseas cases data analysis for Research Issue 3	105
Table 4.8:	Summary of embedded sub-units data analysis for Research Issue 4 – stakeholders management to achieve sustainability, quality and customer-focused issues in urban renewal	106
Table 4.9:	Embedded sub-units data analysis for Research Issue 4 – community participation and district advisory community/committee for	107

achieving sustainability, quality and customer-focused

Table 4.10: Summary of the overseas cases data analysis for Research Issue 4 109

Table 4.11: Summary of the embedded sub-units data analysis for Research Issue 5 – effect of adopting information technology enablers on communication to stakeholders and urban renewal project implementation 110

Table 4.12: Summary of the overseas cases data analysis for Research Issue 5 111

Table 4.13: Embedded sub-units data analysis for new findings affecting the success of the project management model 112

Table 4.14: Overseas cases data analysis for issues relevant to the new findings in the embedded sub-units analysis 114

Table 5.1: The five research issues 116

Table 5.2: Findings of issues not planned from the literature review 133

Table 5.3: A summary of the conclusions about each research issue and the new findings 136

Table B1: Embedded sub-units data analysis for Research Issue 1 – sustainable development for urban renewal 176

Table B2: Embedded sub-units data analysis for Research issue 1 – regional team approach and organisational structure 177

Table B3: Embedded sub-units data analysis for Research Issue 1 – structure in each regional team and its effect 179

Table B4: Overseas cases data analysis for Research Issue 1 182

Table B5: Embedded sub-units data analysis for Research Issue 2 – headquarters organisational structure 183

Table B6: Overseas cases data analysis for Research issue 2 185

Table B7: Embedded sub-units data analysis for Research Issue 3 – team hierarchical structure and attributes of team members 186

Table B8: Overseas cases data analysis for Research Issue 3 189

Table B9: Embedded sub-units data analysis for Research Issue 4 – sustainability, quality and customer-focused issues in urban renewal 190

Table B10: Embedded sub-units data analysis for Research Issue 4 – involvement of stakeholders at outset for achieving sustainability, quality and customer-focused 191

Table B11: Embedded sub-units data analysis for Research Issue 4 – relationship with stakeholders for achieving sustainability, quality and customer-focused 192

Table B12: Overseas cases data analysis for Research Issue 4 193

Table B13: Embedded sub-units data analysis for Research Issue 5 – adopting information technology enablers in communication to stakeholders 195

Table B14: Embedded sub-units data analysis for Research Issue 5 – effect of information technology enablers on communication to stakeholders and project implementation 197

Table B15: Overseas cases data analysis for Research Issue 5 198

List of figures

		Page
Figure 1.1:	Urban renewal project process flow	3
Figure 1.2:	Outline of the thesis and chapter inter-relationships	8
Figure 2.1:	Concept map and outline of Chapter 2, with section numbers and their inter-relationships	12
Figure 2.2:	Proposed project organisation for a targeted district	55
Figure 2.3:	Proposed organisational structure for the headquarters of Urban Renewal Authority	57
Figure 3.1:	Outline of chapter 3, with section numbers and their inter-relationships	60
Figure 3.2:	Case study procedure	75
Figure 4.1:	Outline of Chapter 4, with section numbers and their inter-relationships	88
Figure 5.1:	Outline of Chapter 5, with section numbers and their inter-relationships	117
Figure 5.2:	Project organisation for a targeted region	122
Figure 5.3:	Organisational structure for headquarters of Urban Renewal Authority	126
Figure 5.4:	Application of project management body of knowledge and practice for effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region, China	140

Abbreviations

APM	- Association for Project Management
CESD	- Centre of Excellence for Sustainable Development
CRMP	- Centre for Research in the Management of Projects
EIS	- Executive Information System
ERM	- Environmental Resources Management
ES	- Hong Kong SAR case embedded sub-unit
IT	- Information technology
LDC	- Land Development Corporation
OC	- Overseas case
PLB	- Planning and Lands Bureau, Government of the Hong Kong SAR
PMBoK	- Project Management Body of Knowledge
PMI	- Project Management Institute, USA
PMIS	- Project Management Information System
PTI & USGBC	- Public Technology Inc. & US Green Building Council
RI	- Research issue
SAR	- Special Administrative Region
TQM	- Total Quality Management
UDG	- Urban Design Group
UK	- United Kingdom
UMIST	- University of Manchester Institute of Science and Technology
UNCED	- United Nations Conference on the Environment and Development
URA	- Urban Renewal Authority
URBED	- Urban and Economic Development Group
USA	- United State of America
Web	- World Wide Web

1 Introduction

This chapter introduces the research and provides a roadmap of the thesis as it sets out to resolve *how to apply the project management body of knowledge and practice for effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region?* The background to the research question is provided in section 1.1 to set the scene and give the thesis a context. Against the background described, section 1.2 defines the research question. Next, section 1.3 presents the justification for this research. Then, section 1.4 provides insight into the methodology adopted to address the research question. Section 1.5 describes the outline of the thesis. Key terms used are defined in section 1.6 to establish positions taken in this research. Section 1.7 considers the limitations of this research and this chapter is finally concluded in section 1.8.

1.1 Background to the research

The Hong Kong Special Administrative Region (SAR) economy is capitalistic and consumer- and consumption-oriented. Such economy has led to urban decay attributable to uncontrolled and unsustainable growth patterns dominated by short-term economic indicators. The blighted urban areas represent a cross section of socially and environmentally unsustainable communities, with decreasing property values and declining neighbourhoods (Augenbroe, Pearce & Kibert 1998).

There was a total stock of nearly two million residential units and over 44 million m^2 of commercial/industrial buildings at year-end 1999 (Rating and Valuation Department 2000). In the 1999 policy address, the Chief Executive of the Hong Kong SAR, The Honourable Tung Chee Hwa (Tung 1999, p. 42) has mentioned '… Out of the existing 8,500 urban buildings which are over 30 years old, some 2,200 require redevelopment or extensive repair. Another 3,900 or so also require repairs of varying scale. In ten years' time, the number of buildings over 30 years old will increase by 50%…'. Based on these factual figures and together with the unique and densely populated nature of Hong Kong SAR, the road to urban revitalization can be envisaged to be a long and painful one.

The administration has tried to resolve the plight through Land Development Corporation (LDC), a statutory body formed in 1988. However, with the rapid rate of urban deterioration, LDC is unable to deliver urban renewal on a sufficient scale and quickly enough to avoid

long-term decay without new operating mechanisms and increased support from government (Tung 1999; PLB 2001a). There is also an increasing public outcry from the community for faster pace of urban renewal. The Hong Kong SAR government aims to achieve re-development of some 2000 ageing or dilapidated buildings, as well as improvement of the environmental quality of 67 hectares of old and run-down urban areas in a 20-year urban renewal programme (PLB 2001b). A new setup, Urban Renewal Authority (URA), was established to replace LDC in May 2001 with the aim to expedite the mission. The revised legal framework within which URA operates will shorten the property acquisition period by applying mandatory resumption (Hong Kong SAR Government 2001). The URA will also operate with more public accountability and transparency as demanded by the community at large. It is commissioned with the formidable task of completing 225 projects in the next 20 years. The cost involved is estimated in the order of over HK$300 billion (approx. A$75 billion) at the present value.

Recently, the Hong Kong SAR Government has begun to address the vital issues of sustainability to make Hong Kong a truly sustainable city (Tung 1998, 1999, 2000; PD 2000). Moreover, the long-term aim of urban revitalisation is to be directed towards meeting urban building renewal and development needs in an ecologically sound and sustainable manner. It is a process of change in the built environment, which fosters economic development while conserving resources and promoting health of the individual, the community and the ecosystem (Maiellaro & Lerario 2000). Therefore, a paradigm shift towards sustainable construction in facets of durability, maintenance, adaptation, refurbishment, new construction technologies and partnership appears to be the long-term solution to urban renewal (Augenbroe, Pearce & Kibert 1998). Sustainability demands the project managers to adopt a holistic perspective and a cradle-to-grave approach in managing projects.

Further, urban renewal involves different external and internal stakeholders, who have differing interests or sometimes, conflicting interests in the process. These include government, community, affected tenants, professionals, private sector developers, pressure and political groups, internal staff and management. Figure 1.1 shows the interfaces of the urban renewal process with these stakeholders under the influence of the environmental forces. Implementation of urban renewal projects normally include the acquisition of property, re-housing of affected tenants, development project planning and construction

management. Proper management of the interfaces and interaction with these stakeholders are the key success criteria and factors for effective and efficient implementation of urban renewal projects. The URA has to manage the expectation of these stakeholders so as to fulfil its mission effectively while maintaining the investment attractiveness.

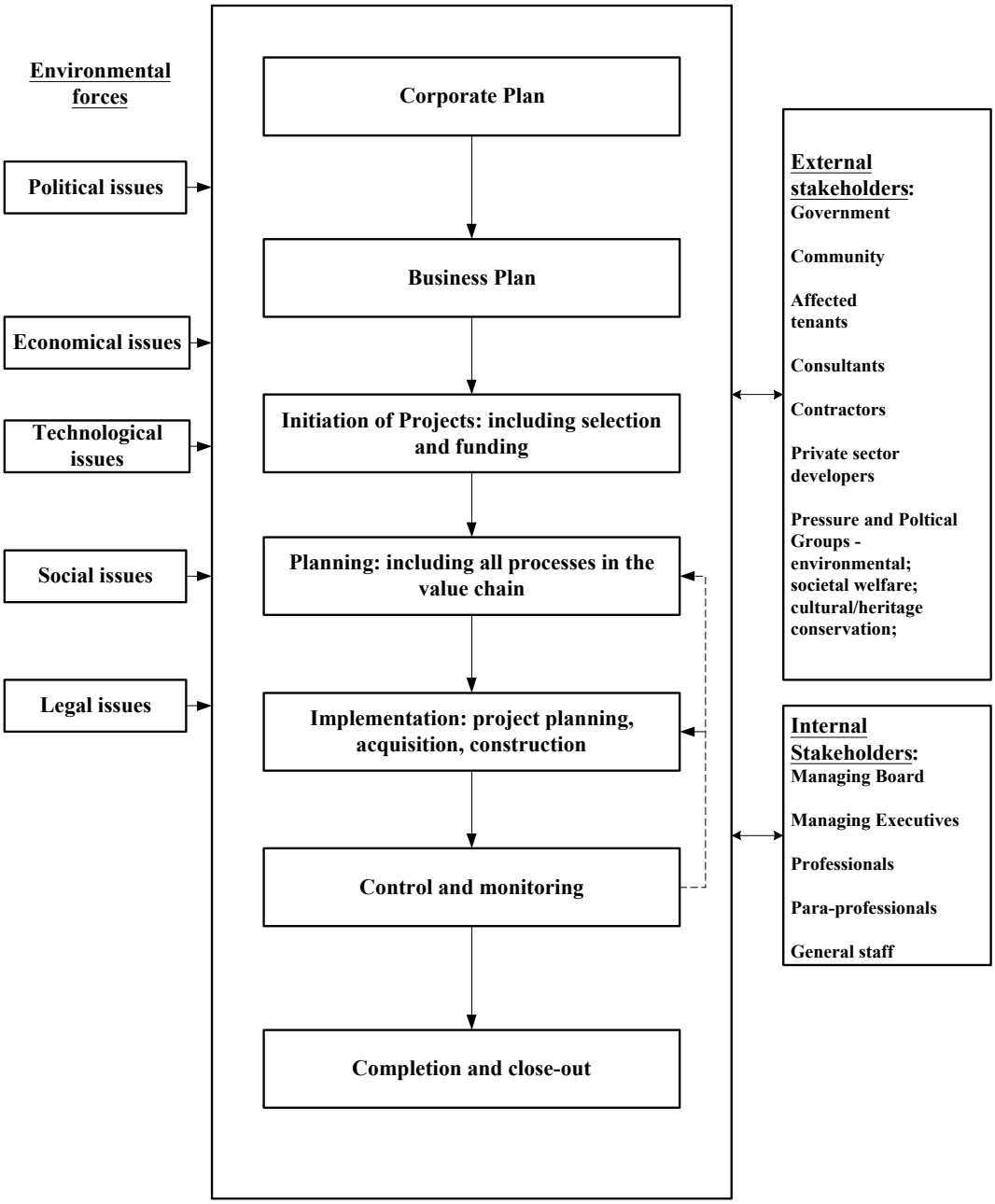


Figure 1.1: Urban renewal project process flow
Source: developed for this research

The increasing frequency and intensity of complaints about shoddy workmanship in the finish of buildings and the series of deficiencies in piling works discovered in local government housing projects have undermined public confidence and resulted in loss of multi-millions of dollars in rectifying these problems (Housing Authority 2000). These recent quality problems have highlighted some pitfalls of the current project management approach used in the construction industry. As a result, special task force has been set up by the administration to review and come up with recommendations to alleviate the predicament.

It appears that radical re-thinking of the conventional time-cost-quality project management approach to overcome the problematic issues outlined above is necessary. In particular, a much broader look in time (full life cycle assessments), space (the objects in its wider system settings) and costs (greener cost metrics than pure monetary) may have to be taken into account to achieve sustainability (Augenbroe, Pearce and Kibert 1998). The organisational change to URA provides the opportunity and appropriate timing for conducting comprehensive research studies on such specific issues for effective and efficient urban renewal project implementation.

1.2 Research question

Against the background described above, the proposed research will involve the development of an appropriate project management application model for effective and efficient implementation of urban renewal projects in Hong Kong SAR, taking into consideration the expectation and influence of external stakeholders, cross-functional interfaces at different project phases and environmental management issues.

The research question is therefore formulated as follows:

How can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR?

The literature review in chapter 2 identifies the gap in the body of knowledge relevant to the research question and develops a project management application model with five research issues for urban renewal project implementation. Those issues cover project organisational structure, team structure, attributes of team members, stakeholder management, communication and information technology enablers.

1.3 Justification for the research

The determination of the need for research hinges on (Zikmund 2000):

- time constraints;
- the availability of data;
- the nature of the decision to be made; and
- the value of the business research information in relation to its cost.

The proposed research can be completed within two years, which is allowable because urban renewal is a long-term mission. Moreover, as urban renewal work has been carried out since 1988 and project management body of knowledge is readily available, there should be little difficulty in soliciting the necessary data and information.

The strategic and tactical nature of the decision warrants business research since a new project management approach will have a knock-on effect on the operation of the URA. Given the scale of the urban renewal projects and the associated multi-billions cost in the next 20 years, the benefits will undoubtedly be prodigious in terms of finance, public confidence and maintenance of the sustainable competitive advantage of the Hong Kong SAR. The cost involved in the research is considered small as compared to the expected benefits derived from the research.

The Hong Kong SAR government is determined to expedite urban renewal because of the rapid urban deterioration rate by establishing URA (Tung 1998; Hong Kong SAR Government 2001; PLB 2001a). The long term aim of urban renewal is to be directed towards sustainability (Maiellaro & Lerario 2000), which is also the aim of the Hong Kong SAR government (Tung 1998, 1999, 2000; PD 2000). Incorporating sustainability in urban renewal projects may require a paradigm shift of the project management approach. The recent quality problem in local government housing programme has also caused the government to re-visit the project management approach (Housing Authority 2000). These issues have reflected that a radical re-thinking of the current application of project

management methods to enable efficient and effective urban renewal project implementation is necessary.

Furthermore, although the social, economic, legal and political situations may be different, the outcome of the research may also provide insight on similar work of other cities in the region, where urban dilapidation is getting serious. Therefore, the conduct of research in this specific research topic is justified.

1.4 Methodology

This section introduces the methodology adopted for this research. A comprehensive description and justification of the research methodology is presented in chapter 3.

Yin (1994) suggested three conditions for determining the selection of the appropriate technique/method i.e. the type of research question posed, the extent of control an investigator has over actual behavioural events and the degree of focus on contemporary as opposed to historical event. The research question is of causal (explanatory) type and likely to require the use of case studies, histories, and experiments as the preferred research methods. The question deals with operational links needing to be traced over time, rather than mere frequencies or incidence. Furthermore, the proposed research focuses on contemporary events and has no control over the behavioural events. Therefore, case study is the appropriate method.

As URA is the sole statutory body in Hong Kong SAR responsible for urban renewal, it is the appropriate and only available case for the research. No other local institutions or statutory bodies have been empowered by the ordinance to carry out urban renewal activities in comprehensive scale. Further, as the researcher has been working in the organisation for over five years, it is anticipated that there is little difficulty in accessing information and arranging interviews. The unit of analysis is the whole of the organisation.

Although urban renewal in other regions may be carried out differently because of the different in social, political, legal and economic situations, some data collected may be useful for cross-case analysis and verification. Urban renewal work in other developed countries such as United Kingdom (UK), Australia, United State of America (USA) or Singapore may

be selected for these purposes depending on the availability of data and accessibility. Literal replications are used for cross case design (Yin 1994).

A protocol consisting of project overview, field procedures, research instrument (interview guide) and case study report writing guideline will be prepared for the research execution. The interview guide specifies the sequencing and format of the questions. Multiple source information is used for triangulation i.e. use of multiple data sources for verification. Variety of evidence includes documents and multiple informants (Yin 1994).

Two phases are considered for collecting data i.e. pilot study and the main study. The pilot study is used to adjust the data collection plan and interview guide for the main study. Data from the pilot study will also be used in the overall case analysis.

To enhance the case study research quality, the following methods are used (Yin 1994):

- construct validity - using multiple sources of evidence and requesting informants review draft of report;
- internal validity - using pattern and explanation building;
- external validity - using replication logic;
- reliability - using protocol and development of data base.

Owing to the nature of the proposed research question and the unique situation, the major ethical issue is the confidentiality of the informants and clients. However, this ethical issue can be satisfactorily dealt with because the research focuses on a project management approach and it will not require any sensitive financial data or target area disclosure during the data collection. Information to be collected in the case study is focused on the operation of LDC i.e. historical information which is less sensitive than information about the current practice. Further, it is also the intention of the URA to be more publicly accountable and transparent with regard to its operation. Therefore, the informants may be more willing to express opinions on operational matters.

1.5 Outline of the thesis

A five-chapter structure in accordance with the framework suggested by Perry (1995) is adopted for this thesis. Figure 1.2 illustrates the outline and maps the inter-relationships

between these five chapters and how they combine to reach a conclusion in answer to the research question.

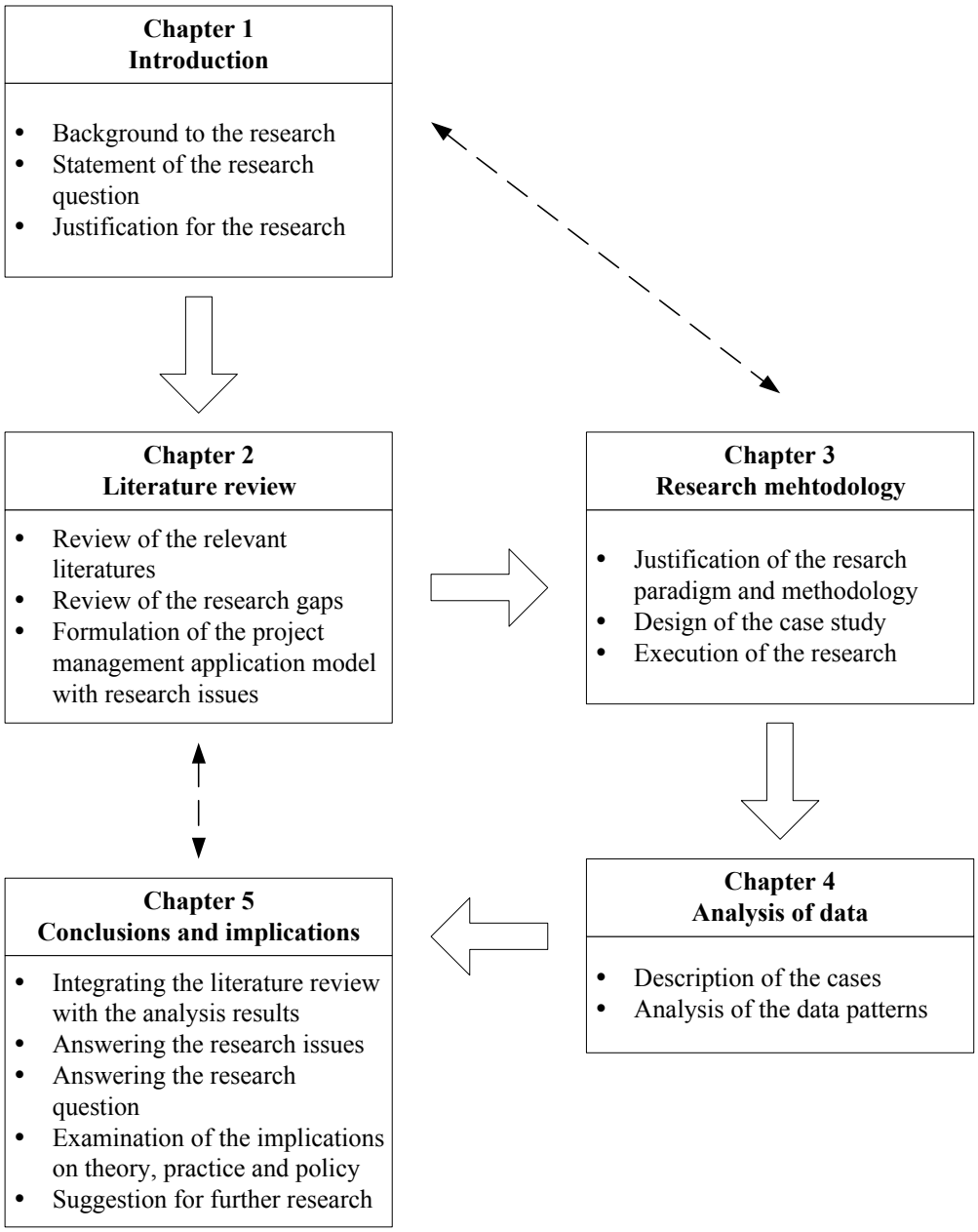


Figure 1.2: Outline of the thesis and chapter inter-relationships
Source: developed for this research from the five-chapter framework of Perry (1995)

Chapter 1 presents the overview of the thesis providing a background and context to the research, a statement of the research question and justification for this research. Chapter 2 reviews the existing literature, identifies the gaps within the literature and develops the project management application model and research issues. Chapter 3 describes and justifies the research design and methodology used to examine the research issues and the project management application model. Chapter 4 presents and analyses the data obtained from the processes described in chapter 3. Chapter 5 integrates all elements of the thesis and combines the literature review with the data analysis to draws conclusions about the research issues. The conclusions to the research question are subsequently drawn by reference to conclusions drawn from the research issues and further enhancement of the application model. It also addresses implications for theory, practice and policy arising from this research. Finally, the need for further research in some particular aspects is suggested.

1.6 Definitions

Definitions adopted by researchers are often not uniform. This section defines key terms to establish positions taken in this thesis.

"*Generalising specialist*" means a person who could utilize his or her general management principles effectively in any country, company or industry (Weber 1997).

"*Partnering*" is a structured management approach to facilitate team working across contractual boundaries with fundamental components comprising of formalised mutual objectives, agreed problem resolution methods and an active search for continuous measurable improvements (Construction Industry Board of UK, cited in Kenneth & Fletcher 2002).

"*Project*" is a series of activities and tasks that together achieve pre-determined deliverables in accordance with a quality of definition, have defined start and end dates, intermediate milestones, funding limits, and utilize resources such as equipment, materials and people (Hamilton 1997).

"*Project management*" is the application of knowledge, skills, tools and techniques to project activities to meet project requirements in light of the stakeholders' needs and expectations, and the competing demands for scope, time, cost, risk and quality (PMI 2000).

"*Research issue*" refers generically to the five research issues developed in chapter 2 and examined in this thesis.

"*Research question*" is the central concern addressed by this thesis. The research question of this thesis is: "*How can project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR?*"

"*Specialising generalist*" means a person who is a specialist possessing a level of generalised expertise (Weber 1997).

"*Stakeholders*" are individuals and organisations (both internal and external) that are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or completion (Hamilton 1997; PMI 2000).

"*Sustainability*" in the context of urban renewal is defined as the ability of urban area and its region to continue to function at levels of quality of life desired by the community without restricting the options available to the present and future generations and causing adverse impacts inside and outside the urban boundary (Post Conference Report 2000).

"*Sustainable construction*" is defined as the creation and responsible management of a healthy environment based on resource efficient and ecological principles (Kibert et al. 1994; Augenbroe, Pearce & Kibert 1998).

"*Urban Sustainability*" means achieving urban development aspirations, subject to conditions concerning inter- and intra-generational equity, and that the stock of natural resources should not be depleted beyond its regenerative capacity (Breheny 1992).

"*Urban renewal*" is the plan, process and programme through which the environmental quality of large derelict areas is upgraded through large-scale clearance and redevelopment and in accordance with new layouts in comprehensive plans. In contrast to in-situ urban redevelopment schemes, which are smaller-scale and capable of achieving only limited improvement in the urban environment, urban renewal should have the salient features of large-scale, improving the overall urban environment, aiming at comprehensive planning gain, incurring financial costs and a degree of social disruption (PLB 2001a).

"*Value chain*" is the idea that the activity performed within an organisation adds some value to the final product or service that the organisation produces (Viljoen 1998).

1.7 Limitations

This section identifies the limits beyond which the research described in this thesis does not purport to have any significance.

This thesis purposefully focuses on urban renewal implementation in Hong Kong SAR. The findings in this research may not applicable to the urban renewal work in other countries and places, which have different cultural, political, economical and social environment.

URA is a statutory body established under ordinance by the government of the Hong Kong SAR. It is a neither a governmental body nor a commercial entity. The findings in this research may not be directly applicable to these two types of urban renewal agents either in Hong Kong SAR or other countries.

Data were collected from the historical information of URA prior to May 2001 i.e. operation of the LDC. Any changes to the organisation or approach in implementing urban renewal projects relevant to the research after that date are not taken into consideration.

Sections 3.4.3, 5.12 and 5.13 identify other limitations of this thesis. These arise from the research methodology adopted to examine the research issues.

1.8 Conclusion

This chapter laid the foundation for the thesis. The background to the research was first presented. Against the background, the research question was introduced and defined. Then the research was justified, definitions were presented, the methodology was briefly described and justified, the thesis was outlined, and the limitations were given. On these foundations, the thesis can proceed with a detailed description of the research.

Chapter 2 will review the literature related to the research question and synthesise it into an application model with a number of research issues.

2 Literature review

2.1 Introduction

The research question formulated is *'How can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR?'* (section 1.2). Chapter 2 reviews and synthesises the literature about the parent and immediate disciplines (Perry 1998) that are the foundation to solving the research question. The concept map and the outline of this chapter are shown in figure 2.1.

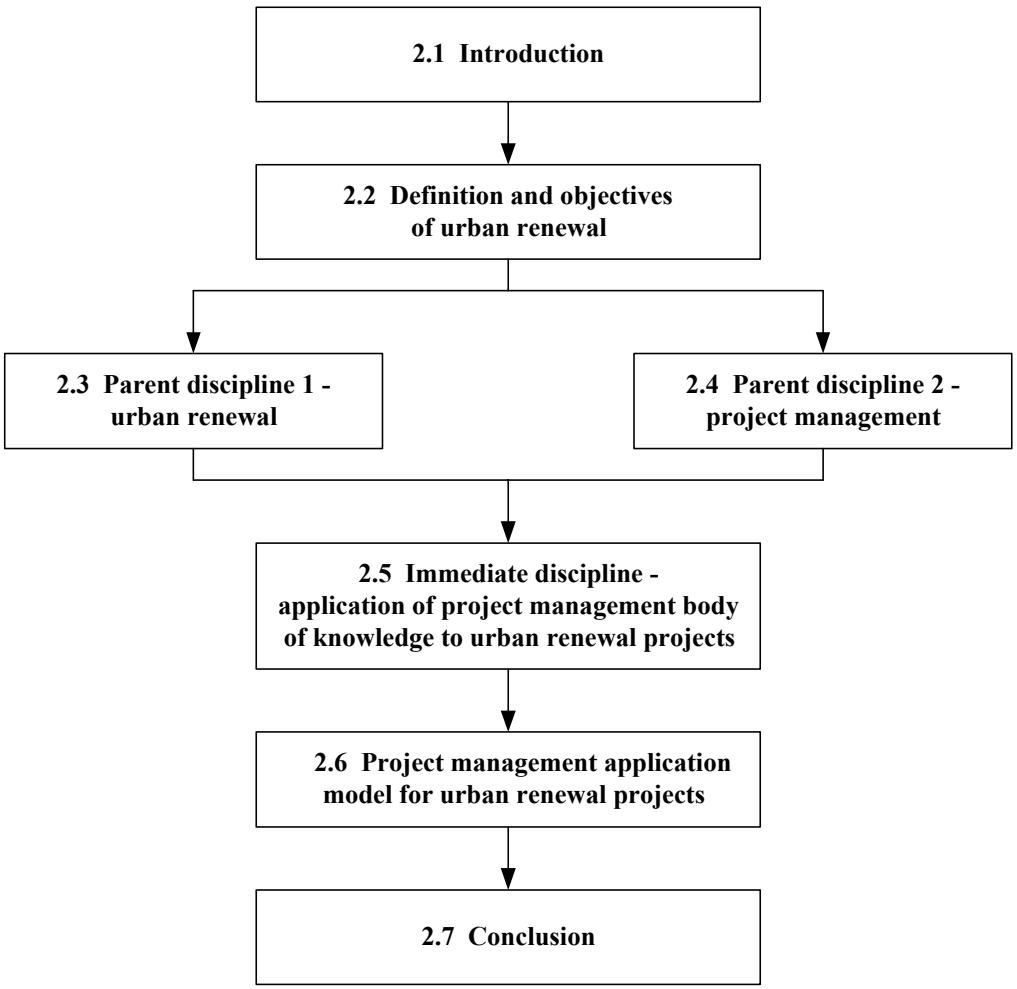


Figure 2.1 Concept map and outline of chapter 2, with section numbers and their inter-relationships
Source: developed for this research

The definition and objectives of urban renewal are first presented (section 2.2) to assist in setting the boundary of the research. Next, the two parent disciplines, namely, urban renewal and project management are presented (sections 2.3 and 2.4). These parent disciplines are the background for the immediate discipline of applying project management body of knowledge to urban renewal projects (section 2.5). In light of this literature search, the development of a project management application model for urban renewal projects is formulated (section 2.6). This chapter is concluded in section 2.7.

2.2 Definition and objectives of urban renewal

The definition of urban renewal is a contested one. For instance, it may be broadly defined as the activity of government in urban areas (Blackman 1995) or the management of urban change (Pacione 1997). A two-pronged definition has also been proposed - the improvement of economic conditions for existing residents and the re-integration of the neighbourhood into the market (Zielenback 2000). Alternatively, it may be defined as more specifically as the process of reversing economic, social and physical decline in towns and cities where market forces alone are inadequate to address such issues. However, there is a degree of consensus on the essential aim of addressing the problem of urban decline (Atkinson and Moon 1994). McCarthy (1999) suggested that urban renewal policy needs to be applied at a variety of scales, and there is an increasing recognition that it needs to be integrated, comprehensive and strategic in orientation.

For the purpose of this thesis, the definition used by Hong Kong SAR is adopted. In Hong Kong SAR, urban renewal is the plan, process and programme through which the environmental quality of large derelict areas is upgraded through large-scale clearance and redevelopment and in accordance with new layouts in comprehensive plans. In contrast to in-situ urban redevelopment schemes, which are smaller-scale and capable of achieving only limited improvement in the urban environment, urban renewal should have the salient features of large scale, improving the overall urban environment, aiming at comprehensive planning gain, incurring financial costs and a degree of social disruption.

Based on the above definition, the objectives of urban renewal are firstly to improve the urban environment and urban layout by replacing old and run-down areas with properly planned new development. Secondly, it should minimise social disruption by ensuring adequate

compensation for affected tenants and landlords. Thirdly, the land in urban areas should be utilised to meet various development needs and lastly, urban renewal should be able to avoid major problems of urban decay in the long term (PLB 2001a).

In May 2001, URA was established to replace LDC to shoulder the urban renewal responsibility. A 'people-centred' approach was to be used to carry out urban renewal (PLB 2001b). The objectives of URA has been stated more explicitly in the ordinance (Hong Kong SAR Government 2001):

- to improve the standard of housing and the built environment and the layout of built-up areas by replacing old and dilapidated areas with new development which is properly planned and, where appropriate, provided with adequate transport and other infrastructure and community facilities;
- to achieve better utilisation of land in the dilapidated areas of the built environment and to make land available to meet various developments;
- to prevent the decay of the built environment by promoting the maintenance and improvement of individual buildings as regards their structural stability, integrity of external finishes and fire safety as well as the improvement of the physical appearance and conditions of that built environment; and
- to preserve buildings, sites and structures of historical, cultural or architectural interest.

2.2.1 Urban sustainability

The last ten years of the twentieth century has seen renewed interested in cities as a result of concepts of sustainability. There has been a perceived need to conserve resources. Cities are also perceived as being more efficient in terms of resource requirements: minimising energy use and permitting the adoption of a number of sustainable planning policies (Willis 2001). In many developed countries, the urgency of the need to move towards the sustainable city has become a rallying call for many environmental activists, professionals and politicians in recent years (Haughton 1999). Sustainable urban development implies a process by which sustainability can be attained. There are different views on the definition of urban sustainability. Elkin, McLaren and Hillman (1991) opined that sustainable urban

development should aim to produce a city that is 'user-friendly' and resourceful, in terms of not only of its form and energy-efficiency, but also its function, as a place of living. Breheny (1992) suggested that sustainable urban development requires the achievement of urban development aspirations, subject to conditions concerning inter- and intra-generational equity, and that the 'stock of natural resources should not be depleted beyond its regenerative capacity'. A list of principles for a sustainable built environment has been drawn up by Smith, Whitelegg and Williams (1998). The principles include: living off environmental 'interest' rather than 'capital'; not breaching critical environmental thresholds; developing a sense of equity and social justice; and forming inclusive procedures for decision making. Summarising the above description, Williams, Burton and Jenks (eds) (2000) described that urban form is taken to be sustainable if it enables the city to function within its natural and man-made carrying capacities, is 'user-friendly' for its occupants and promotes social equity. Although there is considerable debate within the academic community, planning agencies, and other organisations with regard to the key characteristics of urban sustainability, most of them agree that environmental considerations should now be paramount to the future of cities (Maclaren 2001). Indifference towards environments will increase territorial decay (Maiellaro & Lerario 2000). Designing or transforming urban areas into sustainable cities is becoming an increasingly common of governments because of the scarce natural resources, growing populations and concerns about populations (Symes & Pauwels 1999; Shane & Graedel 2000).

In Hong Kong SAR, as the population density is high, housing has a definite role to play in advancing the sustainability of the environment. At present, the housing development in this high-density city may not be ecologically sustainable and that the city may not be able to provide housing to the future generation with an acceptable environment quality. There is no concerted effort to ensure that the housing processes are environmentally sustainable (Chiu 2000). As revealed from the above discussions, liveability and long-term sustainability of the urban area are imperative for successful urban renewal. The objectives given by Planning and Land Bureau, Government of the Hong Kong SAR (2001a) though addressing environmental concerns, land development planning and long-term decay prevention, have not explicitly included sustainability for urban renewal. However, the Chief Executive of Hong Kong SAR, Tung Chee Hwa, has stressed the importance of a better quality emphasizing a better

environment, cleaner water, cleaner air, less waste, use of our energy resources and sustainability to make Hong Kong SAR a truly sustainable city in the 1998 and 1999 Policy Address (Tung 1998, 1999). After public consultation in 2001, sustainable development was incorporated by the Hong Kong SAR government as one of the main objectives in urban renewal strategy (PLB 2001c). Such policy is in line with the developing trend of environmental regulation from land use zoning, environmental assessment processes and emission control requirements to sustainable project development (Boyer et al. 1998). In fact, a pilot 'green estate' for developing the concept of sustainable development has already been planned for the public housing in Hong Kong SAR (Housing Authority 2000).

For the purpose of this thesis, sustainable development is defined as the ability of the urban area and its region to continue to function at levels of quality of life desired by the community without restricting the options available to the present and future generations and causing adverse impacts inside and outside the urban boundary (Post Conference Report 2000).

2.3 Parent discipline 1 - urban renewal

As mentioned in section 2.2.1, sustainability is to be considered in urban renewal. In urban context, sustainability covers social, economic and environmental aspects for future generation. One of the design principles is minimal environmental harm – the development of urban areas which are sustainable both in terms of their environmental impact and in their ability to be flexible and adapt to future changes. This principle includes green building initiatives such as energy usage, water saving and sustainable materials (URBED n.d.). Globally, buildings account for one-sixth of the world's freshwater withdrawals, one-quarter of its wood harvest, and two–fifths of its materials and energy flows (Rodman & Lessen 1996). Therefore, the futurity of urban sustainability is closely linked to economic policy orientations, durability of the buildings and flexibility of the building in adjusting for future uses. The longer the building can last, the longer the period of time over which the environmental impacts of building it can spread (Symes & Pauwels 1999). Therefore, urban renewal is a process of change in the built environment which fosters economic development while conserving resources and promoting the health of the individual, the community (social dimension) and the ecosystem i.e. urban sustainable development (Girard 1997; Maiellaro & Lerario 2000).

The following discussion of urban renewal literature is divided into several sub-sections, each dealing with a specific aspect of the literature:

- the role of sustainable building construction in urban renewal;
- the needs of integrative and multi-disciplinary approach;
- cultural heritage in urban renewal;
- stakeholder management in urban renewal.

2.3.1 The role of sustainable building construction in urban renewal

Buildings play an important role in achieving sustainability for urban renewal as discussed above. Therefore, it is paramount that the building industry adopts environmental performance as one of its leading principles alongside economic efficiency and productivity principles. Green building approach is becoming more widespread as a solution to a building-related problem and toward achieving a sustainable future (CESD 2000; Larsson 2000). Sustainable building or green architecture looks beyond the realisation of a physical shell made up of foundations, walls, and roofs to view building as part of the natural environment and human, economic, and social institutions. To be sustainable, buildings must evolve from concerns for environment impacts, human needs, cultural vision, and social remediation. Green buildings are designed to conserve resources but, in the end, must also inspire, inform, and motivate their occupants to think differently about their relationships to each other and to the environment that surround them (Maxman et al. 2000). Basically, green buildings promote resource conservation, including energy efficiency, renewable energy, and water conservation features; consider environmental impacts and waste minimisation; create a healthy comfort environment; reduce operation and maintenance costs; and address issues such as historical preservation, access to public transportation and other community infrastructure in order to reduce sprawl. The entire life cycle of the building and its component is considered, as well as the economic and environmental impact and performance (CESD 2000). Life cycle approach is the cradle-to-grave consideration of a building's total economic and environmental impact and performance, from material extraction and product manufacture to product transportation, building design and construction, operation and maintenance, and building reuse or disposal (PTI & USGBC 1996). The main purposes are to

assess the environmental effects during the different life cycle phases and the disposal problems; to provide information useful for an aggregated environmental impact assessment of products, processes, activities through the life cycle; to evaluate the environmental consequences of alternative processes and design concepts (Gilpin 1995).

In broader sense, sustainability concept should be applied to the building and construction industry i.e. sustainable construction, which can be defined as the creation and responsible management of a healthy environment based on resource efficient and ecological principles (Kibert et al. 1994; Augenbroe, Pearce & Kibert 1998). The more efficient the construction industry can be, the greater the degree of sustainability it will achieve. The built environment in urban sustainable development will become more efficient to operate, minimising the impacts on the natural world and maximising its contribution to society (Marsh 2000).

2.3.2 The needs of integrative and multi-disciplinary approach

Sustainable urban development is all about diversity. Critical inter-linkages between various systems, actors and activities in the urban regeneration process are required to be identified (Post Conference Report 2000). The design principles include quality space, a framework of streets and squares, a rich mix of uses, a critical mass of activity, integration and permeability, a sense of place and a feeling of stewardship involving different design processes such as planning, heritage, transportation and landscaping (URBED n.d.). Thus, an urban renewal project will involve different professional disciplines including planning, architecture, engineering, property valuation, quantity surveying and landscaping. Poor communication between these professional disciplines, each with their differing priorities, results in less than ideal buildings. Greater co-operation between the professions involved is required for urban renewal (Woolley 1999).

Buildings generally last for a long time and, if badly designed, maintain unnecessarily high demands on the environment. Also, premature demolition represents a waste of capital resources and embodied energy. As the entire life cycle of buildings is the focus of sustainability, getting the design right at the outset is important because it will minimise the need for future alterations or changes in building's life (Marsh 2000). Such green building practice, which contributes to achieving a sustainable future, requires an integrated approach

to create environmentally sound and resource-efficient building (CESD 2000; Maxman et al. 2000).

Hence, an integrated and multi-disciplinary approach involving all members of the design team at the earliest possible stage of project is necessary for sustainable design and construction. This approach can ensure that the relevant issues are established from the beginning and adhered to throughout the project, and that mutually desirable solutions are reached (PTI & USGBC 1996; Brandon, Lombardi & Bentivegna 1997; Grey & Halliday 1997; Augenbroe, Pearce & Kibert 1998; The Institution of Structural Engineers 1999; CESD 2000; Larsson 2000; Maiellaro & Lerario 2000, Mendler & Odell 2000). Such approach also allows the team members to share specialised expertise, co-ordinate their individual efforts and achieve possible synergies to achieve the most holistic, integrated and sustainable solutions. BSRIA (2000) has gone further to suggest that all relevant professionals and stakeholders such as sponsors, contractors, suppliers and end-users should be included to work together throughout the process rather than sequentially and independently. Such a suggestion has the following potential benefits (BSRIA 2000):

- addressing the needs of sponsors, occupants and the environment;
- a better design product because the team can explore a wider range of solutions;
- increased building performance and customer satisfaction because it promotes better understanding of building use and performance by all concerned;
- more efficient design and construction because the consultants can identify design opportunities and constraints early on; and
- the most holistic, sustainable and appropriate environmental solution.

2.3.3 Cultural heritage in urban renewal

The term heritage denotes that a place or item is of significance or value to the community. Cultural heritage generally refers to places of historic, social aesthetic or scientific value, as well as architectural or technological value. A cultural heritage place can be a site, area, landscape, building or other work, buildings or groups of buildings or other works together with the associated content and surroundings that is significant for its historic, social, aesthetic or scientific value (Lennon 1998). Boyer et al. (1998) has gone further to widen the

concept of heritage to include both the natural environment and people and their relationship with each other and with place or land. Cultural heritage can be very broadly defined to include language, stories, art, religion, as well as physical features and places such as buildings, places of social value, museum collections and archaeological artifacts. While cultural heritage includes past associations with land, it also defines current culture and is about living associations with places and features.

Cultural heritage preservation is an important element of sustainable urban development (Carmona 1996; Girard 1997). Hutchinson Family Encyclopedia (2000) described urban renewal as the adaptation of existing buildings and neighbourhoods in towns and cities to meet changes in economic, social, and environmental requirements, rather than their demolition. A major objective is to preserve the historical and cultural character of a locality, but at the same time to improve the environment and meet new demands. Furthermore, conservation and urban design have a long established symbiotic relationship and there seems to be a two-way flow of ideas between them. Conservation goes beyond mere building preservation and uses urban design analysis to identify the character of spaces and layouts. In return, urban design draws on the knowledge of historic forms and spaces to inspire the creation of new environments (Stones 1998). Thompson-Fawcett (2001) cited a study by Leon Krier whose analysis of urban form and design of cities resulted in the advocacy of historical and cultural continuity. Urban design is perceived as cultural memory, so that contemporary city buildings should always recall elements of antecedent periods even though they may be substantially reinterpreted.

Hong Kong SAR's housing system has been weak in heritage preservation (Chiu 2000). Promoting culture and heritage has recently become the government policy (Tung 1998, 1999). The task of preserving buildings, sites and structures of historical, cultural or architectural interest is included in the urban renewal mission of the newly established URA (Hong Kong SAR Government 2001). Preservation will include retention of the local colour of the community and the historical characteristics of different districts. Advisory committee may be set up under the URA managing board to advise on preservation work (PLB 2001b).

Indigenous and local knowledge may serve as a rich source of information regarding indigenous and local culture. Incorporating such knowledge with expert knowledge often has

the effect of 'grounding' abstract information (Harding 1998). They are important types of knowledge that will complement the expert knowledge in identifying cultural heritage preservation work.

2.3.4 Stakeholder management in urban renewal

The external stakeholders identified for urban renewal projects include government, community, affected tenants, consultants, contractors, private sector developers, pressure and political groups. The importance of managing an integrative and multi-disciplinary team involving all relevant professionals and stakeholders has been discussed above. A team leader is essential to integrate the design team process and encourage communication.

There is now a consensus that a partnership approach is more effective than a reliance on conflicting or confrontational relationship (McCathy 1999). It was concluded in the case studies by Chapman and Larkham (1999) that some form of partnership arrangement involving public and private bodies, including the regulatory body, seems essential in both achieving urban quality and securing political acceptance. The achievement of real and sustaining partnership and participation provide underpinning for decision-making and the continuous development, renewal and improvement of towns and cities world-wide (Chapman & Larkham 1999). In Britain, the approach of joint working between government, business, community and voluntary sector, which defines partnership, is now spreading from the more specific renewal arena to become a common way of working for better local governance as a whole and such way of working can make progress towards the distant shore of sustainable urban development (Carley 2000).

Furthermore, a partnership-based strategic response to urban renewal is a mechanism, which is meant to promote a targeted and holistic approach to renewal as well as to facilitate the combination of all key stakeholders to tackle common problems on several fronts. Such approach is more likely to develop a holistic programme than an opportunistic approach, although yet to be tested (Fordham, Hutchinson & Foley 1999). Partnership is also the best way to pursue established project goals and criteria, following the whole-building integrated design approach, to establish and maintain communication among the team members and to resolve issue quickly. A partnering process should be in place throughout the project (PTI & USGBC 1996).

The real involvement of all sectors of the community in environmental decision-making is integral to the concept of sustainable development (Barton 1996; Counsell 1999). Specifically, Harding (1998) pointed out that 'Community Right to Know' is increasingly applied to a broad range of environmental and social issues in response to public demand for more information and transparent decision-making process. Failure to acknowledge the values of different stakeholders and incorporating them into environmental decision-making (which is one of the essential elements of sustainable urban development) may lead to conflict and tension. This in turn may lead to an increase in cost since disputes may lead to time delays and changes in plans, difficulties in the project approval process and inappropriate decision. Appropriate community involvement can lead to a more flexible decision-making process and solution, result in a less confrontationist approach, and in the long-term lead to a more cost effective and better result.

In UK, study was conducted to improve the quality and efficiency of the construction industry (ERM 1999). The drivers identified by the study also have the potential contribution to the economic, environmental and social objectives of sustainable development. The drivers are (ERM 1999):

- committed leadership so as to be more responsive to stakeholders;
- focus on customer;
- integrating the process team around the product (as discussed above);
- quality driven agenda with approaches to quality management also applicable to environmental and social performance; and
- commitment to people by focusing on working conditions, training and development opportunities for employees and contractors.

The drivers have not addressed the industry's broader influence on the built environment through linkages with other groups such as planners, building managers, sponsors, users, government and the regulators. However, the study recognised that involvement of other groups is important for sustainable construction.

One of the human principles that underlie the sustainability concept is public participation, the concern that individuals should have an opportunity to participate in decisions which affect

them (Brandon, Lombardi & Bentivegna 1997; Greene 1997; Augenbroe, Pearce & Kibert 1998; Boyer et al. 1998). The importance of public participation to achieve sustainable development was also given strong endorsement at the United Nations Conference on the Environment and Development in 1992 through one of the key documents from the conference – Agenda 21 (UNCED 1992). Participation is a key issue because people do not any longer accept big government (Smales 1996). There is an enormous demand by local communities for involvement in the planning and management of their built environment. Improving the quantity and quality of public involvement in urban design is one of the keys to improving the quality of the built environment. Also, it is now widely understood by people in all sectors of the development industry that such involvement can lead to more appropriate and sustainable development solutions and stronger citizen groups and communities (UDG 1998). In fact, a city able to promote a sustainable development is a city whose community is able to choose the goals and instruments of its own development, through communication, participation and constant comparison with the public explanation of good reasons (Girard 1997). The most important general principle is to involve parties affected as early as possible and ensure that the process is 'owned' by the local community (UDG 1998). Contact with the community early on in the project's life can elicit valuable input while also building goodwill for future approvals that may be required (Mendler & Odell 2000). An open approach to the community and an early-negotiated solution also has the advantage of providing a less fertile environment for mobilisation of resistance by the disaffected few (Bound et al. 2001). Public participation will then able to ensure widespread support for the process of change, make sure that the way society develops in the future is acceptable and hence sustainable. By creating the sense of ownership, places can be built in which harmonious, lively, sustainable communities can flourish. However, to foster a real sense of belonging, the community should be invited to participate at the earliest possible moment and to be kept up date with latest development. The structure of a project team and the management of communications between its members could be crucial. Clear and accessible channels of communication should be established at the earliest opportunity (Symes & Pauwels 1999).

The role of political and public sector involvement was also emphasised in the Post Conference Report of the First International Conference on Urban Regeneration and Sustainability (2000). Addressing the conflict or political situations created in moving toward

sustainability will require effective partnership concept in view of the effect on entire communities involving stakeholders with varying agenda and goals.

Blunkett (2000), Secretary of State for Education and Employment of UK has gone further to emphasise that empowering people to change their communities for themselves is the key to urban renewal. Developing capacity in communities through lifelong learning and skill developments would be central to urban renewal. Learning equips people to become actively involved in self-help activity, neighbourhood management, asset building and community enterprise.

Furthermore, Aiken & Hage (1970) in their study of innovation in urban renewal and public housing programme, found that the probability of innovation was higher in communities with decentralisation of authority - the cornerstone of public participation. To achieve a self-reliant city, which is a form of sustainable cities based on intensive internalisation of economic and environmental activities, circular metabolism, bio-regionalism, and urban autarky, a shift from economic or technocratic styles of decision-making towards more localised and community-based forms of decision-making is required (Guy & Marvin 2001). The government of the Hong Kong SAR also recognised that community support is necessary for the urban renewal actions proposed by government (PLB 2001a).

As urban renewal policy has to be integrated, comprehensive and strategic in orientation, a more explicitly strategic approach and a greater commitment to community involvement is required (McCarthy 1999; Woolley 1999). To strengthen the role of local communities, McCarthy (1999) suggested the formation of a community renewal agency. Such agency can promote capacity building to enhance the capability of local people to help shape renewal initiatives, and it could assist with the formulation of local community development strategies. In Hong Kong SAR, the government has decided to open up more channels for greater participation by citizens in public affairs so as to enable the government to hear and consider the public's view in formulating appropriate and acceptable policy measures (Tung 2000). A district advisory committee was proposed to be established in each of the target areas to give advice and assistance to the URA with regard to its urban renewal projects. Such a district advisory committee shall be representative of the local community, which may include representatives of owners, tenants, District Councils and local non-governmental

organisations with an interest in urban renewal. Public meetings will also be held during the consultation on projects to inform local residents of its projects and to gather public views. Further, an urban renewal social service team will be set up in each of the target areas to provide assistance and advice to residents affected by the projects (PLB 2001b).

Social impact assessment is to be conducted to fully assess the social impact of a proposed project and the social and rehousing needs of the affected residents (PLB 2001b). Social impact in relation to major development projects is often defined as the effect of the development on people and specifically the changes created in the people's way of life (how they live, work, play and interact); their cultural traditions (shared beliefs, customs and values); and their community (its population structure, cohesion, stability and character). Therefore, the reasons for undertaking social impact assessments are (Boyer et al. 1998):

- to achieve better decisions, particularly in matters of public policy and public good;
- to ensure that information about the likely social outcomes of particular courses of action are taken into account before a decision is finalised and/or during the implementation processes;
- to obtain information about social impacts to complement information about economic and environmental impacts;
- to make sure that the issues and outcomes of social process and social structure are not overlooked;
- to provide the communities in which the social impacts will be felt with the opportunity to contribute to, and participate in, and/or make decisions about the changes that are proposed or imposed; and
- to assist the development and delivery of appropriate mitigation strategies by quantifying the impacts on the various components of society.

Hence, direct communication of how people feel via public participation is the only legitimate manner of documenting the nature and extent of likely social impacts.

2.4 Parent discipline 2 - project management

Project Management Institute (PMI) in the Guide to PMBoK (PMI 2000) described a project concisely as a temporary endeavour undertaken to create a unique product or service. Project management involves the application of knowledge, skills, tools and techniques to project activities to meet project requirements in light of the stakeholders' needs and expectations, and the competing demands for scope, time, cost, risk and quality (PMI 2000). Stokes (1998) and Wysocki, Beck & Crane (2000) defined a project as a sequence of unique, complex, and connected activities having one goal or purpose and that must be completed by a specified time, within budget and according to specification. Project management is a method and a set of techniques based on the accepted principles of management used for planning, estimating, and controlling work activities to reach a desired and result on time, within budget and according to specification (Wysocki, Beck & Crane 2000). Projects are characterised by a singleness of purpose, a definite life cycle, complex interdependencies, some or all unique elements, and an environment of conflict and project management is the means, techniques, and concepts used to run a project and achieve its objectives (Meredith & Mantel 1995). Lock (1996) further characterised project as a step into the unknown, fraught with risk and uncertainty. Hamilton (1997) defined a project more elaborately as any series of activities and tasks that together achieve pre-determined deliverables in accordance with a quality definition, have defined start and end dates, intermediate milestones, funding limits, and utilise resources such as equipment, materials and people. To meet or exceed the requirements of the intended project sponsor or owner will need to balance the competing demands among the scope, time, cost, quality functions and any other applicable project functions; the involved parties who are likely to have different requirements; the identified requirements (needs) and the unidentified requirements (expectations).

The following discussion of project management literature is divided into several sub-sections, each dealing with a specific aspect of the literature:

- project management body of knowledge;
- stakeholder issues in project management;
- partnering in projects;

- organisational structure for project management;
- people issues in project management;
- communication management in project;
- environmental consideration in project development.

2.4.1 Project management body of knowledge

The project management body of knowledge is to reflect the purpose and provide the set of topics, relationships, and definitions of project management (Morris 2001). Nine areas of the body of knowledge have been defined by PMI in the Guide to PMBoK (PMI 2000). Out of these nine areas, four are core elements, namely, scope, time, cost and quality, which determine the deliverable objectives of the project. The other five knowledge areas provide the means of achieving the deliverable objectives. They are integration, human resources, communication, risk, procurement and contract (Burke 1999). This version of body of knowledge in project management has been viewed as largely about completing a task on time, in budget and to scope. However, many practitioners and academics believe that the primary concern should be on delivering projects successfully to the requirements of the project customers and sponsor. Defining the scope, cost and time targets properly is only half the battle; ensuring that the technical, commercial, business, environmental and other factors are effectively aligned with organisational and control issues is generally fundamental to ensuring an optimum outcome. On this basis, the UK-based Association for Project Management (APM) has developed its own body of knowledge. The Centre for Research in the Management of Projects (CRMP) of the University of Manchester Institute of Science and Technology (UMIST) financed by APM, has further developed an updated model comprising of seven sections as summarised in the table 2.1. CRMP research also found that all companies contributing to the review of the body of knowledge supported the broader model, endorsing the importance of front-end, business, technical and commercial issues in successful project management (Morris 1999, 2001).

Table 2.1: Summary of CRMP body of knowledge model for project management

Section	Body of Knowledge
General	General and introductory items such as project management, programme management and project context
Strategic framework (including basic objectives)	Project success criteria, risk management, strategy/project management plan, value management, quality management, safety, health and environment
Control	Scope, time schedule and resource management, change control, earned value management, information management
Technical	Design, production and handover management, requirements management, technology management, value engineering, configuration management
Commercial	Business case, marketing and sales, financial management, legal awareness, procurement
Organisational	Life cycle design and management, design and development, post evaluation review, organisational structure, organisational roles
People (managing people working on the project)	Communication, teamwork, leadership, conflict management, negotiation, personal management

Source: adapted from Morris (1999, 2001)

An entrepreneurial approach to managing projects is evolving (Cohen & Graham 2000). In the past, the economic success of the product produced was not the project managers' concern but someone else. For not-for-profit organisations, stakeholders want an organisation that will provide desired outcomes within economic constraints necessary to ensure the survival of the organisation so that it can continue to do good in the world. Taxpayers want the highest quality outcome for the lowest relative cost. The entrepreneurial approach to project management would indicate that the project manager should manage the project as if it were an independent business venture. The project manager must manage the project with the larger organisational system in mind and understand how any organisation creates value for its major stakeholders. Projects are the primary means for achieving organisation strategy. Outcome, cost and duration will still be important factors to measure project progress. However, these factors will be augmented by business factors that will be used to measures project success. Cohen and Graham (2000) suggested that the new project management paradigm shall be as follows:

- Organisational strategy becomes the number one determinate of project success.

- In project management processes, behavioural factors linked to project success and economic value instead of scheduling is essential.
- Market understanding is essential for project success i.e. market driven project management.
- Costs are important during project and life of project outcome instead of only project costs.
- Finance does matter for project contribution to economic value instead of no consequence to project.

The measurement of successes for the new orientation becomes customer satisfaction, contribution to strategic intent, external focus of customer, market, competition and the entire product lifecycle, and helping to implement organisation strategy.

Project management in organisational context was also echoed by Cooke-Davis (2001). The direction of project management is shifting focus from management of a project to the management of inter-related projects. Organisational roles should be looked at and organisational context should be understood.

2.4.2 Stakeholder issues in project management

Stakeholder management is an important part of the strategic management of organisations (Cleland 1999). Dill (1958), Aquiler (1967), Mintzberg (1979), Weiner and Brown (1986) established the need to analyse the enterprise's environment and its stakeholders as part of the strategic management of the enterprise.

Project stakeholders are individuals and organisations (both internal and external) that are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or completion (Hamilton 1997; PMI 2000). They include customers and sponsors, internal and external entities, owners and funders, suppliers and contractors, team members and their families, government agencies, media outlets, individual citizens, society at large (Hamilton 1997). Stakeholders can be categorised as primary, secondary or tertiary in accordance with their position relative to the project under consideration. Primary, or core stakeholders are those that make a direct contribution to the project and may include the sponsor, the owner, the funder, the 'doing' team, and the

customer. The secondary group may be those individuals or organisations that act as vendors (suppliers) to the project, external entities, support to the 'doing' team, and other similar parties. The tertiary group is the rest: the statutory authorities, the media, society, individual citizens, etc. (Turner 1993).

Stakeholders will exert influence over the project and its results. The project management team must identify the stakeholders, conduct a needs analysis to determine their needs and expectations, which should then be managed, influenced and balanced to ensure project success. Managing stakeholder expectations may be difficult because stakeholders often have very different objectives that may come into conflict (Hamilton 1997; PMI 2000). In particular, it is becoming increasingly important to embrace a community interface to successfully manage projects since community issues can and do delay and/or prolong projects, increasing indirect cost, and construction cost can be affected dramatically by additional changed project scope as a result of community consultation process, either directly or due to political reaction to pressure. Communities who are not listened to can impact directly on projects, affecting consent or other regulatory mechanism, or worse, through media and/or political pressure, invoking knee-jerk reactions. The identification of project stakeholders during the early stage of project planning and development of a list of related critical success indicators that reflect the stakeholders' reasonable expectations is also emphasised by Wideman (1998). Critical success indicators are those key indicators specific to the particular project by which the project is judged a success or failure. The methodology to identify stakeholders includes examining the environment, determining the type of influence, categorising the level of influence and gathering information. A survey conducted by Black (1996) showed that the main reason for project failure was that projects were not adequately defined at the beginning. He recommended that various stakeholders of the project be included in a very thorough planning process, thereby maximising the input from various vested interests and broadening the understanding of the project manager and team members. An integrated production process through examining the impact of life-cycle costing involving stakeholders rather than a fragmented process has also been recognised as one of the important strategies to enhance building quality in the public housing of Hong Kong SAR (Housing Authority 2000).

Therefore, the project manager is required to set priority of the stakeholders' need. In addition, the project manager should create an environment where the stakeholders are encouraged to contribute their skills and knowledge which may be useful to the success of the project (Burke 1999). In fact, one of the politics to be considered when planning a project is communicating with all stakeholders. Politics is synonymous with effective stakeholder management (Baker 1998). If the project is large, significant, or critical, it may be advisable to mount a more formal programme to establish and maintain stakeholder linkages – a project public relationship programme undertaken by expert staff is an essential part of successful project management (Wideman 1985, 1998). Such programme include the following goals:

- to maintain internal project communications that promote a good understanding of the project by the workforce and members of the project team;
- to keep the public up-to-date on the progress and performance of the project;
- to be open with public information; and
- to promote and effectively respond to any misleading information that may be circulating about the project or its people.

An independent audit of the project conducted on a periodic basis will also help the project team to get the informed and intelligent answers they need on strategic issues and stakeholder interest. Both internal and external audits performed by third parties to analyse the project's strengths, weaknesses, problems and opportunities can shed light on how well the stakeholders are being managed (Cleland 1999). This was echoed by Kezsbom and Edward (2001) who suggested that a project management audit could also help the project team to evaluate the effectiveness of its project and quality management plans and the application of its quality management system to meet the stakeholder's expectation. Typically, such project management audit is to be conducted by an expert external to the project who has experience in similar activities and credibility with senior management to give reliable and independent information.

Customer-driven project management, which is a management approach that focuses on producing deliverables for achieving total customer satisfaction, has been suggested by Barkley and Saylor (1994). Such approach focuses on the performance and improvement of a

project and the design and delivery of a product or services. It integrates project management, total quality management and a customer-driven structure. The operating principles are trust, open communications, teamwork, empowerment, commitment and leadership at all levels.

2.4.3 Partnering in projects

Partnering is a system of conducting business that maximises the potential for (Stephenson 1996):

- achieving project intent;
- obtaining specified quality;
- encouraging healthy, ethical customer-supplier relationships;
- adding value;
- improving communication;
- providing methods of project condition measurement and feedback; and
- providing methods of resolving conflicts quickly by nondestructive means at optimal levels of management.

Uher (cited in Hibbert 1994) defined partnering as a process of establishing a moral contract or charter aiming to meet the project objectives by working together rather than by confrontation. The essence of partnering is a co-operative management style of work, intent upon overcoming traditional adversarial and litigious relationships and directed to achieving the project objectives of all partners. Everyone works to achieve an effective outcome which ensures that all parties to the contract receive a fair reward (Stokes 1998). The UK Construction Board Web site (cited in Kennett & Fletcher 2002) offered clearest and most straightforward explanation: 'Partnering is a structured management approach to facilitate teamworking across contractual boundaries. Its fundamental components are formalised mutual objectives, agreed problem resolution methods and an active search for continuous measurable improvements'.

The project manager will act as the partnering facilitator, establishing partnering norms and ensuring that it proceeds smoothly. Early involvement of contractors in design development and the issue of buildability make a lot sense for a partnering project (Hibbert 1994).

Partnering recognises that, even though each stakeholder has its unique definition of success, these unique definitions are not mutually exclusive. In fact, stakeholders share certain common goals. Attributes of partnering include a high-trust culture, synergy contributing to the overall success of the project as a whole, top management commitment, and no impropriety or perception of wrongdoing (Warne 1994).

Partnering has the following benefits (Bubshait 2001):

- effective project control since partnering motivates the people on a project by establishing a true team environment, which fosters motivation and commitment among all involved;
- cost effectiveness since partnering brings together all parties at a project's inception and creates synergies that benefit everyone involved;
- improved public relations since as much information as possible is available to project management team during all phases of the project to make organisational decisions and statements beneficial to all parties; and
- assisting the project management team in issue identification, analysis, change strategy alternatives and action plans.

Partnering is also the key for long-term total quality management (TQM) (Bubshait 2001). Partnering provides an environment for TQM because it focuses on the long-term approach of continuous improvement of construction process. TQM and partnering are complementary processes and both require an organisational environment of trust, open communication and employee involvement. Partnering also provides an informal management structure for the organisations to implement the elements of TQM as if all parties were working in one organisation.

In Hong Kong SAR, partnering with stakeholders is considered as the key to providing quality housing (Housing Authority 2000). For partnering to flourish, six elements must exist: commitments, clear roles and responsibilities, equitable risk-sharing, communication and feedback, objective performance appraisal, balanced reward and punishment.

2.4.4 Organisational structure for project management

Organisational structure will influence the project. Table 2.2 summarises the key project-related characteristics of the major types of organisational structure.

Table 2.2: Summary of the key project-related characteristics of different organisational structure

Organisational structure / Project characteristics	Functional	Matrix			Projectised
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's authority	Little or none	Limited	Low to moderate	Moderate to high	High to almost total
Involvement of the project team members	Part time	Part time	Part time	Full time	Full time
Project manager's role	Part time	Part time	Full time	Full time	Full time

Source: adapted from PMI (2000)

Functional organisation is a hierarchy where each employee has one clear superior. Staff members are grouped by specialty. Projects in functional organisation are limited to the boundaries of the function (Hamilton 1997; PMI 2000). In projectised organisation, the team members are often co-located. Project managers have a great deal of independence and authority. Matrix organisations are a blend of functional and projectised characteristics with weak and strong matrix maintaining many characteristics of the functional and projectised type organisation respectively (PMI 2000).

In the different type of organisational structure, projects are managed in the following manner (Larson 1987; Hamilton 1997; Cleland 1999; Kezsbom & Edward 2001):

- Functional organisation – the project is divided into segments and assigned to relevant functional areas, specialties, disciplines and/or groups within functional areas; the main objective is to emphasise the technology or expertise in each of the organisational lines; the project is co-ordinated by functional and upper levels of management;

- Functional matrix – a person is formally designated to oversee the project across different functional areas; this person acts the a project co-ordinator rather than a project manager and has limited authority over functional people; the functional managers retain primary responsibility for their specific segments of the project and provides direction on all matters to their own functional staff assigned to work on the project;
- Balanced matrix – a manager is assigned to oversee the project and interacts on an equal basis with functional managers; this person and the functional managers jointly direct workflow segments and approve technical and operational decisions;
- Project matrix – a manager is assigned to oversee the project, has the primary authority and responsibility for completing the project; functional managers' involvement is limited to assigning personnel as needed and providing advisory expertise;
- Projectised organisation – a manager is put in charge of a project team composed of a core group of personnel from several functional areas, specialties and/or groups, assigned on a full-time basis; the functional managers have no formal involvement but the project team member may refer to functional managers for advice or even sharing of resources; the resources are usually set up as a self-contained unit headed by the project manager who has direct, centralised authority over all personnel.

Table 2.3 summarises the pros and cons of the functional, matrix and projectised organisations.

Table 2.3: Pros and cons of functional, matrix and projectised organisations

Type of Organisation	Pros	Cons
Functional	• Maximum flexibility in the use of staff; • Individual experts can be utilised by many different projects; • Maintains a pool of specialists and talents • Specialists in the division can be	• Client is not the focus of activity and concern; • Functional division tends to be oriented toward the activities particular to its function; • No individual is given full responsibility for the project;

	grouped to share knowledge and experience; • Functional division serves as a base of technological continuity when individuals choose to leave the project; • Functional division contains the normal path of professional growth and advancement for individuals whose expertise is in the functional area; • Standardisation within functions is possible.	• Lack of co-ordinated effort causing slow response to client; • Tendency to suboptimise the project, areas directly related to the function are dealt with carefully, but those outside normal interest areas may be given short shrift; • Both motivation and inertia of people assigned to the project assigned to the project tends to be weak; • Does not facilitate a holistic approach, cross divisional communication and sharing of knowledge is slow and difficult; • Development opportunities are limited.
Projectised	• Project manager has full line authority over the project; • All members are directly responsible to the project manager; • Lines of communication are shortened and informal communication is also possible; • When there are several successive projects of a similar kind, the projectised organisation can maintain a more or less permanent cadre of experts who develop considerable skill in specific technologies; • Project team generates an esprit de corps and has a high level of commitment from its members, motivation is high and acts to foster the task orientation; • Ability to make swift decision because authority is centralised, thus reacting more rapidly to clients and needs of senior management; • Unity of command exists; • Structurally simple and flexible; • Supports a holistic approach; • Functional personnel are broadening their perspectives and experiences and are trained for developing into future project managers.	• Duplication of effort; • Stockpile equipment and technical assistance; • Technological skills tend to fall behind in other areas of their technical expertise; • Foster inconsistency in the way in which policies and procedures are carried out; • Projectitis disease i.e. strong we-they divisiveness grows; • 'Life after the project ends' – considerable uncertainty.
Matrix	• Project is the point of emphasis; • Has reasonable access to the entire	• Each project member has two bosses and difficult to determine who is the in-

	reservoir of technology in all functional divisions; • Less anxiety about what happens when the project is completed; • Response to clients needs is as rapid as in the projectised case; • Consistency with policies, practices and procedures of the parent firm tends to be preserved; • Where there are several projects simultaneously underway, allows a better companywide balance of resources to achieve the several different time/cost/performance targets of the individual projects; • Great deal of flexibility in precisely how the project is organised; • Good training for functional personnel to become project managers as in projectised structure.	charge; • Competition of resources for several projects may foster political infighting among several project managers; • Projectitis is still a serious disease; • Division of authority and responsibility inherent in matrix management is complex; • There are conflicting goals i.e. project verse function; • Matrix management violates the management principle of unity of command.

Source: adapted from Larson (1987), Ruskin & Estes (1989), Meredith & Mantel (1995), Lock (1996), Hamilton (1997), Cleland (1998, 1999), Stokes (1998); Wysocki, Beck & Crane (2000) and Kezsbom & Edward (2001)

Project matrix is superior in many ways to the other functional and balanced matrices (Larson 1987). The project matrix is likely to enhance project integration, decrease reaction time, diminish power struggles, and improve control and monitoring of project activities and costs. On the down side, technical quality may suffer since functional areas have less control over their contribution. The functional matrix is likely to improve technical quality as well as provide a better system for managing conflict across projects. The Achilles' heel is that functional control is maintained at the likely expense of poor project integration. The balanced matrix represents a compromise between the two approaches. At the same time, it is the most delicate system to manage and is more likely to succumb to many of the problems associated with matrix. Larson (1987) further cited a study conducted by the PMI that project matrix was the most popular. The project matrix received the highest rating while the functional matrix was rated as ineffective. The balanced matrix received only a marginal rating. The results indicated a strong preference for a project matrix in which the project manager has primary responsibility and control over development activities. Top management, project managers, and even functional managers were in agreement that the

project matrix would be the most effective form of matrix. The functional matrix was considered the least effective, even by the functional managers.

Project structures organised along team lines will give more benefits than disadvantages to the organisation and make for a far more efficient business because of high commitment and high motivation (Major 1999). The obvious problems with the use of matrices are commitment of the individual to the project. If an individual is working on a number of projects, the degree of ownership of the project and commitment to it is somewhat diluted. The politics of a departmental organisation always come into play and this detracts from the efficiency of the project, often resulting in project managers and departmental managers entering into unnecessary conflict over resources. Cleland (1998, 1999) opined that there is no right organisational structure for all projects, or even for one project throughout its entire life cycle. The essence of project organisation is flexibility. The project can be built around the organisational strategy and as the strategy changes, so must the focus of organisation. However, with the increasing demand for more rapid improvements in technology and quality, firms are forced away from traditional functional organisation. In his study of the significance of project management structure on the success of 546 development projects, he found that that projects relying on the functional organisation or a functional matrix were less successful than those which used a balanced matrix, project matrix or project team. The project matrix outperformed the balanced matrix in meeting schedule and outperformed the project team in controlling cost.

Functional and functional matrix structures could be seen as ineffective in relation to success in meeting the usual project objectives of performance (scope and quality), completion time and overall cost because of the slowness of these organisational structures to respond to the required dynamic found in projects' environment (Hamilton 1997). The project matrix and project team organisational structures have been found to be the most effective in handling projects. The main reason is the strong influence of the project manager, who creates a horizontal line of communication and workflow, cutting across bureaucratic vertical structure, with its strong, superior/subordinate linkage. Hamilton (1997) concluded that proper project planning, organising, directing and control can only be performed within the project team or project matrix form of organisation structure under the management of a skilled and experience project manager, ably supported by other project management specialists.

However, Major (1999) has concluded that using a matrix structure with people working on several projects simultaneously would never lead to an overall cost saving and would lead to poor safety and quality standards, prolongation of time period for the project and increased costs. Further, the principles of managing multiple projects concurrently or single projects would be much the same and the temptation to stretch resources between projects in parallel should be resisted at all cost as this is a false economy.

Multiple projects should be managed by a general manager to whom the project managers of multiple projects report. However, Cooke-Davis (2001) pointed out that project managers working under the control of general managers with inadequate project management skills are likely to cause resentment and unpopularity. Multi-project management presents more problems than project management. The focus has changed from the individual managing single projects to the company managing many projects (Foti 2001). Wideman (1998) suggested that if project managers are competing for the same resources, a project managers' co-ordinating committee should be formed. If this group is unable to agree, then call on the project sponsor to resolve the issue. For all types of multi-project circumstances, the key features of project management are the 'three Cs' – communication, co-ordination and co-operation and success requires a central authority or organisation through which the three Cs can be realised (Robson 1989). The project manager for each project must work with the philosophy that what is best for all concurrent projects will, in the final analysis, be best for his/her.

Sponsors may have the alternative of appointing an external agency to manage projects. However, such arrangement may not ensure the kind of ownership required for successful implementation. The sponsor may not become aware of the impact of decisions taken by other external agencies like consultants and suppliers. Thus, the risk associated with the appointment of an external agency as project manager must be considered before a decision is made (Datta & Mukherjee 2001). Furthermore, client outsourcing of project management and control can threaten the incentive chain between supplier and client, tend to make the commandments of the quality movement irrelevant, and complicates the relationships between principal and agent in project-based transactions (Berggren, Soderlund & Anderson 2001).

Organisations need a home for the project management concept, where someone is looking out for new technology and is concerned about having a common methodology (Foti 2001). Unless the organisation is too small to support additional expenses, it makes sense to support the project management function by setting up a central project management service group or department. The group can be staffed with people who are capable of taking on the day-to-day chores of planning, resource scheduling, cost estimating, cost reporting, cost control, work programming, progress reporting and supervision of the company's project management computer system. Such centralisation can help to ensure standardisation of project management procedures (Lock 1996). Kezsbom and Edward (2001) viewed the project office as consisting of key individuals delegated with full-time responsibility for gathering and tracking the information necessary to support the project and ensure success, or as a centralised group established to provide project management support services to all projects within a given division or strategic business unit. Although using different term, the project support office suggested by Wysocki, Beck & Crane (2000) serves similar purposes. In addition, the project support office will also be responsible for functions such as establishing, monitoring and enforcing standards, managing communication, providing training and development, filling a mentoring role and facilitating deployment. Another concept is the project office in a leadership role instead of a support role – taking charge of projects and making sure metrics are on track. The final evolution will be the institution of a chief project officer, who will make sure all project management concepts are in place (Foti 2001). The suggested reasons for implementing a project support office are (Wysocki, Beck & Crane 2001):

- As the organisation grows, in the number and complexity of the projects in its portfolio, it must adopt formal procedure for managing the volume.
- It helps to identify and train project manager. The project support office is often the depository of the organisation's skill inventory of current and developing project manager.
- The lack of standards and policies will lead to increased inefficiencies and a compromise on productivity. Through the establishment and enforcement of

standards and practices, the project support office can have a positive impact on efficiency and productivity.

- The increased complexity and number of projects places a greater demand on resources. By paying attention to the demand for skilled project teams and the inventory of skilled team members, the project support office can maintain the proper balance through training.

However, Dinsmore (2002) summarised sixteen reasons against implementing a project office and cautioned that the potential barriers should be carefully sized up before placing all chips on the project office. The three powerful drawbacks that stand out against the implementation of project offices are:

- lack of external pressure – If that pressure doesn't exist and the company finds itself successfully cruising along a stable pace, then trying to 'projectise' activities through a project office will prove futile.
- internal dissatisfaction – If external pressure is sufficient, people in the organisations become queasy and restless, as the old way of doing things ceases to work.
- lack of a feasible plan – If the project office is not customised to fit the company's profile, it simply would not work.

The other thirteen reasons are that a project office:

- can provide no hard evidence to prove that it improves project success,
- concentrates power in parts of the organisation,
- hinders project managers' initiatives,
- increases overhead, so may not be worth the investment,
- stimulates bureaucracy,
- diffuses responsibility of project manager,
- dilutes the ability of project managers to direct activities,
- diverts good project staff from managing projects,

- may multiply mistakes if it is not on cue,
- may cause distractions from delivery,
- tends to be process-driven, not project-driven,
- creates resentment among project managers, and
- stimulates power struggles within the organisation.

2.4.5 People issues in project management

Leadership and management of the people involved in the projects are two of the main issues. The factor that empowers the project team and ultimately determines which projects fail or succeed is the leadership brought to bear on the project at all levels in the organisation (Cleland 1999). Leadership and management are two distinctive and complementary systems of actions, each with its own function and characteristics activities. Managing is primarily concerned with consistently producing key results expected by stakeholders, while leading involves establishing direction, aligning people and motivating and inspiring (Kotter 1990). There is the need to have strong leadership and strong management: one without the other is likely to produce poor results (Kotter 1990). Davis (cited in Cleland 1999) differentiated the roles of leadership and manager as a leader does the right thing (effectiveness i.e. selecting the objective, goals and strategies) and a manager does the thing right (efficiency i.e. building the project team and makes it works). The project manager is generally expected to be both the project's leader and manager developing competencies in the management of attention, meaning, trust and self (Kotter 1990; Meredith & Mantel 1995; Hamilton 1997; Cleland 1999).

Project managers require project management skills, general management skills such as leadership, communication, team building, organising, and technical management skills (Meredith & Mantel 1995; Hamilton 1997; Burke 1999). Besides, competence of project management practitioners should also encompass knowledge and understanding of the organisation in which the project is located and the market in which the organisation is operating (Turner, Keegan & Crawford 2000). For technical skills, Cleland and King (1983), La Monica (1994), Hamilton (1997) and Turner, Keegan & Crawford (2000) emphasised that a project manager should have a solid foundation in the discipline and technology appropriate

to the type of project in which the manager is involved. Cooke-Davis (2001) suggested that project managers should be selected more on their people-handling skills than on their technical expertise. The evolving entrepreneurial approach to project management requires the project leaders to have business skills (Cohen & Graham 2000). Other principal characteristics include decisiveness, a strong ability to get on with people and the ability to take a wide and comprehensive view of the current and upcoming issues posed by the project, and to integrate these into issues into a focused, directed course of action (Morris n.d.). The project managers should be 'system approach' converts who are capable of perceiving the environments beyond the project and can understand the relationship between the sub-systems and elements of other 'systems' and the project they are responsible for i.e. the ability to see 'big picture' (Cleland & King 1983; La Monica 1994; Hamilton 1997). Managers' expectation has a direct impact on their subordinates' productivity. High expectation of managers usually leads to better performance. However, the manager must acquire the industry knowledge and job skills required to be confident of high expectations and to make them credible to the sub-ordinates (Livingston 1988). A project leader also needs to develop strengths in six areas (Geddes, Hastings & Briner 1990):

- looking upwards – managing the relationship with the senior management;
- looking outwards – managing the relationship with client, end-user, suppliers and other external parties who impinge on the project;
- looking backwards – monitoring progress with appropriate control systems;
- looking forwards – planning to set realistic targets and obtain resources;
- looking inwards – managing himself/herself and reviewing his/her own performance; and
- looking downwards – managing the team to optimise their performance as individual and as a team.

The issue of 'generalising specialist' and the 'specialising generalist' for upper level management has been investigated by Weber (1997). The skills of the upper level management are generally seen as conceptual or integrating: ability to see the big picture, particularly in integrating the organisation's various functions. The concept of the generalist

executive who could utilise his or her general management principles effectively in any country, company or industry is dying. A specialising generalist focuses on the functional areas with the quickest payback, to the detriment of relations with surviving employees, customers and communities. The challenge that emerges in management and executive development seems to be how to help specialist to obtain a level of generalised expertise. In general management, the ability to conceptualise how parts and functions fit together is critical i.e. integrating or synthesising skill. Therefore, a successful project manager, who has to process integrating skill, is better to be a generalising specialist. As an integrator-generalist, the project manager provides a focus and synergy for the totality of the project packages and the embodiment of the work packages of the project into an entity that supports organisational strategic purposes. The project manager is the general manager of the project as far as the organisation is concerned (Cleland 1999).

Besides the competence of project management practitioners, corporate project management competence is also importance for project-based organisation (Turner, Keegan & Crawford 2000). Graham, England, Hoffman, Kerzner and Frame (cited in Turner, Keegan & Crawford 2000) considered that corporate project management competence includes the following:

- strategic alignment of projects;
- top management support;
- an effective project management information system;
- clearly defined and well formulated project management procedures;
- a plan for project management selection and development; and
- an effective internal project management community.

The first four of these building blocks of organisational project management competence involve strategic direction, and provision of supporting structures and systems. The last two focus on people and on organisational learning which are described by Dodgson (cited in Turner, Keegan & Crawford 2000) as 'the firms build, supplement and organise knowledge and routines around their activities and within their cultures, and adapt and develop organisational efficiency by improving the use of the broad skills of their workforce. The project management community is able to achieve real improvement in project management

capability, which involves interactions between people, projects and organisations (Crawford & Cooke-Davis 1999).

For an organisation consisting of knowledge specialists, no knowledge ranks higher than another and each is judged by its contribution to the common task rather by any inherent superiority or inferiority. Thus, an organisation has to be a team structure instead of boss and sub-ordinate hierarchical structure (Drucker 1992). A team consists of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable. Skills required in a team are technical or functional expertise, interpersonal, problem-solving and decision-making skills. The essence of a team is shared commitment (Katzenbach & Smith 1993). When projects are managed, there tends to be a breakdown and alteration of the traditional organisational hierarchies in favour of a horizontal form of organisational design (Cleland 1999).

Commitment of the employees is also necessary for enhancing the performance against an organisation's multiple stakeholders. In addition, commitment can promote the development of human skills and individual self-esteem. However, commitment cannot flourish in a workplace dominated by control (Walton 1985). Knowledge workers resist the command-and-control model (Drucker 1988). They have to manage themselves and have autonomy (Drucker 1991). Therefore, the role of the management is to inspire instead of command (Drucker 1992). The new motivation tools in such team structure consisting of professionals and knowledge specialists are as follows (Kanter 1989):

- mission - inspiring team members with the power of excitement of their vision and give people a sense of purpose and pride in their work;
- agenda control - giving team members greater control over their own activities and direction;
- share of value creation;
- learning - giving the team members the chance to learn new skills or apply them in new arenas;
- reputation - allowing the professionals to build up their reputation and publicity by offering project opportunities, which can also solicit commitment; and

- sense of ownership.

2.4.6 Communication management in project

Project communications management provides the critical links among people, ideas and information necessary for success. In other words, it is information that enables job performance (Denker et al. 2001). It is the knowledge area required to ensure timely and appropriate generation, collection, dissemination, storage and ultimate deposition of project information. Project communications management consists of (Hamilton 1997):

- communication planning – determining the information and communication needs of the stakeholders;
- information distribution – implementing the communications management plan and making needed information available to project stakeholders in a timely manner;
- progress reporting – collecting and disseminating progress information; and
- administrative closure – generating, gathering, and disseminating information to formalise project completion.

Communication is a key player in successful project management. It helps to create a shared vision, show sincere commitment of the senior management, specify the roles and responsibilities, give regular updates and enable employee feedback. Improvement in the project management process depends on a sincere commitment by all parties to provide effective communication upward, downward and sideways at all stages of a project (Ashley 2000). Several theorists have suggested that effective communication is one of the key factors in determining the success or failure of a project (Sanvido et al. 1992; Thamhain 1992; CII 1997). Kezsbom and Edward (2001) had gone further to emphasise that effective communication is the cornerstone of any project and is the single largest factor determining the quality, efficiency, satisfaction, and productivity of a project team.

Communication with all stakeholders is important. Management of the project team depends so much on information and communication – knowledge flows through people who are dealing with different technologies needed to bring the project objective into focus. Conversation is important within the team itself but also with the project stakeholders who are external to the team's organisation so as to bond them to the project as well as keep them

advised of what is going on and how their interests are being affected and are likely to be affected by the project itself. Keeping the project stakeholders informed at all times can do much to reduce the fear that they might have of the compromise of their stakes in the project. Conversation also helps to build trust and project team loyalty (Cleland 1999). A flattened structure will also facilitate reporting and control processes (Sauer, Liu & Johnson 2001).

Computers and advances in communications technology have dramatically increased the speed of many areas of project management. The areas include accessibility to information, especially for those working on-site who can now access data electronically, possibility of examining designs, documents and other materials in real time and as changes are made and possibility of delivering plans, designs, drawings and even administrative documents such as meeting minutes, via the World Wide Web (the Web). Online remote construction management integrates internet technology into the construction process, allowing rapid exchange of information on all aspects of planning, design, construction and management. It enables online real time communication between parties on a construction project improving co-ordination and communication, enabling better availability of information and storage of project information (Project Management 2001). The building of an on-line project Web site to share key project information among the team members is also favoured by Kezsbom and Edward (2001). Although subject to verification by additional research, anecdotal evidence collected during the study by Mead (2001) suggested that the project intranet systems were helpful in distributing project information and improving project communications.

A project management information system (PMIS) is the basis for project decisions and therefore represents an important part of project planning and control. The purposes of PMIS are (Barkley & Saylor 1994):

- to provide useful data and interpretive information on the project as a whole to key managers and executives in the project and customer organisations;
- to provide a stable central reference to the project teams on the essential nature of the project, its objectives, statement of work and definitions, project team responsibilities, scheduling, and budgeting and to identify the criteria for monitoring and evaluating cost, schedule, and performance progress i.e. the PMIS structures communication on the project;

- to support critical decisions that must be made at the time they need to be made by the project team;
- to document the progress of the project so that information trail on the project is available for future reference; and
- to serve, in effect, as the basis for establishing a common purpose and language for the project, as well as providing a common forum for team interplay.

Such information system will provide the basis to plan, to monitor, to do integrated project evaluation, and to show the interrelationship among cost, schedule, and technical performance for the entire project and for the strategic direction of the organisation. In addition, information should provide a prospective view, to identify project problems before they occur, so they can be avoided or their results minimised (Cleland 1999). It is also becoming more common for project information to be shared with the project stakeholders. When the project management system provides information to the stakeholders, the conditions for getting the stakeholders working together are facilitated. The sharing of information can promote trust, empathy, and more mature relationships among project stakeholders. Also, as the project stakeholders review information on the project, such as the problems that the project faces, they may have suggestions that can contribute to the solution of the problems.

However, Thamhain (cited in Meredith & Mantel 1995) opined that computerised PMIS could be misused or inappropriately applied because excessive computer involvement with computer activity replacing project management and causes loss of touch with the project and its realities i.e. computer paralysis. Furthermore, it may cause information overload and computer dependence i.e. waiting for the computer reports/results to react to problems rather than being proactive and avoiding problems in the first place. PMIS reports may replace useful and frequent communication between the project manager and top management, or even between the project manager and the project team.

Executive information system (EIS) can be considered for upward reporting of the project status to management. An EIS is a computer application designed to be used directly used by top managers, without the assistance of intermediaries, to provide the executive easy on-line access to current information about the status of the organisation and its environment (Martin et al. 1999). Information is power, and therefore information systems affect the distribution

of power in an organisation. This is because controlling information can influence the outcomes of decisions, information systems often used at part of the organisation's resource allocation and control system and information present an image of the ability to influence outcomes as explained by Markus (cited in Martin et al. 1999). Any new information that changes power distribution will be resisted by those who stand to lose power. Therefore, any introduction of information system must be handled with care.

In Hong Kong SAR, the government has developed a customised management system to aid public works programme (Futcher 1998). The management system is a computerised management information that stores detailed time, cost and scope information on all public works programme. The objective of the system is to provide all levels of the public works programme hierarchy with the right information, in the right format, at the right time, to take the right action. It supports three levels of management activity – project management, programme management and programme development. The system fulfils a vital role in the project management through progress reporting, work scheduling, multiple reporting streams with drill-down capability, baseline management and exception reporting with thresholds that are set to trigger warnings when progress deviates from the baseline by the threshold amount.

2.4.7 Environmental considerations in project development

Integrating environmental considerations in project management is essential and requires managing the government-project-environment-community interface so that government policy issues are resolved; a strategy for addressing key environmental issues is in place; and community interests are appropriately acknowledged (Jenkins 1995). In planning the project schedules, allowance needs to be made for early identification of environmental issues; early commencement of baseline studies; resolution of critical environmental issues; and project modifications to mitigate adverse effects identified in impact analysis.

2.5 Immediate discipline - application of project management body of knowledge to urban renewal projects

Based on the key theoretical issues reviewed in the literature search of the two parent disciplines above, the application of project management to urban renewal projects is discussed in this section. Urban renewal involves projects that are temporary endeavours undertaken to improve the derelict urban areas as the goal, each having unique characteristics

and connected activities, and must be completed by a specified time, within budget and according to specification in an environment of conflict. Therefore, project management body of knowledge is applicable and necessary for efficient and effective implementation of urban renewal projects so as to meet the project requirements in light of the stakeholders' needs and expectation. Further, for not-for-profit organisation like URA, stakeholders want an organisation that will provide desired outcomes within economic constraint. Customer satisfaction, contribution to strategic intent of the organisation, external focus of customer and entire lifecycle and helping to implement organisation strategy are the measurement of successes of project management (Cohen & Graham 2000). The direction of project management is shifting the focus from management of a project to the management of inter-related projects (Cooke-Davis 2001). In other words, efficiency and effectiveness of URA are becoming important. Project management in the context of urban renewal should focus on inter-related projects in district perspective and in other district that may have synergetic effect.

The following discussion on application of project management body of knowledge to urban renewal projects literature is divided into several sub-sections, each dealing with a specific aspect of the literature:

- design, production and requirement management;
- organisational structure for managing the projects;
- the importance of leadership;
- the importance of communication;
- managing people working on the projects.

2.5.1 Design, production and requirement management

To make Hong Kong SAR a truly sustainable city as emphasised by the administration (Tung 1998, 1999), an urban renewal project has to be sustainable. Green buildings and sustainable construction are the essential elements (URBED n.d.; Kibert et al. 1994; Augenbroe, Pearce & Kibert 1998). Integrating environmental consideration in project management is essential and requires managing government-project-environment-community interface (Jenkins 1995). To achieve green buildings, sustainable construction and hence urban sustainable

development, an integrated and multi-disciplinary approach is required. The relevant professionals and stakeholders have to be involved at the outset of the project and work together throughout the process rather than sequentially and independently. This approach will enable the concerned parties to share specialised expertise, co-ordinate their efforts and achieve synergy for coming up with the most holistic and sustainable solutions that are acceptable to them (PTI & USGBC 1996; Brandon, Lombardi & Bentivegna 1997; Grey & Halliday 1997; Augenbroe, Pearce & Kibert 1998; BSRIA 2000; CESD 2000; Maiellaro & Lerario 2000). In fact, increasing fragmentation in large engineering projects can also cause problems of co-ordination, absent customer and organisational learning (Berggren, Soderlund & Anderson 2001).

2.5.2 Organisational structure for managing the projects

Organisational structure will affect the outcome of the projects. There are various types of possible structure ranging from pure functional, functional matrix, balanced matrix, project matrix to projectised types, each having different pros and cons (Larson 1987; Ruskin & Estes 1989; Meredith & Mantel 1995; Lock 1996; Hamilton 1997; Cleland 1998, 1999; Stokes 1998; PMI 2000; Wysocki, Beck & Crane 2000). Hamilton (1997) has found that project matrix and projectised structures are the most effective in handling projects. Moreover, the matrix organisation with people working on several projects simultaneously was considered ineffective in overall cost saving by Major (1999) and would lead to poor safety and quality standards, time delay and increased cost.

Essentially, the type of structure to be adopted has to support the integrated and multi-disciplinary approach required for achieving urban sustainable development. Further, managing multiple projects, knowledge specialists and the external stakeholders such as the affected people and community at different localities will affect the choice of project management skills and setup of organisational structure. The structure should facilitate the management of communication between its members (Symes & Pauwels 1999). For an organisation consisting of knowledge specialists, the project organisational structure has to be team-based instead of boss and subordinate hierarchical structure (Drucker 1992).

The alternative of appointing an external agency to manage projects may reduce the awareness of the sponsor in the impact of decisions taken by the project team (Datta &

Mukherjee 2001). Such approach may undermine the objectives of minimising social disruption in urban renewal.

Setting up of the project support office to serve the project management function has several advantages especially when the organisation has a considerable number of complex projects in its portfolio. The benefits include standardisation and formalisation of procedure and policy, training of project managers and maintenance of skill inventory (Wysocki, Beck & Crane 2000). Despite the advantages, there are reasons against making such move. The potential barriers should be carefully sized up before implementing the project office (Dinsmore 2002).

2.5.3 The importance of leadership

Leadership is of paramount importance in managing urban renewal projects. The project manager is expected to be both the project's leader and manager developing competencies (Kotter 1990; Meredith & Mantel 1995; Hamilton 1997; Cleland 1999). The attributes of the leadership have to cope with the integrated and multi-disciplinary environment, managing stakeholders having different interest on the project especially the community, and managing the knowledge specialists, who resist command-and-control and require new tools to motivate and inspire (Drucker 1988; Kanter 1989). Skills required of the leader may include possessing technical knowledge appropriate to the type of project involved, general management such as communication, team building, organising and people handling skills, system approach perspective i.e. the ability to see 'big picture', business and project management (Cleland & King 1983; La Monica 1994; Meredith & Mantel 1995; Hamilton 1997; Burke 1999; Cohen & Graham 2000; Turner, Keegan & Crawford 2000; Cooke-Davis 2001). The project leader should have the knowledge and understanding of the organisation in which the project is located and the market in which the organisation is operating (Turner, Keegan & Crawford 2000). A generalising specialist appears to be better than a specialising generalist (Webber 1997; Cleland 1999).

Corporate project management competence is equally important for project-based organisation (Turner, Keegan & Crawford 2000). The competence includes strategic alignment of projects, top management support, an effective PMIS, procedure and internal project management community.

2.5.4 The importance of communication

Since urban renewal involves vastly different categories of stakeholders, maintaining efficient and effective communication is important (Hamilton 1997; Cleland 1999; Ashley 2000). In particular, the integrated and multi-disciplinary approach for urban sustainable development requires good communication between the relevant professionals and stakeholders throughout the process. Clear and accessible channels of communication should be established at the earliest opportunities (Symes & Pauwels 1999). Cultural heritage preservation, one of the objectives of urban renewal, will necessitate input from indigenous and local community (Harding 1998). Hence, information sharing and control are the critical issues for enhancing communication.

Project communication management includes communication planning, information distribution, progress reporting and administrative closure (Hamilton 1997). Computer and advances in communications technology can be made use of to increase the speed of project management via the Web in real time (Kezsbom & Edward 2001; Project Management 2001). Other useful information systems that can be adopted include PMIS (Barkley & Saylor 1994) and EIS (Martin et al. 1999). The Hong Kong SAR government has been using a customised and computerised management information system for all public works programme (Futcher 1998).

2.5.5 Managing people working on the projects

Stakeholder management is important in managing urban renewal projects. People working on the projects may be internal (staff) or external (employees of other organisations, the affected community and the public). The staff involved in the projects may be largely professionals. As discussed above, the organisational structure, leadership and the motivation tools are important facets for eliciting the commitment and the maximum utilisation of their specialised knowledge for successfully delivering urban renewal projects.

Public participation and real community involvement is the cornerstone of environmental decision and sustainable development (Barton 1996; Smales 1996; Brandon, Lombardi & Bentivegna 1997; Girard 1997; Greene 1997; Augenbroe, Pearce & Kibert 1998; Boyer et al. 1998; Harding 1998; UDG 1998; Counsell 1999; Mendler & Odell 2000; Guy & Marvin 2001). Community support is necessary for urban renewal actions (McCarthy 1999; Woolley

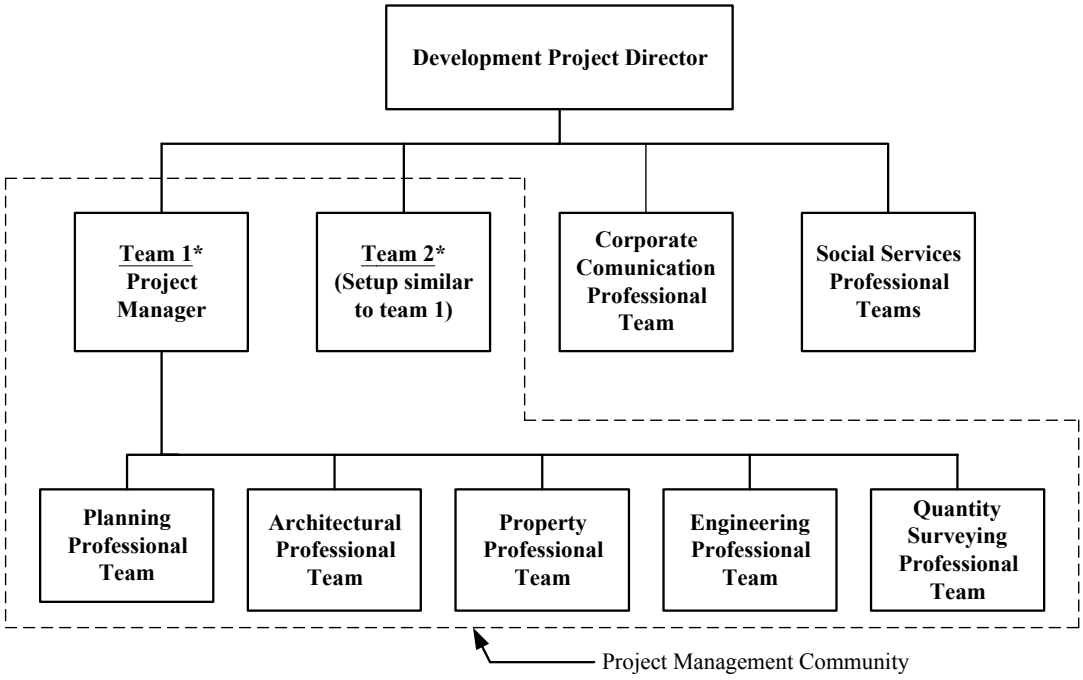
1999; PLB 2001b). Such participation is in line with the government policy to open up more channels for acquiring public's view in formulating policy (Tung 2000). Public sector involvement adopting effective partnership is essential to urban regeneration for addressing the conflict or political situations caused by the stakeholders with varying agenda and goals (Post Conference Report of the First International Conference on Urban Regeneration and Sustainability 2000).

Partnering relationship with stakeholders throughout projects will enhance the project management process (PTI & USGBC 1996). In particular, partnering with the local community can minimise possible delay, foster buy-in and ownership, facilitate the acquisition of local and indigenous knowledge necessary for cultural heritage preservation, and hence the timely approval of urban renewal projects. The formation of community renewal agency, district advisory committee or urban renewal social services team is needed to strengthen the role of local communities and the 'people-centred' approach (McCarthy 1999; PLB 2001b). Coupling with the commitment of the internal staff, partnering will promote long-term TQM since it provides an informal management structure for the organisations to implement the elements of TQM as if all parties are working in one organisation (Housing Authority 2000; Bubshait 2001). Quality is essential for urban sustainable development since the durability of the construction projects can be improved. Therefore, partnering in stakeholder management is in line with the custom-driven project management focusing on achieving total customer satisfaction suggested by Barkley and Saylor (1994). Conducting independent periodic audit of the project will help to get information on stakeholder interest and how well the stakeholders are being managed (Cleland 1999).

2.6 Project management application model for urban renewal projects

Based on the key theoretical issues reviewed in the literature search of the two parent disciplines, the immediate discipline of project management application has been focused more narrowly on the issues of design, production and requirement management, organisational structure, leadership, communication and management of people. Based on the issues identified, the proposed project management application model for urban renewal projects can be formulated.

URA will manage the urban renewal projects to ensure the kind of ownership required for successful implementation. With the integrated and multi-disciplinary requirements for achieving sustainability in urban renewal projects, matrix or projectised types organisational structure comprising different specialised functions appears more favourable than pure functional type. For multiple projects, projectised type organisation is preferred to matrix type. The types of skills in the organisational structure will include professionals of various disciplines as well as corporate communication and social services teams to handle the concerns of different stakeholders. The organisational structure will be designed to handle multiple projects on regional basis because of the different concerns of the local communities. The proposed project organisation for a targeted area is shown in fig. 2.2.



Remark: * two teams are shown for indicative purpose, the number of teams will depend on the projects involved

Figure 2.2: Proposed Project Organisation for a Targeted District
Source: developed for this research

The first research issue formulated is therefore related to the effect of the proposed organisational structure on implementing urban renewal projects in each of the targeted district. The structure comprises of integrated and multi-disciplinary teams, corporate communication tam, social services teams and informal project management community under the leadership of a Development Project Director.

Research Issue 1 (RI 1): What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?

Urban renewal involves the re-development of some 2000 ageing or dilapidated buildings and improvement of the environmental quality of 67 hectares of old and run down areas in 20 years. There are 225 projects identified in nine targeted districts (PLB 2001b). With such scale, the uncertainty for 'life after the project ends' is not an issue. The duplication of resource is considered minimal since each district has different characteristics and therefore demanding dedicated team effort. To resolve other potential disadvantages of a projectised organisation, the structure of the headquarters will include:

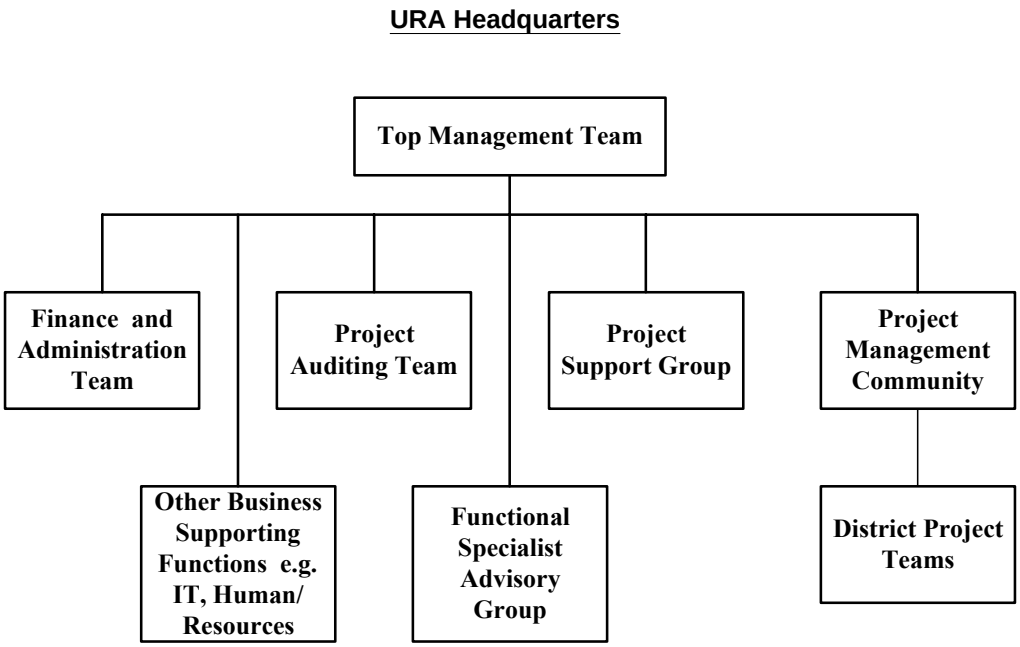
- project support group to formalise procedure and standards for consistency;
- project management community to provide the arena for interactions between people, projects and organisations to minimise projectitis disease and resources allocation;
- project auditing team to get the informed and intelligent answers on strategic issues and stakeholder interest; and
- functional specialist advisory group to act as the centre of excellence for training the appropriate specialist skills and giving advice as and when required.

Fig. 2.3 illustrates the proposed setup for the headquarters of URA.

Research Issue 2 (RI 2): What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?

The detailed setup of the structure will also facilitate the management of the professionals and knowledge specialists to ensure that they are motivated and their commitment solicited. A flattened hierarchy is proposed. Such setup can also enhance communication within team. In addition, the project leaders as well as the manager of these leaders will need to possess the appropriate attributes to manage both the internal and external stakeholders. The project directors as well as the project managers are to be generalising specialists. Besides possessing

urban renewal project development knowledge, they are also knowledgeable in environmental and sustainability issues. Similarly, team members are preferably equipped with sustainable urban development knowledge.



Remark: The Project Support Group and Functional Specialist Advisory Group are also members of the Project Management Community

Figure 2.3: Proposed organisational structure for headquarters of Urban Renewal Authority
Source: developed for this research

Research Issue 3 (RI 3): What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?

To achieve sustainability, quality and customer focus in urban renewal projects, the project team will involve all external professionals and stakeholders at the outset of the projects instead of adopting sequential and independent approach. Partnering relation is to be established with them. The Corporate Communication Professional Team in each district will establish district advisory committee/community with local people to enable true community participation and to acquire local knowledge for heritage conservation.

Research Issue 4 (RI 4): What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?

An efficient and effective communication system is required for information sharing and dissemination for all external and internal stakeholders. The efficacy of the communication system is particularly necessary internally if teams are deployed for projects at different localities to ensure organisational consistency. Besides the organisational support from the project support group and project management community, information technology enablers are proposed. A computerised project management information system with different security access levels for the type of information required is to be developed. For example, the system may comprise of an executive information system, which may include sensitive financial data, accessible only by senior management, project information and status that all project teams can have access to enhance information sharing. The system may link to a Web site, which can be accessed by the general public to achieve transparency and public participation, and to solicit community support.

Research Issue 5 (RI 5): What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?

2.7 Conclusion

In this chapter, the extant literature on the parent and immediate disciplines necessary to resolve the research question were reviewed and synthesised. The definition and objectives of urban renewal were first reviewed to identify the broad issues of concern. Subsequently, the issues discovered in the two parent disciplines, namely, urban renewal and project management had formed the background for the immediate discipline of applying project management body of knowledge to urban renewal projects. The issues identified were design, production and requirement management, organisational structure, leadership, communication and management of people working on the urban renewal projects. From the analysis of these issues, the following are the proposed model specifications for applying the project management body of knowledge and practice to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR:

Research Issue 1 (RI 1): What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?

Research Issue 2 (RI 2): What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?

Research Issue 3 (RI 3): What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?

Research Issue 4 (RI 4): What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?

Research Issue 5 (RI 5): What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?

Chapter 3 presents the methodology chosen to address these research issues on the way to resolving the research question.

3 Research methodology

3.1 Introduction

Based on the proposed research question formulated in chapter 1 (section 1.2), chapter 2 reviewed the literature making up the known body of knowledge on applying project management to urban renewal projects. A project management application model for urban renewal projects was finally developed with five research issues that needed to be addressed to resolve the research question. This next chapter presents the research methodology chosen to address these issues. The outline of this chapter is shown in figure 3.1.

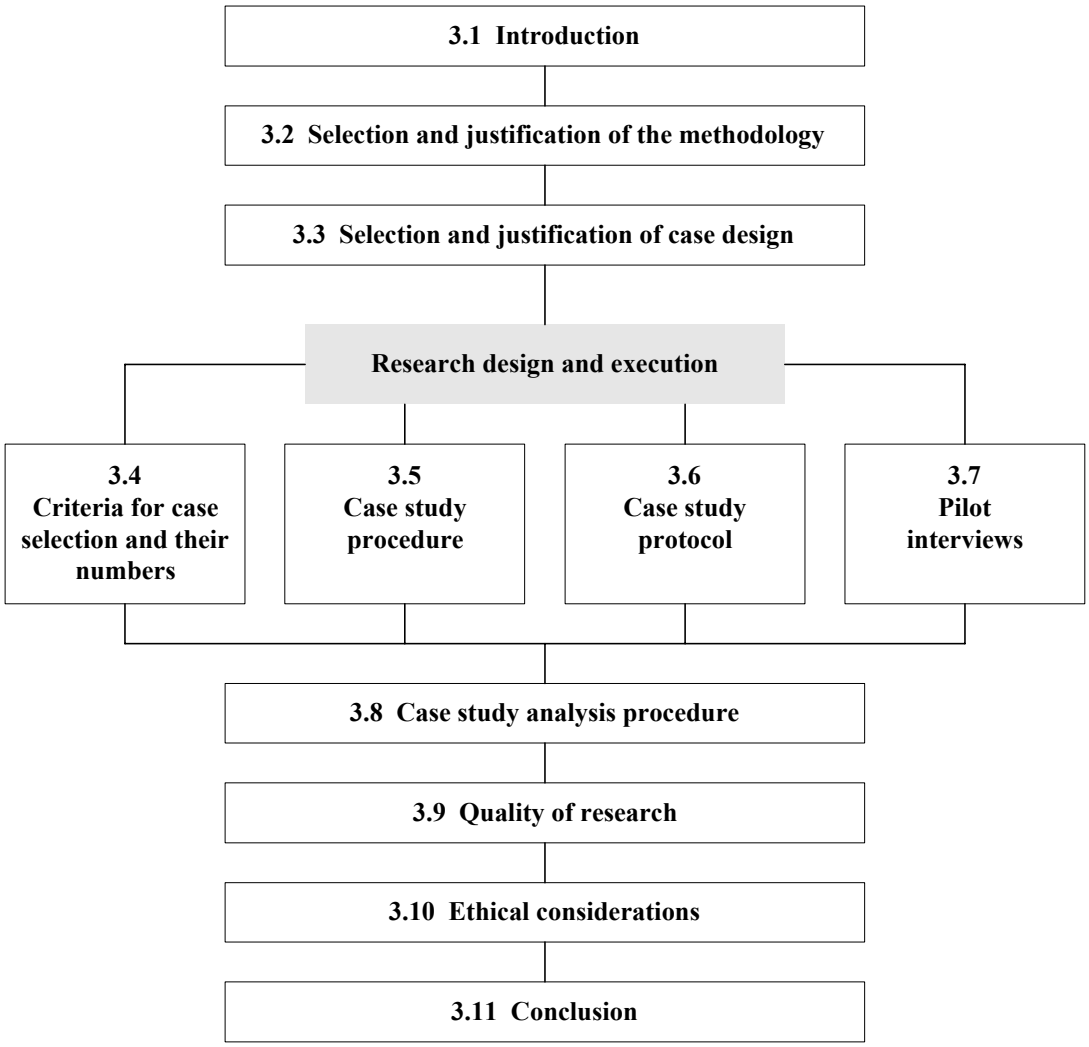


Figure 3.1: Outline of chapter 3, with section numbers and their inter-relationships
Source: developed for this research

Section 3.2 presents the selection and justification of the methodology. Section 3.3 then explains the selection and justification of the case design. The research design and execution covering the criteria for case selection and their numbers, case study procedure, case study protocol and use of pilot interviews are discussed in section 3.4 to 3.7. The case study analysis procedure is then presented in section 3.8. Further, the quality of the research and the ethical consideration are recognised and commented upon in section 3.9 and 3.10. The methodology selected to conduct this research is concluded in section 3.11.

3.2 Selection and justification of the methodology

3.2.1 Research paradigm

The term paradigm is loosely used in academic research and can mean different things to different people (Hussey and Hussey 1997). In this thesis, the term paradigm refers to how the research should be conducted based on the researcher's philosophies and assumptions about the world and the nature of knowledge. There are two major philosophical positions from which research methods should be derived. Nevertheless, there is no universal paradigm present and philosophers and methodologists have been engaged in a long-standing debate about the most appropriate philosophical position from which methods should be derived (Easterby-Smith, Thorpe & Lowe 1991).

A review of the research literature leads to the identification of two broad categories into which the research paradigm may be divided (Bryman 1992; Hammersley 1992). However, while many authors refer to a dichotomy, there is a lack of consistency in nomenclature used. Some of the terms used when referring to these dichotomies include: qualitative and quantitative (Creswell 1994); positivistic and hermeneutic (Gummesson 1991); positivistic and phenomenological (Easterby-Smith, Thorpe & Lowe 1991); positivism and phenomenology (Patton 1990); scientific and interpretive (Robson 1993); and positivist and contextualist (Sinclair and Hogan 1996). The dichotomies in the literature were reviewed and reflect two broad areas of thought:

- Methods to test hypothetical-deductive generalisations. That is, starting with a well-defined hypothesis and from this seeking to prove or disprove the hypothesis. In this thesis, this will be grouped under the heading, positivist (Perry & Coote 1994); and

- Methods, which use a naturalistic approach drawing on induction and seeking to understand experience. This is an exploratory approach, which is open to new information. The term, interpretive (Perry & Coote 1994) will be used to refer to this approach.

From the literature, it also becomes evident that an inconsistency exists in relation to terminology when moving between paradigms and methods. For example, to Patton (1990), phenomenology is a paradigm while to Leedy (1997) it is a research design which is part of a qualitative research paradigm. It is difficult to interpret the use of the terms, which are not readily transferable between researchers, as they are context dependent. While the terms, qualitative and quantitative have been considered by some researchers as a paradigm (Creswell 1994), in this thesis they will be considered as methodology and not as paradigm. Brannen (1992) found that this approach of distinguishing between the two at the method level is the distinction most often applied. This approach of classifying these as implementation methods, not necessarily part of the philosophical decision, was also adopted by Yin (1994).

Positivist methods are often based upon on scientific process of deduction typified by the formulation of theories followed by the deduction of empirical consequences from large samples and the observation of their validity. Table 3.1 outlines some differences between the two paradigms (Perry & Coote 1994).

Table 3.1: Important differences between positivist and interpretive research paradigms

Positivist paradigm	Interpretive paradigm
(a) considers numbers	(a) considers words
(b) is deductive emphasising hypothesis aiming at external validity from statistical measures of generalisability	(b) is inductive emphasising theory building aiming at internal validity through information-richness, coherence and insight from triangulated sources
(c) tends to use experiments in a laboratory	(c) tends to use data within its context i.e. from field
(d) concentrates only on objective, value-free data	(d) includes subjective information collected from interviews
(e) pays comparatively less attention to particulars and being less focused	(e) tends to pay more attention to particulars while also being more broadly focused

Source: adapted from Perry & Coote (1994)

Using the nomenclature of positivist and phenomenological (referred as interpretive in this thesis), the key features of the two paradigms described by Easterby-Smith, Thorpe & Lowe (1991) are shown in table 3.2.

Table 3.2: Key features of positivist and phenomenological paradigms

	Positivist paradigm	**Phenomenological paradigm**
Basic beliefs:	the world is external and objective	the world is socially constructed and subjective
	observer is independent	observer is part of what observed
	science is value-free	science is driven by human interests
Researcher should:	focus on facts	focus on meanings
	look for causality and fundamental laws	try to understand what is happening
	reduce phenomena to simplest elements	look at the totality of each situation
	formulate hypotheses and then test them	develop ideas through induction from data
Preferred methods include:	operationalising concepts so that they can be measured	using multiple methods to establish different views of phenomena
	taking large samples	small samples investigated in depth or over time

Source: adapted from Easterby-Smith, Thorpe & Lowe (1991)

Thus, positivism paradigm is characterised by:

- the replicability of results;
- specificity in the definition i.e. a sound hypothesis;
- causal relationships;
- environmental control e.g. laboratory conditions;
- a rigorous research design, there may be control groups;
- control of extraneous variables; and
- generalisability.

The research issues identified did not fit a number of the criteria for positivism mentioned above. There were no environmental controls, no control variables and no control groups. On the contrary, they fitted into the characteristics of interpretive paradigm. Words rather than numbers were considered as the major elements of data. The totality of the situation had to be looked at and understood. The research needed to be inductive emphasising theory building relying on subjective information of different views obtained by multiple methods. Hence, this research adopted the interpretive approach.

3.2.2 Research methodology

Methodology is concerning how to collect and analyse data/information about the research topic i.e. how to carry out the empirical part of a research project. It deals with the sort of data needed and where it is located, how the data are to be collected and analysed.

Common research methods are quantitative, qualitative methods or a mixture of both (Perry & Cavaye 2001). The quantitative approach is sometimes referred to as traditional, the positivist, the experimental, or the empirical approach (Leedy 1997). Strauss and Corbin (1990) adopted the definition of qualitative research as any research not arrived at by means of statistical procedures or other means of quantification. Dey (1993) distinguished between the two in terms of comparing meaning to numbers. The use of a mixture of approaches can provide more perspectives on the phenomena being studied (Easterby-Smith, Thorpe & Lowe 1991; Hussey & Hussey 1997). There is recognition that a study may make use of both qualitative and quantitative approaches (Strauss & Corbin 1990; Brannen 1992; Hammersley 1992). Robson (1993) also stated that most 'real world' studies would require the use of quantitative and qualitative research in order to understand the object of the study. However, Perry (1995) considered that within the time and other resource constraints of a thesis, there would usually be only one major methodology which suits the research problem and associated gaps uncovered in the literature review. Other methodologies would be used in a secondary role to help formulate research issues or to slightly extend or generalise the findings of the main method. It is on this basis that this thesis has been centred.

Some common quantitative approach includes surveys and experiments. Survey is a research technique in which information is gathered from a sample of people by use of a questionnaire; a method of data collection based on communication with a representative sample of

individuals. Experiment is a research investigation in which conditions are controlled so that one or more variables can be manipulated in order to test a hypothesis (Zikmund 2000).

Case studies and action research are typical qualitative methods. Cases can be used as a research methodology (Tsoukes 1989; Parkhe 1993; Easton 1994; Yin 1994). Case-based methodology is a rigorous, coherent one based on justified philosophical positions, and appropriate for researchers, whether they are doing academic or industry research (Carson et al. 2001). Case study research methodology is defined as a methodology based on interviews, which is used in a postgraduate thesis involving a body of knowledge. It uses case studies as a technique for data collection that contributes to the overall research goal of theory building (Perry & Coote 1994).

Action research has been described in many ways, but generally it is deemed to be where action is both an outcome of the research and part of the research (Dainty 1991). Action research is also described as a family of research methodologies that pursue action (or change) and research (or understanding) at the same time (Sankaran 2000). In most of its form, it does this by using a cyclic or spiral process, which alternates between action and critical reflection and in the later cycles, continuously refining methods, data and interpretation in the light of the understanding developed in the earlier cycles. It is thus an emergent process, which take shapes as understanding increases; it is an iterative process that converges towards a better understanding of what happens. In most of its forms it is also participative. In short, action research is a methodology that is aiding participants to solve problems, make decisions, and implement actions effectively. Based on these definitions, action research would not be applicable to this research, which was passive and sought to explore concepts not test or influence outcomes.

The aspects of a unified thesis have been developed by Perry (1995). This is shown in table 3.3. Based on this table, the research was classified as largely qualitative as reflected by the nature of the research issues and the literature review. Also, its paradigm was of interpretive approach.

Table 3.3: Aspects of a unified thesis

Qualitative research	Quantitative research
Research question: how? why?	Research question: who (how many)? what (how much)?
Literature review: exploratory – what are the variables involved? constructs are messy research questions are developed	Literature review: explanatory – what are the relationships between the variables which have been previously identified and measured? hypotheses are developed
Paradigm: Phenomological/interpretive	Paradigm: positivist
Methodology: for example, case study research or action research	Methodology: for example, survey or experiment

Source: adapted from Perry (1995)

Yin (1994) developed three conditions that related to five major research strategies in the social sciences: experiments, surveys, archival analysis, histories and case studies. Table 3.4 illustrates these three conditions for determining the selection of the appropriate research method i.e. the type of research question posed, the extent of control an investigator has over actual behavioural events and the degree of focus on contemporary as opposed to historical event.

Table 3.4: Three conditions for determining the appropriate type of research method

Research method	Form of research question	Requires control over behavioural events?	Focuses on contemporary events?
Experiment	how, why	yes	no
Survey	who, what, where, how many, how much	no	yes
Archival analysis	who, what , where, how many, how much	no	yes/no
History	how, why	no	no
Case study	how, why	no	yes

Source: adapted from Yin (1994)

The research issues were of causal (explanatory) type and likely to require the use of case studies, histories, and experiments as the preferred research methods. The issues dealt with operational links needing to be traced over time, rather than mere frequencies or incidence. Furthermore, the proposed research focused on contemporary events and had no control over the behavioural events. Therefore, case study was the appropriate method.

From the above analysis, case study was concluded as the appropriate research method for the research issues.

3.3 Selection and justification of case design

A research design is the logic that links the data to be collected (and the conclusion to be drawn) to the initial questions of a study. Every empirical study has an implicit, if not explicit, research design (Yin 1994).

3.3.1 Types of case design

Four types of designs are available for case study strategy (Yin 1994). They are single-case (holistic) designs, single-case (embedded) designs, multiple-case (holistic) designs, and multiple-case (embedded) designs. Single case can be justified if it meets at least one of the following three criteria (Yin 1994):

- It is the only one that meets all the conditions of the theory.
- The case is rare or extreme and finding other cases is so unlikely that research about the situation could never be done if the single case was not investigated.
- The case provides unusual access for academic research, and unless the case is investigated, an opportunity to investigate a significant social science problem may be lost.

Another condition is that the appropriateness of two or more theories can be tested with the case (Carson et al. 2001).

Within the single case may still be incorporated sub-units of analyses, so that a more complex – or embedded – case design is developed. The sub-units can often add significant opportunities for extensive analysis, enhancing the insights into the single case. However, the

researcher must be cautious that that if too much attention is given to these sub-units, and if the larger, holistic aspects of the case begin to be ignored, the case study itself will have shifted its orientation and changed its nature (Yin 1994). The important issue in embedded cases is that each of the embedded cases in each big case must be considered and compared with other embedded parts of the same big cases, before the big cases can be compared (Carson et al. 2001).

The evidence from multiple cases is often considered more compelling, and the overall study is therefore regarded as being more robust (Herriott & Firestone 1983). However, the conduct of a multiple-case study can require extensive resources and time. Yin (1994) advised that multiple cases should be regarded as multiple experiments and not multiple respondents in a survey, and so replication logic and not sampling logic should be used for multiple-case studies. A guarded choice of each case should be made such that it either predicts similar results for predictable reasons (i.e. literal replication), or produces contrary results for predictable reasons (i.e. theoretical replication). This is in contrast to sampling logic, which is based on the assumption that a sample of a number of respondents represents a bigger population. Sampling logic is not appropriate for the case study methodology because it is not usually employed to ascertain the frequency of phenomena and as it spans the phenomenon as well as its context, a myriad of pertinent variables are generated which would compel the study of numerous cases to permit statistical sensitivity to the variables. Hence, if this logic were carelessly and uncritically applied to all categories of research, it would not be possible to study numerous vital issues.

3.3.2 Critical issues of the case research design

In designing the case research, the following critical issues were considered:

- Urban renewal is unique in each country because of the differences in political, economic, social, historical, cultural and legal situations. It could hardly be possible to find two countries that tackle urban renewal in similar way.
- URA is the sole body responsible for urban renewal in Hong Kong SAR. There is no other agent that is empowered with the legal authority to carry out urban renewal work in large scale and comprehensive manner.

- The research issues were specific to the local situation and all of them may only be verified or tested in the Hong Kong SAR case. As revealed from the preliminary search of other overseas urban renewal cases, there might possibly be one or two research issues that could be compared for replication purpose i.e. cross-case analysis.
- The accessibility of information is also imperative in case design. For the Hong Kong SAR case, there was little difficulty in conducting extensive interviews or soliciting documentation. However, conducting interviews or obtaining documentation evidence would inevitably be difficult, time consuming and costly for overseas cases.
- Sensitivity of information is an important consideration for information richness. In Hong Kong SAR, the URA was established in May 2001 to replace the former body, LDC. As the case study mainly concentrated on the historical data of LDC, the sensitivity of the information might not be an issue. On the contrary, some information might be considered sensitive by urban renewal organisations in overseas countries. The reliability of the data feedback might be dubious.

3.3.3 Selection of case design

Several case study options can be considered for the research issues identified. They are summarised in the table 3.5.

Table 3.5: Case design options

Option	Type of case study design	Hong Kong SAR case study	Overseas cases studies
1	Single case	detailed/in-depth study	-
2	Detailed multiple cases	detailed/in-depth study	detailed/in-depth study of each case as for the Hong Kong SAR case
3	Embedded case focusing on projects	embedded case studies with projects as sub-units	less in-depth studies for each case
4	Embedded case focusing on functional departments	embedded case studies with functional departments as sub-units	less in-depth studies for each case

Source: developed for this research

URA in Hong Kong SAR might be a single case situation because of the uniqueness of urban renewal and was the only one that meets all the conditions of the theory. However, cross-case analysis could possibly be conducted with some overseas cases on some of the research issues. Furthermore, cross-case analysis allows richer theory building because of replication. Relevance rather than representativeness is the criterion for case selection (Stake 1994). Therefore, option 1 (single case) was not recommended.

Option 2 required the in-depth studies of the overseas cases similar to that of the Hong Kong SAR case. The accessibility and sensitivity of information might pose problems on the information richness and reliability of case studies and hence the cross-case analysis.

Options 3 and 4 have the advantages of less in-depth studies required for overseas cases, which might have accessibility and sensitivity of information problems. The information richness of using projects as sub-units might not be as rich as the embedded cases using functional departments as sub-units because all projects were conducted on similar arrangement. On the other hand, the different levels of people in each functional sub-unit might have different experience and perspectives on the project implementation and hence the research issues. These sub-units could often add significant opportunities for extensive analysis, enhancing the insights into the Hong Kong SAR case. Further, cross case analysis could also be possibly conducted for some of the research issues with the overseas cases studies. Hence, the embedded case study focusing on functional departments for the Hong Kong SAR case with less in-depth studies for overseas cases was selected as the case study methodology.

Unit of analysis is that which the study is really about; which the data are collected about; which the research is to deal with. As a general guide, the definition of the unit of analysis (and therefore of the case) is related to the way the initial research issues have been defined. That is, the research question usually determines the unit of analysis in case-based research (Carson et al. 2001). From the above case design, the unit of analysis was therefore the entire urban renewal organisation for this research.

3.4 Criteria for case selection and their numbers

3.4.1 Type of cases

Purposive selection was used. It is based on the selection of information-rich cases for in-depth study (Patton 1990). This type of sampling is conducted in order to ensure that the cases in the study include certain attributes (Berg 1995). In fact, Eisenhardt (1989) pointed out that random selection of cases is neither necessary, nor even preferable. In this research, the attributes were related to the five research issues identified.

Further, the selection of cases entails using replication logic rather than sampling logic as discussed above. It can either be literal replication predicting similar results or theoretical replication producing contrary results, both for predictable reasons. Literal replication was used for this research by cross case analysis with overseas cases. The use of theoretical replication using contrasting cases would have made a valuable contribution to this study and this approach was considered. However, the contrasting case approach raised a number of issues. First, an inefficient or ineffective project management model would need to be defined. Second, the practical issue of identifying those actual cases would be too difficult. The overseas urban renewal organisations or their staff might be reluctant to describe and disclose their failures or problems and thus such information would not be obtainable. Finally, the criteria for determining inefficiency and ineffectiveness were difficult to work out.

Embedded case had been designed so as to provide significant opportunities for extensive analysis, enhancing the insights into the Hong Kong SAR case as discussed above. The functional departments were selected as the sub-units, the staff of which have been involved in handling the local urban renewal projects and thus would have different experience and perspectives as well as insight on the research issues.

3.4.2 Number of cases

The criterion for the selection of cases and the number of cases selected depends upon the purpose of the research and what will be drawn from the research. The validity, meaningfulness and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size (Patton 1990). That is to say, the issue of information-richness is fundamental to deciding on the number of cases rather than the traditional issue of sample size.

The question of how many cases is not answerable on statistical grounds (Miles & Huberman 1994a). Instead, the issue needs to be viewed conceptually in terms of what would provide confidence for an analytic generalisation. The complexity of the cases is also a factor. A large number of cases may in fact become too unwieldy to analyse. The kind of evidence and the number of cases is not crucial (Glaser & Strauss 1967). A single case can be indicative of a general concept while a few additional cases can be used to confirm this. Patton (1990) did not provide an exact number or range of cases that could serve as guidelines for researchers, and instead claimed that there are no rules for sample size in qualitative research. The sample size should be judged and negotiated in context depending on the purpose of the research, the reason behind the inquiry, the use of the findings and the resources (including time) available. Such remark is especially important for this research since overseas cases are used for cross case analysis. The resources for acquiring information are worth considering. Further, the selection of the number of replications depends upon the certainty required (Yin 1994). Miles & Huberman (1994a) supported this theory by suggesting that by just adding cases is a brute-force approach that will not help. However, well-selected and analysed cases assist in answering questions.

In sum, the number of cases is not critical. However, the selection of cases is critical. Thus, this research has focused on selection of relevant embedded sub-units and overseas cases based on information-richness instead of number.

3.4.3 Case selection criteria

As the research question was related to urban renewal projects in Hong Kong SAR, local cases were selected as far as possible. However, URA was the sole statutory body in Hong Kong SAR responsible for urban renewal, it was the appropriate and only available case locally. No other local institutions, statutory bodies or commercial organisations have been empowered by the ordinance to carry out urban renewal activities in comprehensive scale. However, embedded cases have been incorporated so that extensive analysis, enhancing the insights into the single local case in Hong Kong SAR. As the researcher had worked in the organisation for over five years and was knowledgeable about the operation and personnel of URA, there was little difficulty in accessing information, selecting and arranging interviews with the respondents. Although urban renewal in other regions might be carried out

differently because of the differences in social, political, legal and economic situations, some data collected might still be useful for cross case analysis and verification of the some of the research issues as mentioned above.

Table 3.6: Criteria for selection of cases

Case selection	Criteria
Embedded sub-units within the Hong Kong SAR case	• the functional groups have been involving in the value-chain of urban renewal projects.
Individual respondents within embedded sub-units of the Hong Kong SAR case	• respondent has management responsibility for urban renewal projects and/or has been led in a 'team'; • respondent is a professional in one of the functional groups constituting the value chain of urban renewal project; • respondent has participated in the present or past urban renewal projects in which he/she is a member the 'team'; • respondent has a general overview of urban renewal projects; and • respondent can provide specific additional knowledge.
Overseas cases for cross case analysis	• core business is urban renewal; • a non-commercial organisation in which profit-making is not the main objective; • urban renewal strategy is focusing on long-term; • replication logic can be applied for some of the research issues; • urban renewal projects have been completed by adopting the issues of the model identified for this research; • they are developed countries with considerable experience in urban renewal; and • information is readily accessible.

Source: developed for this research

Therefore, the case selection criteria fell into three categories based on the research design i.e. criteria for selection of sub-units in the embedded case of Hong Kong SAR, criteria for selection of individual respondents for the embedded sub-units and criteria for selection of overseas cases. Table 3.6 tabulates the criteria for these three facets. The criteria have been formulated based on the information-richness that the informants or cases could provide for the research issues. For example, the functional groups had to be in the project value chain to

ensure that their roles and responsibilities were relevant to the proposed project management model. Different levels of respondents were selected in the sub-units to ensure that views and opinions could be gathered on project team structure, attributes of members, communication, stakeholder management and so forth. Overseas cases to be selected would have similar operational background as the Hong Kong SAR case.

3.5 Case study procedure

This section presents the high level procedure which was applied to the case research. Field procedures are discussed later as part of the case study protocol. Figure 3.2 illustrates the case study procedure adopted for this research.

The case study procedure adopted for this research comprised of the following steps:

- Actual case selection – The cases were selected in accordance with the criteria outlined in section 3.4.3. This involved the selection of functional groups for the embedded cases, individual respondents in each of the functional groups and the overseas cases for cross case analysis. The respondents or informants selected for interviews have to possess considerable knowledge and experience in the urban renewal process. Therefore, members from the seven major functions of project development planning, re-housing, property acquisition, construction management, contract management, corporate communication and corporate services were invited. Personal interviews were be designed to facilitate feedback, probing and high participation. A total of 13 interviews had been conducted. Eighteen (18) overseas cases had been investigated. Of these overseas cases, only 10 cases satisfied the criteria for overseas cases selection. The embedded sub-units and the overseas cases will be briefly described in section 4.2.
- Design of research instrument – This will be considered in more detail in section 3.6.
- Pilot interviews – Pilot interviews were conducted for the in-depth study of the Hong Kong SAR case i.e. the embedded sub-units. This will be considered in more detail in section 3.7.
- Refinement of interview questions – Based on the experience acquired in the pilot interviews, the interview questions were refined for full scale case study research.

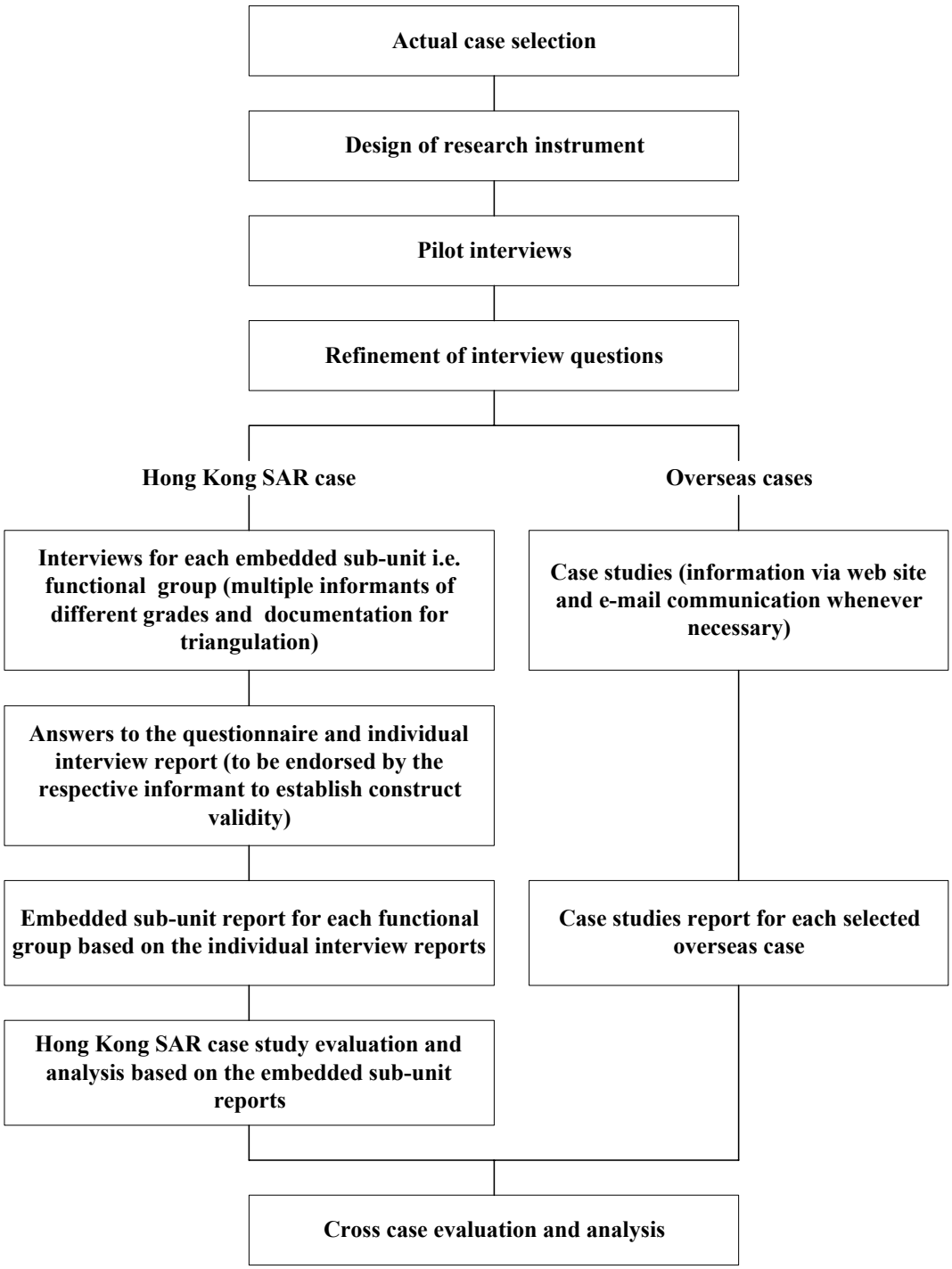


Figure 3.2: Case study procedure
Source: developed for this research

- Data collection – In-depth study for the URA in Hong Kong SAR case was conducted. Data were mainly collected through individual interviews. Multiple informants, for example different grades such as executive, managers and professionals, were interviewed for each functional group so as to serve as multiple data sources for verification i.e. triangulation. Besides, documentation method was also adopted for the same purpose (Yin 1994). For the overseas cases, less in-depth study was conducted on some of the research issues as mentioned section 3.3.3. Information was collected from Web site and communication was by means of e-mail.
- Case reporting – Case report was prepared for each of the embedded cases as well as the overseas cases. The format was standardised as guidelines in the research instrument.
- Evaluation and analysis – The analysis procedure will be discussed in detail in section 3.9. The details of analysis and results will be described in chapters 4 and 5 of the thesis.

This section has looked at the procedures surrounding the case study research. The next section will look at the research instrument for the in-depth study of the Hong Kong SAR case.

3.6 Case study protocol

Controlling the contextual environment is important in the design and application of qualitative research approaches (Emory & Cooper 1991; McDaniel & Gates 1991), in addition to replication logic. Case study protocol is issued to control the contextual environment of the case study (Yin 1994). The case study protocol is a written guideline for conducting the research. The protocol assists the research by allowing the researcher to detail in advance the procedure and requirements to be followed during data collection and providing direction for the researcher which might act to increase the reliability of the case study (Perry & Coote 1994). The protocol should consist of the following (Yin 1994):

- overview of the project covering the background information about the project, the substantive issues being investigated, and the relevant readings about the issues;
- field procedures including site access, interview schedule;

- interview instrument (interview guide, questions); and
- case study report writing guideline.

Based on the research issues identified in chapter 2, a series of questions were designed to explore the relevant issues. The questions were placed in the interview guide in an order, which permits a logical flow of the funnel questions. Funnel questions address a substantive topic that is normally the focus of a research project. Each successive question in the set is more specific than the preceding one, hence the term 'funnel question'. The purpose is to channel the questioning process from general to specific manner that maximises the quantity and quality of information obtained while minimising possible answer bias (Patterson 2000). The interview guide has also specified the sequencing and format of the questions. The questions were structured in such a way that each interview would be started with general open-ended questions and invite the informants to give their opinion or views on the project management issues. These questions capture the informant's own constructed world and not the researcher's (Perry & Coote 1994). This is the warranty that the answers come from the respondent and do not arise simply because the questions create a self-fulfilling prophecy (Dick 1990). The main questions structured the discussion by breaking the subject into specific answerable parts. Specific closed or probe questions addressing the research issues would then follow. These probe questions form the major part of the prepared interview protocol which is used to provide reliable framework for analysis of data (Yin 1994). Also, the purpose of the probes is to make conversational repairs, to acknowledge that the interviewer has understood the answer and to encourage the interviewees to keep going and to give long, complete and detailed answers (Rubin & Rubin 1995). Follow up questions were also designed to seek deeper and more thoughtful answers. Follow-up would help to complete a narrative, determine the facts of the matter, resolve apparent contradictions, and get pass oversimplifications and formal or normative response (Rubin & Rubin 1995). The questions were linked to the research issues to ensure that all the research issues had been addressed by the interview guide. Table 3.7 illustrates the link. Question design is important in producing data of adequate quality and quantity. Arksey and Knight (1999) outlined the importance of using clearly understandable and appropriate vocabulary, avoiding prejudicial language and ambiguity or impression words, leading, assumptive, hypothetical, double-barrelled, personal or sensitive questions. The questions for the research were prepared on

this basis. The individual report for each case included the source of information (interview details, level of the informants, documentation, Web site, e-mail correspondence), brief description of the case, the answers for the research issues and interesting details or new findings found in the case as well as the list of documents retained. The case study protocol is shown in appendix A.

Table 3.7: The linking of research issues to the interview questions

Research Issue	Questions in the interview guide
General open-ended questions	Q1 to Q4
RI 1	Q5 to Q15
RI 2	Q16 and Q17
RI 3	Q18 to Q25
RI 4	Q26 to Q32
RI 5	Q33 to 38
Overall summary	Q39

Source: developed for this research

3.7 Pilot interviews

Two phases were used for collecting data i.e. pilot interviews and the main study interviews. Pilot interviews are not a pre-test or 'full dress rehearsal' of the interview protocol (Yin 1994); rather they are an integral part of the whole protocol writing process. The pilot interviews were conducted to test the operation of the research approach. They would serve to test procedures and indicate areas of focus. They were also used to adjust the data collection plan and interview guide for the main study. Data from the pilot study were also used in the overall case analysis.

Three pilot interviews were arranged with different grades of the selected functional groups. The result and progress were reviewed to improve the phrasing of the questions and ensure timing was correct. The lesson learnt and the necessary improvement to the questions and interviews are summarised as follows:

- Time required for the interview was between 60 – 90 minutes. More time had therefore been allowed for the main interviews.
- It was difficult to agree the time and venue with the respondents because of their busy schedule. Conducting interviews in their office appeared not very convenient. Arranging interviews had become more time-consuming than expected. Therefore, these factors were considered for planning and conducting the main study interviews.
- In general, the respondents were willing to discuss candidly and openly for all questions. Therefore, the questions were appropriate.
- Explanation was required on particular terms, especially for the 'non-executive' professional level respondents. The time required for interviewing these respondents was longer. More time had been allowed for subsequent interviews with respondents of such level.
- The information to be recorded for the informant identity would include: position in the organisation, years of services in the organisation, contact telephone numbers and profession.
- For question 8 regarding the different types of organisation,
    - explanation was to be given on the types of organisational structure since respondents might not know the details of each type;
    - different types of matrix (i.e. functional, balanced and project) were to be specified to give a clearer picture on matrix organisation;
    - ranking scale was required to facilitate the commenting on the types of organisational structure; and
    - probe remark about the hybrid system had to be included when asking any other form of organisational structure.
- For question 29 regarding the type of relationship with the stakeholders, explanation was required to clarify the meaning of partnering.
- The interviewees of the pilot interviews had found difficulty in understanding the meaning of the question 32. Therefore, the question was re-phased as 'Will setting up

district advisory community/committee encourage true community participation and provide a platform for obtaining heritage local knowledge?' for the main interviews.

3.8 Case study analysis procedures

Data analysis consists of examining, categorising, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin 1994). The researcher takes a voluminous amount of information and reduces to certain patterns, categories, or themes and then interprets this information using some form of schema (Creswell 1994).

Qualitative data analysis has its own challenges to address. These challenges include (Hussey and Hussey 1997):

- Reducing the data: The information must be condensed and made manageable. This requires some form of summary and may include coding.
- Structuring the data: It is beneficial if a framework for structuring the data is developed before commencing the field work (Yin 1994; Miles & Huberman 1994b), and a theoretical framework may provide such a structure. However, the use of this type of anticipatory data reduction may restrict a deep understanding and limit the collection of rich data. In this research, the theoretical framework was developed before the fieldwork and consisted of using the research issues developed in the literature review. This enabled the data to be structured from the interviews. It also enabled a check to be made that all aspects which needed to be explored, prior to commencing fieldwork would be explored.
- Detextualising the data: Extended text is not always a suitable form of presentation or analysis and it may be appropriate to convert the text into illustrations or diagrams. This includes cognitive mapping and data displays. Data displays may also be tables for categorisation, ranking/Likert-scaled or scatterplot. Some other methods of data display include putting information into different array, making a matrix of categories and placing the evidence within such categories, flow charts and tabulating frequency of different events (Miles & Huberman 1984).

These detextualising techniques were used in the analysis. The reasons for adopting such techniques as opposed to an extended text case report are (Miles and Huberman 1994a):

- Text is a weak and cumbersome form of display.
- It is dispersed over many pages.
- It may be sequential, poorly ordered and bulky.
- Comparisons are difficult.

A general analytic strategy is important for case study analysis (Yin 1994). The ultimate goal is to treat the evidence fairly, to produce compelling analytic conclusions, and to rule out alternative interpretations. The role of the general strategy is to help the researcher to choose among different techniques and to complete the analytic phase of the research successfully. There are two types of general analytic strategies (Yin 1994; Miles & Huberman 1994a):

- Case focused – this strategy focuses on the case itself, and analysis is conducted within the case. This entails developing a descriptive framework to analyse the study and is useful when the theoretical propositions are absent.
- Proposition focused – this strategy relies on theoretical propositions and looks at the issues that are evident in the cases and across the cases. This is the strategy preferred by Yin (1994) and it involves following the theoretical propositions that led to the case study. This research had adopted the proposition focused as the general analytic strategy.

Given a general strategy, several specific analytic strategies can be used. There are four dominant modes of analysis (Yin 1994):

- Pattern-matching: it compares an empirically based pattern with a predicted one or with several alternative predictions. If patterns coincide, the results can help a case study strengthen its internal validity.
- Explanation-building: it is in fact a special type of pattern-matching. The goal is to analyse the case study data by building an explanation about the case. The final explanation is a result of a series of iterations. In applying this approach to multiple-case studies, the result of the explanation-building process is also the creation of a cross-case analysis, not simply an analysis of each individual case.

- Time-series analysis: it is directly analogous to the time-series analysis conducted in experiments and quasi-experiment. The essential logic underlying a time-series design is the match between a trend of data points compared with a theoretically significant trend specified before the onset of the investigation versus some rival trend, also specified earlier, versus any trend based on some artifact or threat to internal validity.
- Program logic models: it is in fact a combination of pattern-matching and time-series analysis.

Three 'lesser' modes of analysis may also be used in case studies (Yin 1994):

- Analysing embedded units: the appropriate analysis of the embedded unit of analysis is first conducted within each case. The results are then interpreted at the single-case level and may be treated as but one of several factors in pattern-matching or explanation-building analysis at the single-case level. The patterns or explanations for each single case may then be compared across cases, following the replication mode for multiple cases. Finally, the conclusion drawn for the multiple cases can become the conclusions for the overalls study.
- Making repeated observations: the repeated observations are made on a cross-sectional basis, for example, at repeated 'sites' or for other embedded units of analysis within the same case.
- Doing a case survey: it is limited to those situations when numerous case studies are available for analysis. The case survey approach calls for the development of a closed-ended coding instrument, which is then applied to each case study.

In this thesis, the embedded units of the Hong Kong SAR case were analysed and repeated observations were also made on the embedded units within the case for each of the research issues. The results were then analysed by pattern-matching or explanation-building at the single case level. The patterns or explanations for the Hong Kong SAR case were subsequently compared across the overseas cases, following the replication mode for multiple cases. From this analysis, conclusions were drawn and the research issues of the project management model for urban renewal projects answered. The important principle was the

mapping of questions back to the research issues. The process used throughout the analysis was:

- taking the research issues;
- reviewing the related questions;
- reading and noting the relevant responses made; and
- repeating for each respondent, case and research issue.

The use of computers to assist in analysis had also been considered in this research. It has been found that study documentation and full reportage may encourage a mechanistic, obsessive approach (Miles and Huberman 1994b). However, given the number of cases and respondents in the Hong Kong SAR case; the level of in-depth studies required of the overseas cases; and the fact that the researcher would personally conduct all interviews, develop the table linking the research issues and questions, search information and make contact for overseas cases, the use of computer assistance except as an aid to drawing graphs and tables was considered not necessary.

Thus, the analysis focused on exploring the research issues developed in the literature review (chapter 2 of the thesis). The descriptions of the embedded sub-unit cases and overseas cases will be included in the chapter 4 (Analysis of data) of the thesis to provide a context for the analysis. Data connecting the cases (embedded sub-units and overseas cases) and responses will also be included. The linking of the analysis back to the original theories and development of conclusions about the research issues and question will be detailed in the conclusion chapter of the thesis (i.e. chapter 5).

3.9 Quality of research

The quality of research relates to whether the research will be able to stand up to outside scrutiny. The technical language for examining this problem includes terms such as sampling theory, validity, reliability and generalisability. These terms vary considerably with different research philosophical viewpoint adopted (Easter-Smith, Thorpe & Lowe 1991).

Since this research is of interpretive and qualitative nature, the question of validity, reliability and generalisability will be different from that of the positivist and quantitative research

paradigm. Table 3.8 summarises some of the differences from positivist and phenomenological (referred to as interpretive in this thesis) viewpoints.

Table 3.8: Questions of reliability, validity and generalisability

	Positivist viewpoint	Phenomenological (interpretive) viewpoint
Validity	Does an instrument measure what it is supposed to measure?	Has the researcher gained full access to the knowledge and meanings of informants?
Reliability	Will the measure yield the same results on different occasions (assuming no real change in what is to be measured)?	Will similar observations be made by different researchers on different occasions?
Generalisability	What is the probability that patterns observed in a sample will also be present in the wider population from which the sample is drawn?	How likely is it that ideas and theories generated in one setting will also apply in other settings?

Source: adapted from Easter-Smith, Thorpe & Lowe (1991)

Four tests have been commonly used to establish the quality of any case study research (Yin 1994):

- Construct validity: People who have been critical of case studies often point to the fact that a case study researcher fails to develop a sufficiently operational set of measures and that subjective judgments are used to collect the data. Thus, construct validity involves establishing correction measures for the concepts being studied.
- Internal validity: It is a concern for causal (explanatory) case and involves establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships.
- External validity: It deals with the problem of knowing whether a study's findings are generalisable beyond the immediate case study and requires establishing the domain to which a study's findings can be generalised.
- Reliability: The objective is to be sure that, if a later researcher followed exactly the same procedures as described by an earlier researcher and conducted the same case study all over again, the later researcher should arrive at the same findings and conclusions. The goal of reliability is to minimise the errors and biases in a study.

That is to say, it involves demonstrating that the operations of a study, such as the data collection procedures can be repeated, with the same results.

The methods used to enhance the quality of this case study research are shown in table 3.9.

Table 3.9: Methods to enhance the quality of the case study research

Tests	Case study method	Phase of research in which method is used
Construct validity	use multiple source of evidence e.g. different informants in each functional group and documentations	data collection
	establish chain of evidence	data collection
	have key informants review draft case study report	composition of case study report
Internal validity	do pattern-matching	data analysis
	do explanation-building	data analysis
External validity	use replication logic i.e. multiple-case study using overseas cases	research design
Reliability	use case study protocol	data collection
	develop case study data base	data collection

Source: adapted from Yin (1994)

3.10 Ethical considerations

There is no general agreement about the answers to ethical questions that surround business research (Zikmund 2000). However, societal norms suggest the codes of conduct that are appropriate in given circumstances. There are three concerned parties in this business research situation (Zikmund 2000):

- The informant's rights include privacy and being informed about all aspects of the research questions, while their main obligation is to give honest answers to research questions.
- The researcher is expected to adhere to the purpose of the research; maintain objectivity; avoid misrepresenting research findings; protect informants' and clients' right to confidentiality; and avoid shading research conclusions.

- The sponsoring client is obligated to observe general business ethics when dealing with research suppliers; avoid misusing the research findings to support its aims; respect respondents' privacy; and be open about its intentions to conduct research and the business problem to be investigated.

Owing to the nature of the proposed research question and the unique situation, the major ethical issue was the confidentiality of the informants and clients. However, this ethical issue could be satisfactorily dealt with because the research focuses on a project management approach and it would not require any sensitive financial data or target area disclosure during the data collection. Information to be collected in the case study was focused on the operation of LDC, which had been replaced by URA in May 2001. Further, it is also the intention of the URA to be more publicly accountable and transparent with regard to its operation (Hong Kong SAR Government 2001). Therefore, the informants might be more willing to express opinions on operational matters.

Further, the interview guide had explicitly stated the purpose of the research, benefits and risks, if any. Confidentiality was assured and there would be no disclosure of a particular person's involvement in the research in the final report or in any other way. The participation was voluntary and participants would have the right to withdraw at any time.

3.11 Conclusion

This chapter 3 has examined the methodology adopted for the research issues developed in the literature review regarding the project management model for effective and efficient implementation of urban renewal projects in Hong Kong SAR. The overall paradigm in which the research would be conducted was first evaluated, with the conclusion that interpretative paradigm was the most appropriate. Subsequently, case study research qualitative methodology was selected.

After determining the research methodology, the criteria for case selection and their numbers were discussed. Purposive selection was adopted. In-depth embedded case study conducted by means of interviews was selected for the Hong Kong SAR case whereas less in-depth study via Internet web information search and e-mail correspondences was adopted for overseas cases for cross case replication logic.

The case study procedure, protocol, pilot interviews, analysis procedure and quality of the research were also outlined in this chapter. The questions were linked to the research issues. The embedded units of the Hong Kong SAR case would be analysed and repeated observations would also be made on the embedded units within the case for each of the research issues. The results would then be analysed by pattern-matching or explanation-building at the single case level. The patterns or explanations for the Hong Kong SAR case would then subsequently be compared across the overseas cases, following the replication mode for multiple cases. From this analysis, conclusions would be drawn and the research issues of the project management model for urban renewal projects answered. Finally, the quality of the research and ethical considerations relating to the research were addressed.

Chapter 3 has explained the details of the methodology adopted to address the research issues raised in the literature review. Chapter 4 will present the patterns of results and analysis of data for each research issue.

4 Analysis of data

4.1 Introduction

Chapter 3 described the methodology adopted to gather the case study data. In this next chapter, the information collected from the case studies is analysed and the results presented. That is, the objective of this chapter is to examine and categorise the data obtained and identify and interpret the patterns and themes. How these results relate to the literature and their implications is later discussed in chapter 5.

The outline of this chapter is shown in figure 4.1. This chapter begins with the brief description of the cases in section 4.2. Then, the patterns of data for the five research issues for both the in-depth analysis of the Hong Kong SAR case embedded sub-units and the less in-depth studies of the overseas cases are presented in each of the sections 4.3 to 4.7. Further, the patterns of data for relevant results from the case studies that were not planned from the literature review are presented in section 4.8. Finally, the chapter concludes in section 4.9.

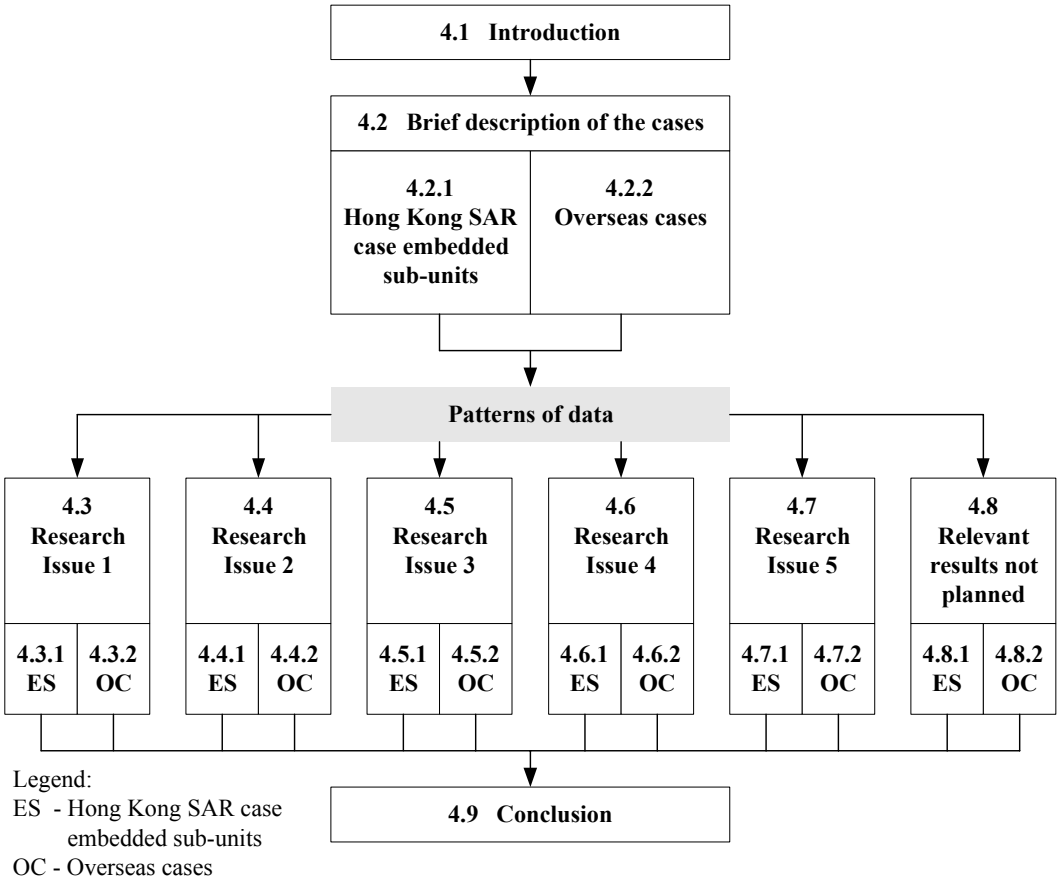


Figure 4.1: Outline of chapter 4, with section numbers and their inter-relationships
Source: developed for this research

4.2 Brief description of the cases

This section describes the seven embedded sub-units in the Hong Kong SAR case and the ten selected overseas cases. The embedded sub-units are first described, followed by the overseas cases.

4.2.1 Brief description of the Hong Kong SAR case embedded sub-units

The LDC was formed in 1988 by the administration as the sole statutory body to resolve the urban renewal problems in Hong Kong SAR. No other local institutions, statutory bodies or commercial organisations had been empowered by the ordinance to carry out urban renewal activities in comprehensive scale. With the aim to expedite the mission, URA was established to replace LDC in May 2001. The revised legal framework within which URA operated was expected to shorten the property acquisition by applying mandatory resumption.

The work of LDC covered acquisition of property, re-housing of affected tenants, development layout planning and construction management on selected urban renewal project sites. There were about 300 staff in the organisation. A functional departmental structure was adopted to deliver the projects. The functional groups, which involved in the value chain of the urban renewal project, were selected as embedded sub-units for extensive analysis.

(a) Embedded sub-unit 1 (ES-1) – Planning Division

The Planning Division was to provide professional and technical strategic and project planning services in relation to the identification and preparation of development proposals and schemes, the preparation of master layout plans, and the submission of plans and applications to government authorities to obtain approval for urban renewal projects. The staff were mostly professional urban planners.

(b) Embedded sub-unit 2 (ES-2) – Property Division

The Property Division was to provide professional and technical property services in relation to valuation, acquisition of properties and submission of resumption application to the government for urban renewal projects. The Division was also responsible for liaison and negotiation with the government on land grants/exchanges and associated premium

assessment for the urban renewal projects. Professional surveyors were employed in the division to carry out the work.

(c) Embedded sub-unit 3 (ES-3) – Housing and Estate Management Department

The Housing and Estate Management Department was to provide professional and technical services in relation to site clearance including rehousing, compensation for occupiers in urban renewal projects, and the management of project properties and rehousing properties owned by LDC. The department had three sections carrying out different duties – clearance of tenants in acquired properties, clearance of tenants in resumed properties, estate management. Some of the staff were professional surveyors and housing management professionals.

(d) Embedded sub-unit 4 (ES-4) – Project Management Division

The Project Management Division was to provide professional and technical services in relation to project management for implementation of urban renewal projects according to established policies and procedures and in conformity with approved development brief, design, specification, budget and programme through project development partners and delivery agencies. Duties included management of consultants, design, control, monitoring of programme and progress, quality control, co-ordination with external parties and inputs to policies and procedures formulation. The division provided project management and building maintenance services to all divisions of the corporation. The Division was also responsible for the maintenance of the acquired and corporation's properties, including project management of minor/renovation works. Most of the staff were professional architects, structural engineers, building services engineers and surveyors.

(e) Embedded sub-unit 5 (ES-5) – Contract Management Division

The Contact Management Division was to provide professional services in relation to contract management for implementation of urban renewal projects including setting policies and procedures for contract administration, checking and monitoring of specification and project deliverables, all tendering activities, sourcing and procurement of materials and equipment, cost planning and control, technical audit, providing contractual and legal advice. The division also provided quantity surveying services to all divisions of the corporation. Most of the staff were professional quantity surveyors.

(f) Embedded sub-unit 6 (ES-6) – Corporate Communication Department

The Corporate Communication Department was to provide professional services in relation to receiving from/issuing information to the public that might be affected by the urban renewal projects undertaken by the corporation and to promote a healthy understanding of the corporation's achievements amongst the younger generation. The Department was also responsible for handling complaints that were received directly from external sources or referred to the Department by other functional groups of the corporation. Staff in the department were mostly communication professionals.

(g) Embedded sub-unit 7 (ES-7) – Corporate Services Division

The Corporate Services Division was to provide professional services in relation to development of an effective quality management system, identification of improved management techniques, promotion of Chinese and English language usage and the application of information technology. The Division comprised of three departments – Management Services, Language and Information Technology. The head of the Management Services Department was also appointed by the management as the Corporate Management Representative to ensure that the quality management system was in compliance with the ISO 9001:1994 requirements and to report on the performance of the quality management system for management review and as a basic for continuous improvement. Staff in the division were quality auditors, information technology engineers and professionals experienced in management.

4.2.2 Brief description of the overseas cases

The overseas cases were selected based on the criteria described in section 3.4.3. Information was collected from Web site and by communicating with the selected organisations where necessary. The overseas cases covered urban renewal work in developed countries. The developed countries included Australia, Singapore, UK (two cases), USA (two cases), and countries in Europe such as Denmark (two cases), Austria and Spain.

(a) Overseas case 1 (OC-1) – Australia

The urban renewal work involved in the case was Australia's multi-billion dollar programme to revitalise one of the main city's inner suburbs. The project was claimed as one of the largest and most successful in Australia.

The principal focus of this work was to transform old and neglected suburbs into vibrant communities with viable investment opportunities through effective planning, infrastructure improvements and partnerships between government, community and business. The mission of the programme was to revitalise the identified suburbs by increasing residential population and employment opportunities, enhancing living and working environments and ensuring efficient utilisation of major sites. One of the key benefits achieved was sustainable and responsible development. A multi-disciplinary approach had ensured that historical and significant buildings and features were retained and/or improved upon, preserving and enhancing the built character of the area. A clear planning process was in place that addressed the ongoing needs of the local community, for existing residents and newcomers to the area.

(b) Overseas case 2 (OC-2) – Singapore

The organisation was a statutory board in Singapore, which was responsible for Singapore's physical development through long-term land use planning, public housing, public works, urban redevelopment, parks and recreation and other aspects of the physical development of Singapore. Its work could be summarised into two areas: planning and facilitating. Planning work included concept plan and master plan. Facilitating work included sales of sites programme, development co-ordination, real estate information, development control, conservation programme and car parks management.

The organisational structure comprised of a managing board, a chairman, chief executive officer, two executive officers, internal auditing section and five divisions responsible for development control, corporate development, land administration, physical planning, conservation and urban design. A special section was formed under the conservation and urban design division to design and implement infrastructural and building projects on selected areas for facilitating the planning vision. Other sections in the division would carry out the planning work for those selected projects.

The divisions responsible for development control, land administration and planning were similar to the roles of the Building Development, Lands and Planning Departments of the Hong Kong SAR government. LDC was the implementation arm of the Hong Kong SAR government in planning and implementation projects for selected areas. Therefore, it was quite similar to the work of the special section in the conservation & urban design division of this case.

(c) Overseas case 3 (OC-3) – UK

Private sector housing renewal strategies formed an important part of the local authority's housing strategy in UK. Area based action was a key tool in private sector renewal strategies where there was a concentration of social, environmental and housing problems. Statutory mechanisms included clearance areas, renewal areas and group repair. Local authorities were to introduce these mechanisms as a wider strategy to deal with private sector housing.

In order to aid area based action, the Local Government and Housing Act 1989 introduced statutory Renewal Areas. The intention was to create a true partnership between social, environmental, economic and housing conditions in the area. Renewal Areas normally last ten years, thereby giving the local authority time to put in place a long-term, sustainable programme.

Guidance was prepared by the Department of the Environment, Transport and the Regions to provide local authorities with a framework and tools to aid their implementation of a Renewal Area and promote its sustainability. The case study was conducted based on this guidance.

(d) Overseas case 4 (OC-4) – USA

The case was the revitalisation of a 30-block area in a city of USA. It was a case illustrating the success of bringing the community in as a partner in the development of the plan. People strove to promote development that would be sustainable, would compliment the existing infrastructure and the regional location, and would provide for future growth. The most important effect of the revitalisation project had been the restoration of people's sense of community and civic responsibility. Lessons learned were the importance of strong collaboration between government officials and residents as equal partners and early involvement of residents/stakeholders in planning.

(e) Overseas case 5 (OC-5) – USA

The case was concerning the urban renewal authority in a city of USA. The authority was a full-service redevelopment agency engaged in neighbourhood and downtown revitalisation, economic development, home ownership and housing rehabilitation throughout the city. It functioned as a catalyst, partner, advisor and/or participant in a variety of efforts to foster sound growth and development. Revitalisation activities had included providing finance for re-development projects and rehabilitating single-family home over the past two decades.

The authority worked re-development projects through its appointed board of commissioners appointed by the mayor and city council to find the right private developer for a specific project. The board employed an executive director, who directed staff members in carrying out various redevelopment projects and housing programmes. The authority brought all necessary parties including city administrators, private developers and financing sources as well as community to the table to ensure that each project would get done in a way that could meet the objective of the urban renewal plan and win the neighbourhood support.

(f) Overseas case 6 (OC-6) – Denmark

The case centred around the regeneration of an old market area in a city of Denmark. It aimed to establish a centre for urban ecotechnology. The main theme of the project was sustainability and eco-friendly features. The project was completed in 1996. This project formed part of a broader, longer term urban renewal programme targeted at the district for the period 1997 to 2007. Any profit that was made was to be re-invested in 'non-profit' areas such as upkeeping of the facility.

(g) Overseas case 7 (OC-7) – Denmark

The case concerned urban renewal work carried out in a city in Denmark. It started in 1992 aiming to meet urban housing renewal and development needs in an ecologically sound and sustainable manner. While parts of the measures were supported by public funds, the majority of them had to be undertaken on private initiative. Therefore, to instill the necessary interest and commitment in the population, the programme encouraged intensive participation as a main policy. The actors were the local government, national government and the private

sector. The objectives were to improve access to information, increase public awareness and increase the use of ecological techniques on the urban renewal.

Demonstration and pilot projects, environmental regulations, integrated planning approach and public participation were the instruments used. The citizens were involved in urban renewal projects from an early planning stage. Urban ecology information centre, lectures and seminars were organised to provide information to the owners and tenants. Permanently installed working groups were formed to keep up communication between the municipalities departments, planners, and residents/owners.

(h) Overseas case 8 (OC-8) – Austria

The urban renewal organisation in this case was founded by a city-government in Austria. It was a corporation and a financially independent non-profit institution. It was responsible for the overall management of urban and housing renewal projects (organisation, co-ordination and financing), handling applications for subsidies, co-ordinating the rehabilitation activities and providing land for housing. The renewal work included social elements in the project (tenant-oriented housing renewal) and the preservation of the city's heritage.

(i) Overseas case 9 (OC-9) – Ireland

This urban renewal case aimed to revitalise the historic city centre of a city in Ireland (UK), by re-integrating the core of the city into the social, economic and commercial life of the city. The project was a strategic project, as an essential part of a wider regeneration context for the whole city. The project was divided into a number of inter-linked sub-projects, commenced in 1994 and completed in 1998.

Measures were developed within a framework that would ensure sustainability. At the heart of the project's strategy was the concept of a holistic approach to urban regeneration, integrating a number of actions that address economic, social and environmental concerns, all within a geographically defined area. A new approach involving a partnership of public and private interests, including local and central government, as well as community interests was adopted for soliciting strong commitment to the overall regeneration process from all sides, contributing to the success of the project.

(j) Overseas case 10 (OC-10) – Spain

The case was the urban renewal of the central district of a city in Spain. The key objective was to generate new business and employment opportunities in the area, by providing practical job-oriented training for residents, restoring the urban infrastructure and creating new activity centres in the area. The project was implemented over a four-year period, from 1993 to 1997.

4.3 Patterns of data for Research Issue 1

Research Issue 1 was the question of *'What are the effects of projectised type organisational structure with integrated and multidisciplinary professional teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?'*. The analysis was focused on the collected data concerning sustainable development for urban renewal, regional team approach, organisational structure and the regional team composition i.e. the multi-disciplinary and integrated professional team, corporate communication team, social services team and the informal project management community.

4.3.1 Research Issue 1 – Hong Kong SAR embedded sub-units data

All seven sub-units indicated that sustainable development was one of the main urban renewal objectives and that it was an effective means to solve urban dilapidation on long term basis (table B1 in appendix B). Table 4.1 summarises the data for the regional team approach and organisation. Details of the collected data including the rationales given by the sub-units for the choices are presented in tables B2 and B3 of appendix B.

Regional team approach was the unanimous view of all the sub-units. Some of the main advantages given were more focusing on the needs and special characteristics of the region, stakeholder relationship building, better resources allocation, sense of responsibility and accountability for the team. A three-point scale of good, fair and bad was used for the informants to express their views on the three types of organisational structure. To estimate the overall result, scores of ten, five and zero were assigned to good, bad and fair ratings respectively. The average score of the informants was calculated for each sub-unit. The overall score for projectised type structure was higher but not overwhelmingly than that of the matrix (7.86 versus 6.37 out of 10). Functional type structure had the lowest score (2.02 out of 10). Higher score indicated that projectised type structure was favoured as the

organisational structure, followed by matrix type and functional type as the least favoured. Projectised type was favoured mainly because of better accountability and co-ordination, team spirit, clearly defined roles and responsibilities. On the other hand, matrix type was considered better in staff development, resources allocation and retaining functional identity, whereas functional type was better in terms of specialisation and consistency of functional work.

Table 4.1: Summary of the embedded sub-units data analysis for Research Issue 1 – regional team approach and organisation

Embedded Sub-unit	Regional team approach	Score on organisational structure*			Regional team structure				URWE&EI as compared to current set up
		F	M	P	MD&IPT	CCT	SST	IPMC	
ES-1	Effective	1.67	8.33	7.5	Mixed effective	Effective	Effective	Mixed effective	Effective
ES-2	Effective	7.5	2.5	10	Mixed effective	Effective	Effective	Effective	Mixed effective
ES-3	Effective	0	10	5	Effective	Effective	Ineffective	Mixed effective	Effective
ES-4	Effective	0	6.25	10	Effective	Effective	Effective	Effective	Effective
ES-5	Effective	0	5	10	Effective	Effective	Mixed effective	Effective	Effective
ES-6	Effective	5	2.5	7.5	Effective	Mixed effective	Ineffective	Effective	Effective
ES-7	Effective	0	10	5	Effective	Ineffective	Ineffective	Effective	Effective
Average score		2.02	6.37	7.86					

Legend:
F – functional type
M – matrix type
P – projectised type
MD&IPT – multi-disciplinary and integrating professional team
CCT – corporate communication team
SST – social services team
IPMC – informal project management community
URWE&EI– urban renewal work efficiency and effectiveness improvement
Remark: * ten points is the maximum score for each type, higher score = more favourable as indicated by the sub-unit
Source: developed for this research

Multi-disciplinary and integrated professional team was considered by majority of the sub-units (5 out of 7) to be the effective way to enhance sustainable design – one of the main objectives of urban renewal. The two sub-units, which had reservations on such team, were

mainly concerned with the loss of functional specialisation that might lead to better design quality. However, these two sub-units also admitted that functional structure had co-ordination problems and was not as efficient as projectised type.

The approach of having regional corporate communication team was agreed by majority of the sub-units (5 out of 7), the main reasons being more focused on the characteristics and needs of the region, building up better relationship and better/direct/quicker communication. One sub-unit only agreed that community communication should be handled by the region, while corporate affairs and images should be centrally dealt with. Another sub-unit raised concerns about the ineffectiveness of resources by duplicating such team for each region.

For the social services team, mixed opinions were collected. Same numbers of sub-units expressed for and against the setting up of such team for each region (3 out of 7). The remaining sub-unit, while pointing out the advantages, had also reservations. Such team could be more focused on the needs of the region, enable relationship building, direct and quicker communication, providing a unified line to take for the region and better management of community expectation. The concerns for ineffectiveness were mainly the independency, credibility and possible conflicting accountability of such a team to the affected community and organisation, as well as from resource efficiency standpoint if directly employed by the organisation.

Majority of the sub-units considered that an informal project management community could help to resolve inconsistency among the different project teams in the region (5 out 7). Among them, one sub-unit opined that the community meetings should be made regular and formal. Another sub-unit suggested that the corporate communication and social services teams should also be included in the community to enhance communication with the multi-disciplinary teams. The other two sub-units expressing reservation also agreed with the aforesaid advantage. However, their concerns were the necessity to instill the culture of open discussion so that the real purpose of such a community could be achieved.

Despite the mixed opinions on social services teams and the close differences on projectised and matrix structures, majority of the sub-units considered that such regional team approach and organisation would improve the urban renewal work efficiency and effectiveness as

compared to the set up in LDC (6 out of 7). The set up was of functional departmental approach for handling urban renewal projects across different regions in Hong Kong SAR.

4.3.2 Research Issue 1 – overseas cases data

The summary of the data analysis is shown in table 4.2. Details of the data based on which this summary was prepared are shown in table B4 of appendix B.

Table 4.2: Summary of overseas cases data analysis for Research Issue 1

Variable in Research Issue 1		**Number of the analysed overseas case adopting the variable**
Sustainable development as one of the main urban renewal objectives		8
Regional team approach		5
Organisational approach	Projectised type	3 *
	Matrix type	2
Regional team structure	Multi-disciplinary and integrating professional team	4
	Corporate communication team	2
	Social services team	1
	Informal project management community	2[#]

Remark:
* - hybrid structure with functional type for planning and projectised type for design and implementation in one of the three cases
[#] - both cases have formal setup for such purpose
Source: developed for this research

There were eight overseas cases that had taken sustainable development as one of the main urban renewal objectives. Five cases used regional team approach in executing projects. Out of the five cases, three cases had projectised organisational structure while two had matrix type. With regard to the regional team structure, four cases used multi-disciplinary and integrating professional team approach, two had regional communication team and one had social services team serving the region. Two cases had structure similar to project management community to enhance communication between project teams within the same region. However, the set up was formal in both cases.

4.4 Patterns of data for Research Issue 2

Research Issue 2 was the question of '*What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?'*. The data were analysed in terms of the effects of the four specified teams in the headquarters on the performance of the regional team formulated in Research Issue 1.

4.4.1 Research Issue 2 – Hong Kong SAR embedded sub-units data

The effects of the project management community, project auditing group, project support group and functional specialist advisory group in the headquarters structure on enhancing regional team performance are summarised in table 4.3. Details of the collected data are displayed in table B5 (appendix B), which also outlines the possible problems with the regional team approach as considered by the embedded sub-units.

Table 4.3: Summary of the embedded sub-units data analysis for Research Issue 2 - effect of the headquarters structure on enhancing regional team performance

Embedded Sub-units	Formal project management community	Project auditing team	Project support group	Functional specialist advisory group
ES-1	Effective	Effective	Effective	Effective
ES-2	Effective	Effective	Effective	Effective
ES-3	Mixed effective	Effective	Effective	Effective
ES-4	Effective	Effective	Mixed effective	Mixed effective
ES-5	Mixed effective	Effective	Effective	Effective
ES-6	Mixed effective	Effective	Effective	Effective
ES-7	Effective	Effective	Effective	Effective

Source: developed for this research

The formal project management community was considered effective by the majority of the sub-units in solving the major potential problems of regional team in terms of inconsistency, resource allocation, uneven workload, priority setting and communication (4 out of 7). The other three sub-units, while also admitting the benefits of such community in solving the

potential problems, pointed out the necessity of instilling an open discussion culture to make the community effective.

All the sub-units agreed unanimously about the usefulness of the project auditing team to give informed and intelligent responses on strategic issues and stakeholder interest. Further, the project support group and the functional specialist advisory group were also considered effective by majority of the sub-units (6 out of 7) to respectively formalise procedure/standards for consistency among districts function and to be the centre of excellence for providing training to acquire the appropriate specialised skills and for giving advice. The remaining sub-unit (ES-4) opined that the project support group should have no executive power on the day-to-day work of the regional team and the functional specialists would need to be proactive and make regular visit to regions to identify the related problems so as to make these two groups to function properly.

While the majority of the sub-units agreed on the effectiveness of the four specific teams on enhancing regional team performance, alternatives were suggested for improving resource and working efficiency. The suggested alternatives are summarised from the data detailed in table B5 of appendix B and displayed in table 4.4.

The project support group was to take up the work of the formal project management community (suggested by one sub-unit). Two sub-units proposed that the project support group could combine with the project auditing team since the policy/procedure drafter and the checker could be within the same team to minimise co-ordination problems. The project support group could also combined with the functional specialist advisory group since the specialists were in the better position and had the expert knowledge in formulating policies and procedures (suggested by five sub-units). Two sub-units supported the ideas of drawing members from the regional team to work on part-time or ad hoc basis for the project support group and the functional specialist advisory group to keep a slim organisation, to obtain the most up-to-date practical experience and knowledge and to ensure that the standards and procedures would not be too theoretical. One of them (ES-1) had gone further to suggest employing consultants to give functional specialist advice on a need basis.

Table 4.4: Summary of the alternatives suggested by the embedded sub-units for the headquarters structure in Research Issue 2

Suggested alternatives	Formal project management community	Project auditing team	Project support group	Functional specialist advisory group
Combined with formal project management community		-	ES-5	-
Combined with project auditing team	-		ES-1 ES-5	-
Combined with project support group	ES-5	ES-1 ES-5		ES-3 ES-4 ES-6 ES-7
Combined with functional specialist advisory group	-	-	ES-3 ES-4 ES-6 ES-7	
Members from regional team on part-time or ad hoc basis	-	-	ES-1 ES-5	ES-1 ES-4
External consultants to be employed on need basis	-	-	-	ES-1

Source: developed for this research

4.4.2 Research Issue 2 – overseas cases data

Table 4.5 summarises the data of table B6 in appendix B. One overseas case had a management system in place to facilitate inter area communication on resources allocation, best practice transfer and stakeholder liaison. Another case had an internal audit section that was administratively responsible to the chief executive officer, but directly reporting to the chairman of the organisation. No information was available in the ten cases on the issues of project support group and functional specialist advisory group.

Table 4.5: Summary of the overseas cases data analysis for Research Issue 2

Variable in Research Issue 2	Number of the analysed overseas case adopting the variable
Formal project management community	1
Project auditing team	1
Project support group	0
Functional specialist advisory group	0

Source: developed for this research

4.5 Patterns of data for Research Issue 3

Research Issue 3 was the question of *'What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?'*. The focus of the data analysis was on team hierarchical structure, the knowledge of sustainability of the team members, the project managerial leadership and the overall effect of these issues on the project team performance.

4.5.1 Research Issue 3 – Hong Kong SAR embedded sub-units data

Table 4.6 presents the summary of the opinions given by the sub-units on the research issue. The explanations for the choices as well as other details are shown in table B7 of appendix B.

Although there were concerns about the less promotion prospects available to the staff, all the sub-units still preferred a flattened hierarchy to a complex structure. Some of the main reasons were more direct and efficient communication, better accountability, clearer roles and responsibilities, better team spirit and motivation, better job satisfaction for members, and recognition of performance.

Majority of the sub-units considered that the team leaders (6 out of 7) and members (all 7 sub-units) should have sustainability knowledge. Only one sub-unit opined that the team leader could draw expertise or consultants from outside if required.

All sub-units agreed that generalising specialist was the preferred project managerial leadership because of the possession of the basic knowledge to understand the project needs, manage the professionals and foresee problems, as a result of which could make the right

decision. However, two sub-units considered that a specialising generalist might also be suitable if he/she could acquire the technical knowledge quickly and have the right calibre.

Table 4.6: Summary of the embedded sub-units data analysis for team hierarchical structure and attributes of team members in Research Issue 3

Embedded Sub-unit	Team hierarchical structure		Requirement of sustainability knowledge		Project managerial leadership		Improvement on team performance
	Flattened	Complex	Team member	Team leader	Generalising specialist	Specialising generalist	
ES-1	√	x	√	x	√	x	√
ES-2	√	x	√	√	√	x	√
ES-3	√	x	√	√	√	x	√
ES-4	√	x	√	√	√	x	√
ES-5	√	x	√	√	√	√	√/x
ES-6	√	x	√	√	√	√	√
ES-7	√	x	√	√	√	x	√

Legend:
√ - effective
x - inefffective
√/x -mixed effective
Source: developed for this research

Majority of the sub-units considered that the team performance would be improved with a flattened team hierarchical structure, both team members and leaders possessing sustainability knowledge, and generalising specialist being the project managerial leader (6 out of 7). The remaining sub-unit cautioned that such team structure and members attributes could only work provided that there was a good balance between authority dedication and control.

4.5.2 Research Issue 3 – overseas cases data

The data analysis is summarised in table 4.7. Details are shown in table B8 (appendix B). There were two cases adopting flattened hierarchical structure in the project organisation.

Three cases required the members to have sustainability knowledge, one of which also provided project management training for the staff. Two cases had generalising specialists for their project managerial staff. In one of these cases, the leaders were professionals ranging

from architects, planners to engineers. Leaders were to have personal and professional skills and the ability to lead multi-disciplinary team in the other case.

Table 4.7: Summary of overseas cases data analysis for Research Issue 3

Variable in Research Issue 3	Number of the analysed overseas case adopting the variable
Flattened hierarchical team structure	2
Sustainability knowledge for team members	3
Project managerial leaders to be generalising specialist	2

Source: developed for this research

4.6 Patterns of data for Research Issue 4

Research Issue 4 was the question of '*What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?'*. Data were collected and analysed to investigate the effect of stakeholder management i.e. involvement and relationship, community participation and the formation of district advisory community/committee on the three contemporary issues – sustainability, quality and customer-focused. The implications of these three issues on urban renewal projects were also analysed.

4.6.1 Research Issue 4 – Hong Kong SAR embedded sub-units data

All sub-units agreed that sustainability, quality and customer-focused issues were to be addressed at the outset of the project (table B9 of appendix B). This was to minimise abortive work that might affect the time, cost and quality of the projects, to meet customer needs, to obtain optimum solution as well as to gain customer support and the co-operation of the concerned parties. If these three issues were dealt with properly, urban renewal projects implementation would be enhanced and the chance of achieving urban renewal goals on long term basis would be increased.

Table 4.8 summarises the data analysis of stakeholder management to achieve the three important issues of sustainability, quality and customer-focused that would affect the urban

renewal work. Details of the data from which the table was derived are shown in tables B10 and B11 of appendix B.

Table 4.8: Summary of embedded sub-units data analysis for Research Issue 4 – stakeholders management to achieve sustainability, quality and customer-focused issues in urban renewal

Stakeholders	Involvement of stakeholders		Relationship with stakeholders	
	At project outset	At later stage	Partnering	Other type of relationship
Consultants	ES-1*, ES-2, ES-3*, ES-4, ES-5, ES-6, ES-7	-	ES-2, ES-4, ES-5, ES-7	ES-1, ES-3, ES-6
Government	ES-1, ES-2, ES-3, ES-4, ES-5, ES-6, ES-7	-	ES-1, ES-2, ES-3, ES-4, ES-5, ES-7	ES-6
Community	ES-1, ES-2, ES-3, ES-4, ES-5, ES-6, ES-7	-	ES-1, ES-2, ES-3, ES-5, ES-7	ES-4, ES-6
Pressure groups	ES-2, ES-3 ES-6	ES-1, ES-4, ES-5, ES-7	ES-1, ES-2, ES-3, ES-7	ES-4, ES-5, ES-6
Contractors	ES-2	ES-1, ES-3, ES-5, ES-6, ES-7	ES-2, ES-4, ES-5, ES-7	ES-1, ES-3, ES-6
Joint venture developers	ES-3, ES-4	-	ES-4	-

Remark: * - only if expertise not available in- house
Source: developed for this research

The involvement of consultants, government and community at project outset was agreed by all sub-units with two of them qualified that only if expertise was not available in-house for the consultants. There were concerns for involving pressure group at early stage for fear of political rivalry that might affect the project progress (4 out of 7). Majority of the sub-units considered that contractors could be involved at later stage (6 out of 7). Two sub-units suggested that joint venture developers were to be involved at project outset so as to obtain financial support.

Majority of sub-units considered that partnering would be the appropriate relationship for consultants (4 out of 7), government (6 out of 7), community (5 out of 7), pressure groups (4 out of 7) and contractors (4 out of 7). For joint venture developers, one sub-unit favoured

partnering. The adversarial nature of relationship with some of the stakeholders was the main reason for those sub-units not in favour of partnering relationship. However, among those in favour of partnering, three sub-units were concerned of the workability and achievability of such relationship in practice.

Table 4.9 presents the data analysis for community participation and formation of district advisory community/committee in achieving sustainability, quality and customer-focused issues.

Table 4.9: Embedded sub-units data analysis for Research Issue 4 – community participation and district advisory community/committee for achieving sustainability, quality and customer-focused

Embedded sub-unit	Community participation	District advisory community/committee	
		Encouraging true community participation	Soliciting heritage local knowledge
ES-1	Facilitating urban renewal projects - creating the sense of ownership, facilitating communication and urban renewal	Yes, but participants to be true representation of the community and care for the benefits of the community rather than own personal or political interests	Yes, members from different walks of the community having intimate knowledge of the area
ES-2	Mixed response – benefits to be balanced with the additional time incurred and culture of community to be changed	Yes	Yes
ES-3	Proven successful strategy in other countries to facilitate urban renewal	Yes, but participants to be true representation of the community and care for the community rather than their own personal or political interest	Yes
ES-4	Facilitating urban renewal projects - creating sense of ownership, facilitating participation and co-operation, minmise conflict and change in future	Yes, but participants to be true representation of the community, composition to be well taken care of and participation to be appropriately controlled at all stages	Yes
ES-5	Facilitating urban renewal - causing less resistance and satisfying the true needs of the community, but both parties to have mutual understanding, be committed and ready to accept tradeoffs on issues	Yes, ensuring customer-focused, improving channel of communication leading to better understanding and resolution of problems earlier; but representation and composition to be appropriate with function clearly defined	Yes
ES6	Facilitating urban renewal projects because community able to	Yes, but participants to be true representation of the community and	Yes

	identify themselves with the project	their expectation and functions to be managed	
ES-7	Facilitating urban renewal projects because of having more views and providing channels for the community to voice out their concerns, minimising adversarial relationship	Yes, but participants to be true representation of the community	Yes

Source: developed for this research

Majority (6 out of 7) of the sub-units agreed that community participation could facilitate urban renewal projects because of creating a sense of ownership, enhancing communication, mutual understanding and co-operation, causing less resistance, minimising conflict and changes in the future. The sub-unit that had reservation on community participation was concerned about the possible additional time incurred and incompatible culture of the community. All sub-units agreed that district advisory community/committee could encourage true community participation and solicit local heritage knowledge. However, the majority of the sub-units (6 out of 7) raised the issue that the participants had to be true representation of the community and care for the community rather than for their own personal or political interest.

4.6.2 Research Issue 4 – overseas cases

Table 4.10 summarises the data analysis for this research issue. Details are shown in table B12 of appendix B.

There were cases when stakeholders were involved at the project outset. These stakeholders were government (2 cases), community (8 cases) and pressure group (3 cases). Partnering relationship was also adopted by some overseas cases for government (5 cases), community (7 cases), pressure group (1 case) and developers (2 cases). In all the ten cases, community participation was encouraged. Some forms of district advisory community/committee with different terminologies were established to deal with external stakeholders in eight cases.

Table 4.10: Summary of the overseas cases data analysis for Research Issue 4

Variable in Research Issue 4		Number of the analysed overseas case adopting the variable
Involvement of stakeholders at project outset	Consultants	0
	Government	2
	Community	8
	Pressure group	3
	Contractors	0
	Joint venture developers/developers	0
Partnering relationship with stakeholders	Consultants	0
	Government	5
	Community	7
	Pressure group	1
	Contractors	0
	Joint venture developers/developers	2
Community participation encouraged		10
Formation of district advisory community/committee		8

Source: developed for this research

4.7 Patterns of data for Research Issue 5

Research Issue 5 was the question of '*What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?*'. The focal points of the data analysis were on the importance of communication to stakeholders for achieving the project tasks, the adoption of information technology enablers and their effects on the improvement of communication as compared to the current set up in the organisation and subsequently the renewal project implementation.

4.7.1 Research 5 – Hong Kong SAR embedded sub-units data

Table 4.11 summarises the data analysis displayed in tables B13 and B14 of appendix B. All the sub-units recognised the importance of communication to stakeholders for achieving urban renewal project task (table B14 in appendix B).

Table 4.11: Summary of the embedded sub-units data analysis for Research Issue 5 – effect of adopting information technology enablers on communication to stakeholders and urban renewal project implementation

Embedded sub-units	Information technology enablers					
	PMIS	Web site accessible by public			Improving communication as compared to current set up	Improving urban renewal project implementat-ion
		Achieving transparency	Achieving public participation	Soliciting community support		
ES1	Effective	Mixed effective	Mixed effective	Ineffective	Effective	Mixed effective
ES-2	Effective	Effective	Effective	Effective	Effective	Effective
ES-3	Effective	Effective	Mixed effective	Ineffective	Effective	Effective
ES-4	Effective	Effective	Effective	Ineffective	Effective	Effective
ES-5	Effective	Mixed effective	Mixed effective	Mixed effective	Effective	Effective
ES-6	Effective	Mixed effective	Mixed effective	Mixed effective	Effective	Effective
ES-7	Effective	Effective	Effective	Effective	Effective	Effective

Source: developed for this research

Computerised project management information system was considered by all sub-units as an effective information technology enabler to enhance communication to stakeholders. Some of the main reasons given were faster information sharing and exchange, better control and consistency of data, more centralised information, less paperwork and environmentally friendly. The desired features of the system are shown in table B13 of appendix B.

With regard to the use of Web site, majority of the sub-units agreed that transparency would be increased (4 out of 7). The other three sub-units considered Web site would only be effective in achieving transparency if appropriate information was displayed and the affected residents had the facilities to access the a Web-site. These three sub-units also considered that public participation could not be achieved for the same reasons. Another sub-unit had the same opinion since face-to-face communication was considered more effective to enhance public participation. In sum, the majority of the sub-units did not think that Web site could help to achieve public participation (4 out of 7). Mixed results were found for the effect of

Web site on soliciting community support. The effectiveness was concurred by two sub-units. However, three sub-units considered that the Web site might be ineffective to solicit community support since more information could create more conflicts that were not resolvable to the satisfaction of all parties. Further, the community might consider that actual performance of the urban renewal works and the incorporation of their views in the work was more important. The remaining two sub-units opined the Web site was only effective if the information displayed and the community expectation was controlled properly.

Despite the mixed response on the issues of achieving public participation and community support by the Web site, all sub-units considered that the information technology enablers could improve the communication to stakeholders as compared to the current set up. The urban renewal project implementation would subsequently be improved as indicated by the majority (6 out of 7). The other sub-unit cautioned that inappropriate level of details and type of information could lead to conflict resulting in project delay.

4.7.2 Research 5 – overseas cases

Table 4.12 summarises the analysis of the data available for the overseas cases on application of information technology enablers. More details are shown in table B15 of appendix B. There was one case employing computerised PMIS. Besides, other computerised systems were also extensively used in this case to improve productivity and internal communication, to provide a forum for staff and management to exchange frank views and ideas. Web site was used by three cases to provide information to public so as to reach as wide as an audience as possible.

Table 4.12: Summary of the overseas cases data analysis for Research Issue 5

Variable in Research Issue 5		**Number of the analysed overseas case adopting the variable**
Information technology enablers	Computerised PMIS	1
	Web site accessible by public	3

Source: developed for this research

4.8 Patterns of data for relevant results that were not planned from literature review

During the embedded sub-unit interviews, some issues that were not planned from the literature review had been raised by the informants. These findings could affect the success of the project management model. Therefore in studying the overseas cases, these issues were therefore also focused on besides the five research issues. This section describes the data analysis of these new findings.

4.8.1 Hong Kong SAR embedded sub-units

Table 4.13 presents the various issues raised by the informants of the sub-units. Six sub-units emphasised the importance of the role of the government in enhancing the success of urban renewal projects, both in terms of policy and finance. Suggestions included involving the government at the project outset and the formation of a central government to co-ordinate the various government departments involving in the urban renewal process.

Table 4.13: Embedded sub-units data analysis for new findings affecting the success of the project management model

New findings		**Embedded sub-unit**						
		1	**2**	**3**	**4**	**5**	**6**	**7**
Government support	Policy (e.g. land resumption)	√	√ *	√	√ #	√	√	
	finance	√			√			
Team member attributes	General knowledge of other disciplines	√	√		√	√	√	
	Broader picture of the project work	√		√				
	Social impact knowledge					√		
Top management attributes	Knowledgeable on nature of urban renewal and giving appropriate direction	√			√			√ @
	Suitability of generalising specialist	√			√			
	Suitability of specialising generalist	√		√	√			
Education of the public on urban renewal to gain support		√				√	√	
Maintenance strategy e.g. mandatory maintenance by owners, long term strategy of the development		√			√		√	
Importance of face-to-face communication over the IT enablers		√		√		√	√	
Testing of the model by actual implementation			√					

Placement of appropriate award system		√					
Environmental forces e.g. property market, economy	√						
Financial viability e.g. costly compensation package and land cost, lack of development potential		√			√	√	√
Urban renewal strategy and direction e.g. rehabilitation to minimise acquisition expenditure, private sector involvement, comprehensive planning	√		√		√	√	√
Involving legislative councilors at outset with partnering relationship						√	

Remark:
√ - issue raised by the embedded sub-unit
* - support might be solicited if government was involved at the outset of the project
# - a central government department might be needed to co-ordinate the various relevant government departments with Land Development Corporation for the overall planning and implementation
@ - attributes of top management leadership need to be investigated
Source: developed for this research

Six sub-units considered that the team members should have general knowledge of other disciplines in the team and a broad picture of the project work. One of them further suggested that the team members should have social impact knowledge.

The attributes of the top management were raised by four sub-units. Among them, two sub-units suggested that the top management should be knowledgeable on nature of urban renewal, have the ability to give appropriate direction and could either be generalising specialist or specialising generalist. One sub-unit opined that only specialising generalist was suitable. Other issues raised were:

- the need to educate the public on urban renewal to gain support (3 sub-units);
- the need for a maintenance strategy to resolve urban dilapidation on long term basis (3 sub-units);
- importance of face-to-face communication over information technology enablers (4 sub-units);
- the need to test the project management model by actual implementation (1 sub-unit);
- the need to have appropriate award system in place to enable successful implementation of the project management model (1 sub-unit);

- the effect of environmental forces such as property market and general economy on the success of urban renewal project (1 sub-unit);
- the actual financial viability of urban renewal projects, compensation packages, land cost and development potential (4 sub-units);
- the need to have a urban renewal strategy and direction such as rehabilitation to minimise acquisition expenditure, private sector involvement, and comprehensive planning (5 sub-units); and
- the need to involve legislative councilors at outset with partnering relationship.

Table 4.14: Overseas cases data analysis for issues relevant to the new findings in the embedded sub-units analysis

Issue relevant to the new finding in embedded sub-units analysis		**Number of occurrence of the issue in the analysed overseas case**
Government involvement	Governmental setup and directly led	7
	Non-governmental setup but appointed/established by government or government heavily involved	3
Top management attributes - specialising generalist		1
Education the community		3
Sustainable maintenance strategy to minimise the dependency on local authority funding for housing maintenance and improvement – households to look after their own dwellings		1
Importance of face-to-face communication		2
Urban renewal strategy and direction	Private sector involvement, the organisation acted only as the planner, facilitator, capital works and infrastructure provider, and the development broker between private sector, government and the community	3
	Strategic planning, bringing parties to the table, providing finance for both re-development and rehabilitation	1

Source: developed for this research

4.8.2 Overseas cases

Table 4.14 illustrates the results of the data analysis for the overseas cases. Of the ten cases, the urban renewal organisations in seven of them were set up and directly led by government. Those in the other three cases were non-government set-ups but were appointed/established or

had heavy involvement by their government. One case had specialising generalist as the top management. Three cases had mechanisms to educate the community. One case introduced sustainable maintenance strategy to minimise the dependency on local authority funding for housing maintenance and improvement. The households were to look after their own dwellings. The importance of face-to-face communication were emphasised by two cases. Finally, four cases had formulated strategies and directions for urban renewal. Strategies included private sector involvement, defining roles as planner, facilitator, capital works and infrastructure provider, strategic planning and as the development broker between private sector, government and the community.

4.9 Conclusion

The role of this chapter was to summarise the information collected from the embedded sub-units interviews in Hong Kong SAR case and overseas case studies to identify patterns in the data gathered. Data were collected from in-depth interviews for the seven embedded sub-units in the Hong Kong SAR case, and from Web sites/e-mail correspondences with the relevant organisations for the less in-depth analysis of the ten overseas cases.

The embedded sub-units and overseas cases were briefly described to give the general overview for each of them. Subsequent analysis of this data was done through detailed content analysis, pattern-matching and repeated observation to show the patterns of the results for each of the five research issues developed in chapter 2 and the also new findings, which were not planned from the literature review. The Hong Kong SAR case was analysed at single case level using the data of embedded sub-units, followed by the data analysis of the overseas cases of each of the five research issues as well as the new findings.

The Hong Kong SAR case and the overseas cases were not compared following the replication mode for multiple cases in this chapter. Further, no attempt was also made to compare the findings with the literature. Both will be done in the next chapter.

5 Conclusions and implications

5.1 Introduction

The purpose of this research was to address the research question of *how can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region?* (section 1.2). A review of the extant literature relevant to this problem was conducted in chapter 2 enabling first the formation of the theoretical foundation for this research and then the identification of five research issues requiring resolution before the research question could be answered. The five research issues were related to project organisational structure, team structure, attributes of team members, stakeholder management, communication and information technology enablers. The research issues are summarised in table 5.1.

Table 5.1: The five research issues

Research Issue	Description
RI 1	What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?
RI 2	What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?
RI 3	What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?
RI 4	What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?
RI 5	What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?

Source: developed for this research

Chapter 3 justified the adoption of the interpretive paradigm and the use of a case study research methodology. An outline of the case study protocol covering the selection of respondents and cases, interview, case study and case study report writing guides was

introduced and explained. In addition, chapter 3 described the purposeful selection of embedded sub-units for in-depth study in the Hong Kong SAR case and also addressed the issue of cross case replication logic using overseas cases for some of the issues. Chapter 4 then used detailed content analysis, pattern-matching and repeated observation as the primary tool to analyse the data from the embedded sub-unit interviews and the overseas cases. The Hong Kong SAR case was first analysed at single case level using the data of embedded sub-units, followed by the data analysis of the overseas cases of each of the five research issues as well as the new findings, which were not planned from the literature review.

This final chapter provides the conclusions and implications of the entire research study. Figure 5.1 illustrates the structure of this chapter.

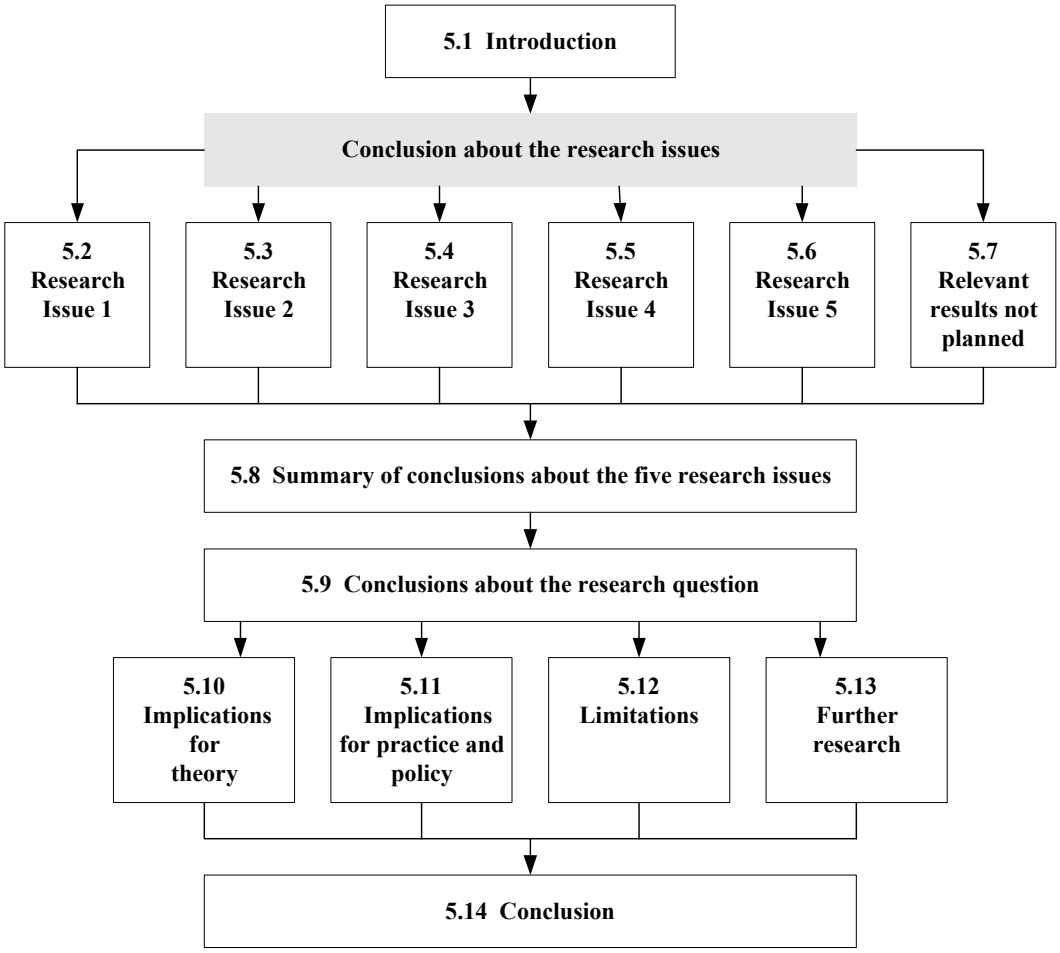


Figure 5.1: Outline of chapter 5, with section numbers and their inter-relationships
Source: developed for this research

First, the conclusions for each of the research issues as well as the relevant results not planned from the literature review and how they relate to the extant literature are presented in sections 5.2 through 5.7, before a summary of those conclusions is presented in section 5.8. Conclusions about the research question are then explained in section 5.9 followed by a discussion in section 5.10 of the implications for theory and how the research findings relate to the application of project management model to urban renewal projects. In turn, implications for practice and policy for applying the project management model in urban renewal projects in Hong Kong SAR are discussed in section 5.11. Finally, limitations of this research study are outlined in section 5.12 before suggestions for further research in this field of study are made in section 5.13. This thesis concludes in section 5.14.

5.2 Conclusions about Research Issue 1: What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?

The literature. The move to sustainable cities has become a rallying call for many environmental activists, professionals and politicians in many developed countries (Haughton 1999). Further, designing or transforming urban areas into sustainable cities is becoming an increasingly common concerns of governments because of scarce natural resources, growing populations and concerns about populations (Symres & Pauwels 1999; Shane & Graedel 2000). The Chief Executive of Hong Kong SAR has also stressed the need to make Hong Kong SAR a truly sustainable city in his 1998 and 1999 Policy Address (Tung 1998, 1999). Sustainable development was included as one of the main objectives of urban renewal (PLB 2001c). Thus, the literature review has revealed that liveability and long-term sustainability of urban areas are imperative for successful urban renewal.

To achieve green buildings, sustainable construction and hence urban sustainable development, an integrated and multi-disciplinary approach is required (PTI & USGBC 1996; Brandon, Lombardi & Bentivegna 1997; Grey & Halliday 1997; Augenbroe, Pearce & Kibert 1998; BSRIA 2000; CESD 2000; Maiellaro & Lerario 2000). Integrating environmental

consideration in project management also requires managing government-project-environment-community interface (Jenkins 1995).

The direction of project management is shifting its focus from management of a project to the management of inter-related projects (Cooke-Davis 2001). Further, the success of project management is measured by customer satisfaction, contribution to strategic intent of the organisation, external focus of customer and the entire lifecycle (Cohen & Graham 2000). Thus, with the local community as one of the major stakeholders and customers, project management in the context of urban renewal should focus on inter-related projects on district/regional basis.

Project matrix and projectised structures are the most effective in handling projects (Hamilton 1997). However, Major (1999) considered matrix organisation with people working on several projects simultaneously would be ineffective in overall cost saving and would lead to poor safety and quality standards, time delay and increased cost. Project management community is an important element of corporate project management competence in project-based organisation (Turner, Keegan & Crawford 2000). Managing multiple projects, knowledge specialists and the external stakeholders such as the affected people and community at different localities will affect the choice of project management skills and setup of organisational structure, which should facilitate the management of communication between its members (Symes & Pauwels 1999). Urban renewal social services team is needed to strengthen the role of local communities and the 'people-centred' approach (McCarthy 1999; PLB 2001b).

Findings. The case study provided data on the consideration of sustainable development for urban renewal, regional team approach, the organisational structure and the integrated/multi-disciplinary team composition as described in section 4.3.

In the Hong Kong SAR embedded case study, sustainable development was considered unanimously as one of the main urban renewal objectives and the means to resolve urban dilapidation on long term basis. Similar findings were found in eight overseas cases.

Regional team approach was considered effective for urban renewal project implementation in the Hong Kong SAR case by all the sub-units. There were five overseas cases adopting a similar approach for their urban renewal projects.

A projectised type organisation was favoured as organisational structure although the scoring was not overwhelmingly higher than matrix type (7.86 versus 6.37 out of 10). Functional type was the least favoured with a very low scoring (2.02 out of 10). Out of the five cases using regional team approach, three cases had projectised structure while two had matrix structure.

Majority of the sub-units in Hong Kong SAR case considered that a multi-disciplinary and integrated professional team was the effective way to enhance sustainable design, which was one of the main objectives of urban renewal. There were four overseas cases adopting the same team approach in implementing the urban renewal projects.

Regional corporate communication team was favoured by the majority of the sub-units in the Hong Kong SAR case because of being better focused on the region. One sub-unit had pointed out that the team should handle only communication with the community of the region, while corporate affairs and images should be handled centrally. Such job specification appears to be in line with the benefits of regional communication team cited by the majority of the sub-units. Two overseas cases had set up regional communication team to serve the community in the urban renewal region.

Mixed opinions were found for the inclusion of social services team in the regional urban renewal project team. Credibility, independency and conflict of accountability of the team were the main concerns. There was one overseas case that had social services team established to serve the affected community.

In the Hong Kong SAR embedded sub-unit case study, informal project management community was considered effective to resolve inconsistency among the different project teams within the region. Other relevant findings on enhancing the effectiveness were the necessity of formal and regular meetings for the community, inclusion of corporate communication and social services teams in the community and instilling the culture of open discussions. Two overseas cases had formal project management community to enhance communication between project teams within the same region.

Although there were mixed opinions on social services team, majority of the sub-units in the Hong Kong SAR case considered that the approach mentioned above would improve the

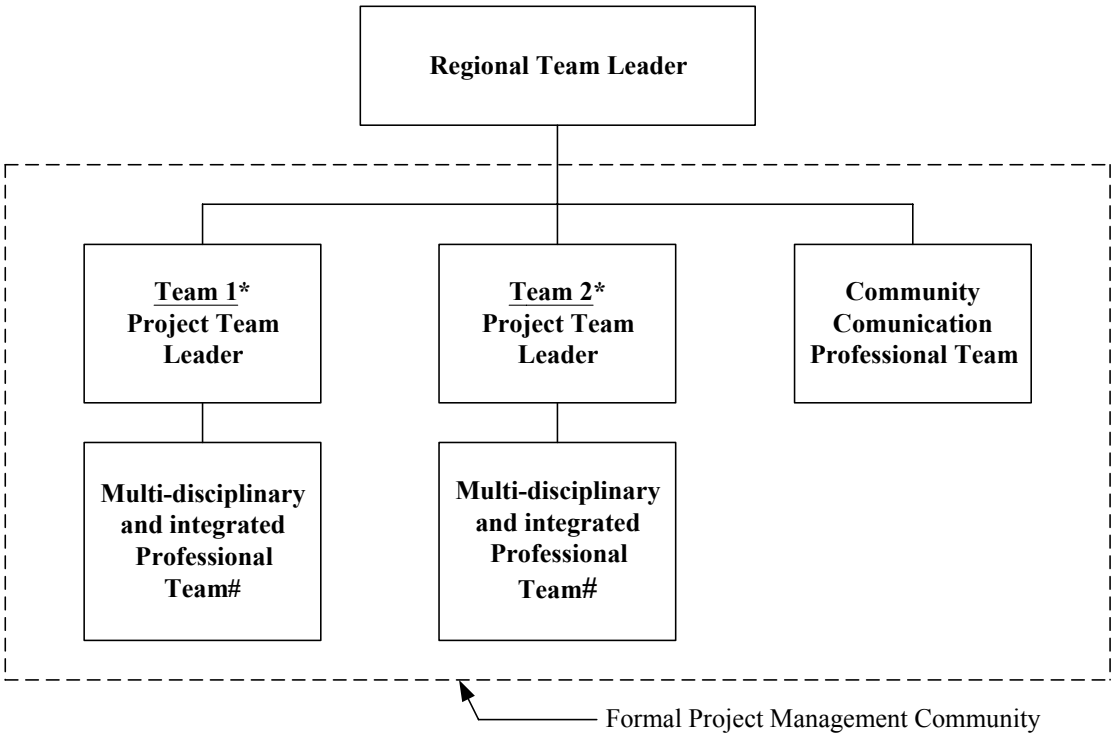
urban renewal work efficiency and effectiveness as compared to the approach adopted by the current setup.

Conclusion. The findings in the Hong Kong SAR embedded case study and the cross case analysis with the overseas cases support the body of knowledge reviewed in literature. Nevertheless, the findings on the importance of the independency for the social services team add to the current literature. The following can be concluded for this research issue:

- To resolve urban dilapidation on long term basis, sustainability is to be one of the main urban renewal objectives in Hong Kong SAR.
- Regional team approach is to be adopted for handling the urban renewal projects in each targeted district.
- In each regional team, organisational structure is to be of projectised type.
- Multi-disciplinary and integrated professional team is to be established to enhance sustainable design. The types of professional to be included in the team will depend on the scope of urban renewal work. For example, if project development and construction is required, professionals may include architects, engineers and quantity surveyors.
- A professional communication team will be required to be set up to handle the communication with the community. Corporate affairs and images will be dealt with centrally by headquarters.
- Social services team serving the community is necessary to facilitate urban renewal project implementation. However, the team has to be independent of the urban renewal organisation to enhance credibility and avoid the conflict of accountability of the team to the affected community and the urban renewal organisation. The management of the independent social services team as an external stakeholder will be further considered in Research Issue 4 that deals with stakeholder management issues.
- Formal project management community is to be set up to minimise inconsistency between project teams within the region. The community communication professionals will be members of the community to enhance communication with the

multi-disciplinary teams. The issue of instilling open culture relates to the attributes of the leadership, which will be discussed in Research Issue 3.

Figure 5.2 summarises the conclusion for Research Issue 1.



Remark:
* two teams are shown for indicative purpose, the number of teams will depend on the quantity of projects involved
\# the types of professional included in the team will be based on the scope of urban renewal work

Figure 5.2: Project organisation for a targeted region
Source: developed for this research

5.3 Conclusion about Research Issue 2: What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?

The literature. Although using different nomenclatures, several literature have suggested that the setting up of a group or department to handle functions such as establishing,

monitoring and enforcing standards, managing communication, providing training and development, filling a mentoring role and facilitating deployment (Lock 1996; Wysocki, Beck & Crane 2000, Foti 2001). The main reasons for these are to adopt a formal procedure for managing the volume and complexity of projects; to minimise the inefficiencies and compromise on productivity due to lack of standards and policies; to maintain the inventory of skilled team members as well as the proper balance through training (Wysocki, Beck and Crane 2000). However, Dinsmore (2002) summarised the pros and cons of setting such groups and cautioned that the potential barriers should be carefully sized up before adoption. Some potential problems were creating resentment among the project managers, stimulating power struggles within the organisation and diluting the ability of project managers to direct activities.

As mentioned in section 5.2, corporate project management competence is important for a project-based organisation. Competence includes well-formulated project management procedures and an effective internal project management community (Turner, Keegan & Crawford 2000). Furthermore, an independent audit of the project conducted on a periodic basis to analyse the project's strength, weakness, opportunities and problems will help the project team to become informed and get intelligent answers they need on strategic issues and stakeholder interest (Cleland 1999).

Findings. For the embedded sub-units in the Hong Kong SAR case, the findings were as follows:

- Same as the findings in Research Issue 1, the formal project management community was also considered effective by the majority of the embedded sub-units in the Hong Kong SAR case to resolve major potential problems of inconsistency, resource allocation, uneven workload, priority setting and communication among the different regional teams. However, similar comment regarding the necessity of instilling open culture for effective operation of the community had also been made.
- Project support group was effective in formalising procedure/standards for consistency among different regional teams. However, one sub-unit cautioned that the project support group should not have executive power on the day-to-day operation of the regional team.

- The functional specialist advisory group could serve as the centre of excellence for training the appropriate specialised skills and giving advice.
- Project auditing team was useful in providing informed and intelligent answers on strategic issues and stakeholder interest.

Majority of the sub-units agreed that the four specific teams in the headquarters could be effective in enhancing the regional team performance and minimise potential problems. However, alternative structure arrangements had been suggested for the four teams to improve resource and working efficiency. The suggestions were:

- project support group to take up the work of the formal project management community (suggested by one sub-unit);
- project support group combined with project auditing team (suggested by two sub-units);
- project support group combined with functional specialist advisory group which has the expertise to formulate policies and procedures (suggested by the majority of the sub-units);
- members of project support group and functional specialist advisory group to be drawn from the regional team to work on part-time or ad hoc basis (suggested by two sub-units); and
- outside consultants to be employed to give functional specialist advice on a need basis (suggested by one sub-unit).

There was one overseas case that had formal management community to facilitate inter area communication on resource allocation, best practice transfer and stakeholder liaison. Another overseas case had an internal audit section that was administratively responsible to the chief executive officer, but directly reporting to the chairman of the organisation.

Conclusion. The findings support the literature in the aspect of formal project management community and the independent auditing team. However, the suggestions of the various organisational structures for the project support group and the functional specialist advisory

group in the findings add to the body of knowledge of the current literature. This research issue is concluded in the ensuing paragraphs.

Formal project management community is to be established in the headquarters. As the function and membership of the formal project management community are different from that of the project support group, combining the two groups may not be appropriate. For the effective operation of the auditing function, the auditing team should preferably be independent of the group that formulates the standards and procedures so as to give unbiased checking. Therefore, independent set up for the two functions may be the more preferable option as illustrated by the overseas case.

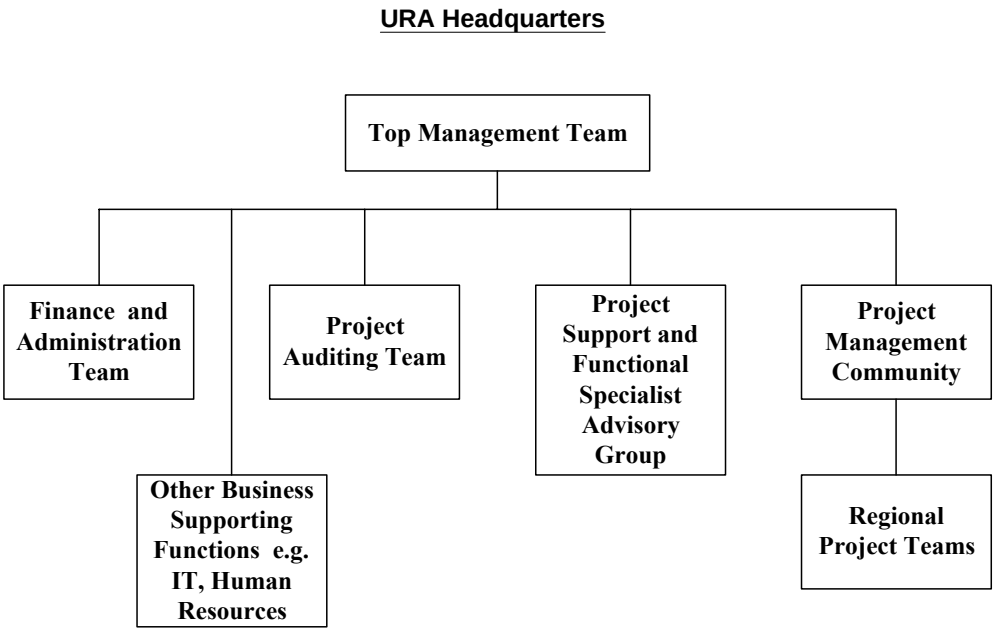
Combining the project support group and the functional specialist advisory group appears to be a feasible option. In fact, the functions of the project support group revealed from the literature review included the formulation of standards/procedures, maintenance of skill inventory and training of the appropriate skill for the project teams. Further, the project support group will have no executive power on the work of the project teams so as to minimise the potential problems pointed out by Dinsmore (2002). Drawing members from the project teams on ad hoc basis can jeopardise the projectised type structure, upset the team members and interrupt the project team operation. Employing outside consultants to give functional specialist advice on a need basis may be appropriate when the required skills/knowledge are not available in-house.

Figure 5.3 summarises the conclusion for Research Issue 2.

5.4 Conclusions about Research Issue 3: What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?

The literature. Knowledge workers resist a command-and-control model and prefer to manage themselves and have autonomy (Drucker 1988, 1991). Sense of ownership, share of value creation and agenda control are some of the new motivation tools in such team structure consisting of professionals and knowledge specialists (Kanter 1989). For organisations consisting of knowledge specialists, the structure has to be on team-based instead of boss and sub-ordinate hierarchical type (Drucker 1992). When projects are managed, horizontal form

of organisational design is more favourable than traditional organisational hierarchies (Cleland 1999). A flattened structure will also facilitate reporting and control processes (Sauer, Liu & Johnston 2001).



Remark: The Project Support and Functional Specialist Advisory Group is also member of the Project Management Community

Figure 5.3: Organisational structure for headquarters of Urban Renewal Authority
Source: developed for this research

The factor that empowers the project team and ultimately determines which projects fail or succeed is the leadership brought to bear on the project at all levels in the organisation (Cleland 1999). Skills required of the leader may include possessing technical knowledge appropriate to the type of project involved, general management such as communication, team building, organising and people handling skills, system approach perspective i.e. the ability to see 'big picture', integrating the organisation's various functions, business and project management (Cleland & King 1983; La Monica 1994; Meredith & Mantel 1995; Hamilton 1997; Burke 1999; Cohen & Graham 2000; Turner, Keegan & Crawford 2000; Cooke-Davis

2001). A generalising specialist, who has to process integrating skill, appears to be better than a specialising generalist (Webber 1997; Cleland 1999).

Findings. All the embedded sub-units in the Hong Kong SAR case preferred flattened hierarchy to complex structure for efficient communication, better accountability, clearer roles and responsibilities, better team spirit and motivation. The team members including the leader should possess sustainability knowledge so as to achieve the main objective of sustainable development for urban renewal. Furthermore, generalising specialist was considered more appropriate for project managerial leadership so as to effectively manage the professionals, foresee problems and make the right decision. The majority of the embedded sub-units considered that with a flattened hierarchical structure, team members and leaders possessing sustainability knowledge, and the project managerial leader being a generalising specialist, the team performance would be improved.

The findings of the embedded cases were echoed by some overseas cases. There were two overseas cases adopting flattened hierarchical structure in the project organisation. Three cases required the members to have sustainability knowledge. Two cases had generalising specialists for their project managerial staff. The leaders were to be professionals, have personal and professional skills and ability to lead a multi-disciplinary team.

Conclusion. The findings support the literature in the facets of team structure and attributes of the team members and leader. To improve the team performance, a flattened team hierarchical structure instead of complex one is to be adopted. The team members including the leaders are to have sustainability knowledge to facilitate the incorporation of such concept in the urban renewal projects. The project managerial leader is preferably to be generalising specialist with appropriate technical and general management skills as well as having a system approach perspective. As mentioned in the conclusion for Research Issue 1 (section 5.3), the leader should also possess the attribute of instilling open culture so that the formal project management community could function effectively.

5.5 Conclusions about Research Issue 4: What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?

The literature. Stakeholder management is an important part of the strategic management of organisations (Cleland 1999). Stakeholders may exert influence over the project and its results (Hamilton 1997; PMI 2000). As the entire life cycle of building is the focus of sustainability, getting the design right at the outset is important because it will minimise the need to future alterations or changes in a building's life (Marsh 2000). All professionals and stakeholders such as sponsors, contractors, suppliers and end-users should be included to work together throughout the process rather than sequentially and independently (BSRIA 2000). Further, cultural heritage preservation is an important element of sustainable urban development (Carmona 1996; Girard 1997) and is also one of the main tasks of the urban renewal work in Hong Kong SAR (Hong Kong SAR Government 2001). Local knowledge of the community may serve as a rich source of information (Harding 1998).

Public participation and community involvement is the cornerstone of environmental and sustainable development (Barton 1996; Smales 1996; Brandon, Lombardi & Bentivegna 1997; Girard 1997; Greene 1997; Augenbroe, Pearce & Kibert 1998; Boyer et al. 1998; Harding 1998, UDG 1998; Counsell 1999; Mendler & Odell 2000; Guy & Marvin 2001). Community support is necessary for urban renewal actions (McCarthy 1999; Woolley 1999; PLB 2001b). The Hong Kong SAR government is also intending to open up more channels for acquiring public's view in formulating policy (Tung 2000).

Partnering relationship with stakeholders throughout the projects will enhance the project management process (PTI & USGBC 1996). In particular, partnering with local community can facilitate urban renewal projects implementation. Formation of local advisory community/committee or urban renewal social services team can strengthen the role of local communities and the 'people-centred' approach (McCarthy 1999; PLB 2001b).

Quality is essential for sustainable development. Partnering with stakeholders will also promote total quality management (Housing Authority 2000; Bubshait 2001). Partnering in

stakeholder management is in line with the custom-driven project management focusing on achieving total customer satisfaction (Barkley & Saylor 1994).

Findings. All the embedded sub-units in the Hong Kong SAR case considered that sustainability, quality and customer-focused issues were to be addressed at the outset of the project to minimise abortive work, to meet customer needs, to gain customer support and the co-operation of the concerned parties. Subsequently, the urban renewal project implementation would be enhanced and the chance of achieving urban renewal goals on long term basis would be increased.

The involvement of the stakeholders and the relationship with them would affect the achievement of the abovementioned three issues. All the embedded sub-units agreed that the consultants, government and community were to be involved at project outset. However, majority of the sub-units had concerns over involving the pressure group at the early stage for fear of political rivalry that might affect the project progress. Further, contractors could be involved at later stage. There were suggestions that the joint venture developers were to be involved at project outset so as to obtain financial support. In the findings of the overseas cases studies, the government, community and pressure groups were involved at the project outset in two, eight and three of the cases respectively.

With regard to the relationship with stakeholders, majority of the sub-units considered that partnering would be appropriate for consultants, government, community, pressure group and contractors. One sub-unit had also suggested partnering for relationships with the joint venture developer. However, among those sub-units favouring partnering relationship, there were concerns on the workability and achievability of such relationship in practice. Partnering relationship was also adopted by some overseas cases for government (5 cases), community (7 cases), pressure group (1 case) and developers (2 cases).

Community participation and formation of district advisory community/committee could affect the achievement of sustainability, quality and customer-focused issues. The findings of the embedded cases were that community participation could facilitate urban renewal projects. Further, district advisory committee/committee could encourage true community participation and solicit local heritage knowledge provided that the participants were true representatives of the community and care for the community rather than use this to promote

their own personal or political interest. All the ten overseas cases that were analysed had encouraged community participation. Eight of them had established some forms of district advisory community/committee to deal with external stakeholders.

Conclusion. The findings support the literature in the body of knowledge regarding the importance of stakeholder management, public participation and the effectiveness of partnering approach. Findings that add to the current literatures include the consideration of the implications for involving various stakeholders, the necessity to implement pilot projects to go through the learning and experience curve for the project team and the importance of true representation of the district advisory community/committee to community participation.

To enhance the long term goals of urban renewal, sustainability, quality and customer-focused issues need to be addressed at the outlet. Stakeholder management plays an important role in achieving these three critical issues. Stakeholders that are to be involved at the project outset include consultants, government, community and joint venture developers. Pressure groups can also be considered only if there is no political rivalry developed, which may be minimised by the partnering relationship. Partnering is to be the relationship adopted for consultants, government, community, joint venture developer and contractors besides pressure groups. As there were concerns about the workability and achievability of partnering relationship in practice, pilot projects may first be implemented so that the project teams can go through the learning and experience curve process before going on to larger scale projects.

As concluded in section 5.2 for Research Issue 1, a social services team is necessary to facilitate urban renewal projects. However, such team has to be independent of the urban renewal organisation. Therefore, the social services team is to be managed as one of the external stakeholders. To be customer-focused, the team is to be involved from the project outset with partnering relationship.

Further, community participation will facilitate the implementation of urban renewal projects. Some forms of district advisory community/committees are to be established to encourage community participation and solicit heritage local knowledge. However, mechanisms need to be formulated to ensure that the participants are true representation of the community and care for the community rather than progress their own personal or political interest.

5.6 Conclusions about Research Issue 5: What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?

The literature. Communication is a key player in successful management (Ashley 2000). Several theorists have suggested that effective communication is one of the key factors in determining the success or failure of a project (Sanvido et al. 1992; Thamhain 1992; CII 1997). Communication with all stakeholders would be important to build trust and project team loyalty. Management of project team depends on information flow and communication (Cleland 1999).

Computers and advances in communication technology have dramatically increased the speed of many areas of project management including accessibility to information via Web, online remote construction management and exchange of information on all aspects of planning, design, construction and management (Project Management 2001). Although subject to verification by additional research, anecdotal evidence collected during the study by Mead (2001) suggested that the project intranet systems could help to improve project communications. The PMIS represents an important part of project planning and control and provides the basis to plan, monitor, to do integrated project evaluation, and to show the interrelationship among cost, schedule, and technical performance (Barkley & Saylor 1994; Cleland 1999). The Executive Information System (EIS) is another computer application designed to be used directly used by top mangers, without the assistance of intermediaries, to provide the executive easy on-line access to current information about the status of the organisation and its environment (Martin et al. 1999).

However, Thamhain (cited in Meredith & Mantel 1995) cautioned that a computerised PMIS could be misused or inappropriately applied causing loss of touch with the project and its realities. Further, it may cause information overload and computer dependence. As information is power, any new information will change power distribution and will be resisted by those who stand to lose power. Therefore, any introduction of information systems must be handled with care.

The Hong Kong SAR government has already developed a computerised management information system to aid the public works. It stores detailed time, cost and scope information and provides all levels of the public works programme hierarchy with the right information, in the right format, at the right time, to take the right action (Futcher 1998).

Findings. All embedded sub-units recognised the importance of communication to stakeholders for achieving the urban renewal project task. Computerised PMIS was considered by all sub-units as an effective information technology enabler to enhance communication to the stakeholders. One of the desired features suggested was the availability of different levels of access for different stakeholders. There was one overseas case that has developed similar computerised PMIS for urban renewal project implementation.

If appropriate information were displayed, majority of the sub-units would consider the Web site as an effective means to achieve transparency and public participation. Mixed response was found for the effectiveness of Web site in soliciting community support. However, all sub-units considered that information technology enablers (i.e. the computerised PMIS and Web site) could improve communication to stakeholders as compared to the current set up and the urban renewal project implementation would subsequently be improved. Web site was used by three overseas cases to provide information to public so as to reach as wide an audience as possible.

Conclusion. The findings support the literature in the body of knowledge of the importance of communication and the usefulness of information technology enablers in project management. The details of the features identified in the findings for the PMIS and the Web site add to the current literature.

Effective communication to stakeholders is imperative for achieving urban renewal project task. Information technology enablers can enhance communication because of faster information sharing and exchange, better control and consistency of data, more centralised information, less paperwork and being environmentally friendly.

The computerised PMIS will be able to display all relevant project data including development information, programme and status, kept up-to-date and user friendly. Besides, it will have different access levels for different internal and external stakeholders e.g. executive information for senior management. The system includes a Web site accessible by

different stakeholders for different appropriate and controlled information. For example, the public can enquire via the Web or access to the project description, overall progress or compensation information whereas the project team can access more detailed project information like the project data, programme and cost status.

With these information technology enablers, communication to stakeholders is enhanced. Transparency and public participation can be achieved. Urban renewal project implementation will subsequently be improved.

5.7 Conclusions about the relevant results not planned from the literature review

Findings. Table 5.2 summarises the findings of the relevant issues that were not planned from the literature review in the Hong Kong SAR embedded case and overseas case studies.

Table 5.2: Findings of issues not planned from the literature review

Findings	Hong Kong SAR case	Overseas cases
Government support	• Important in terms of policy and finance	• Government body in seven cases; • Non-governmental body but appointed/established by government or government heavily involved for the remaining three cases
Team member attributes	• General knowledge of other disciplines; • Broader picture of the project work; • Social impact knowledge	• No information available
Top management attributes	• Knowledgeable on nature of urban renewal and ability to give appropriate direction; • Generalising specialist or specialising generalist	• Specialising generalist in one case
Education of the public on urban renewal	• Useful to gain support	• Done in three cases
Maintenance strategy	• Mandatory maintenance by owners; • Long term strategy of the development	• Sustainable maintenance strategy to minimise the dependency on local authority funding for housing maintenance and improvement in one case
Face-to-face communication	• Importance as compared to information technology enablers	• Considered important in two cases

Testing of project management application model	• Necessary	• No information available
Award system	• Appropriate system required to enhance the success of the project management application model	• No information available
Environmental forces	• Property market, economy affecting urban renewal	• No information available
Financial viability	• Costly compensation package and land cost, lack of development potential affecting urban renewal	• No information available
Urban renewal strategy and direction	• Rehabilitation to minmise acquisition expenditure, private sector involvement, comprehensive planning	• Mainly private sector involvement and the organisation acted only as planner, facilitator, capital works and infrastructure provider, and the development broker between private sector, government and the community in three cases; • Organisation responsible for strategic planning, bringing parties to the table, providing finance for both re-development and rehabilitation in one case
Involving legislative councilors at outset with partnering relationship	• Necessary to enhance success of the project management application model	• No information available

Source: developed for this research

Conclusion. The findings detailed in this table 5.2 add to the body of knowledge of the current literature. As the findings Since the URA is a non-governmental body established by the ordinance, it has its administration and management separate from the government. Better government support or involvement can be solicited by establishing a close link with the relevant government departments such as those relating to planning, land matters, transport and building regulations. The involvement of the government can be at two levels of the proposed project management application model. At the regional team level, a liaison team comprising the representatives from the divisions of the relevant government authorities responsible for the particular targeted district will be one of the teams in the proposed regional team structure. At the policy level, a similar liaison team comprising of representatives from the policy bureaus of the relevant government authorities will be one of the teams in the proposed headquarters structure. Such two-pronged approach will ensure that communication

and adequate support can be solicited from both the executive and policy levels of the government.

The findings for the team member attributes actually reinforced the proposal of multi-disciplinary project team structure, which will help the team members to develop general knowledge of other disciplines, a broader view of the project and some other knowledge such as social impact assessment. Attribute of the top management is an area that warrants a more detailed and separate study i.e. the suitability of generalising specialist or specialising specialist since no conclusion could be drawn from the analysis and this is not the research issue for this thesis. However, a project team structure appears to be an appropriate arena for developing future top managerial leader since the members are exposed to a broader perspective of the entire project, which is one of the top management attributes suggested by the Hong Kong SAR case.

Education of the public on urban renewal can be tackled at two levels i.e. at a local level by the community communication professional team in the regional team and at a territory-wide level by the headquarters. Corporate communication professional in the functional specialist advisory group can shoulder such responsibility in the headquarters structure.

The maintenance strategy, the consideration of environmental forces, financial viability and the urban renewal strategy/direction are inter-related. These issues concern with the broader picture of urban renewal policies that may be another excellent research topic. Nevertheless, these issues may only affect the composition of the teams in the structure of the proposed model specifications. The five research issues for the project management application model are still applicable for implementation of urban renewal projects.

The importance of face-to-face communication has strengthened the necessity of the district advisory committee/community in Research Issue 4. The information technology enablers in Research Issue 5 will enhance the district advisory committee/community in bolstering the communication with the stakeholders, which can facilitate urban renewal project implementation.

The testing of the model by actual implementation has echoed the finding in Research Issue 4 regarding the pilot project for the learning and experience curve of partnering approach with stakeholders.

The placement of appropriate award system is related to the practice of the organisation to implement the model. The implications will be discussed in section 5.11.

The legislative councilors in Hong Kong SAR can be considered as political groups. They can be treated as one of the stakeholders in Research Issue 4.

5.8 Summary of conclusions about the five research issues and the new findings

To assist the determination of conclusions about the research question, a summary of conclusions about each of the five research issues as well as those new findings is presented in table 5.3.

Collectively, the conclusions about each research issue and the new findings, as summarised in table 5.3, enable the drawing of conclusions about the research question. Conclusions about the research question are discussed in the next section.

Table 5.3: A summary of the conclusions about each research issue and the new findings

	Research issue/new finding and the summary of conclusions drawn from that issue/new finding
RI 1	**What are the effects of projectised type organisational structure with integrated and multidisciplinary teams, corporate communication team, social services teams and informal project management community for each targeted district on urban renewal projects implementation?** Regional team approach with the following structure is to be adopted for each targeted district: • projectised type structure; • with multi-disciplinary and integrated professional project teams to enhance sustainable design which can resolve urban dilapidation on long term basis; • with communication professional team to handle the communication with the community; and • with formal project management community to minimise inconsistency between project teams. Social services team is required to facilitate urban renewal project implementation but has to be independent of the urban renewal organisation to enhance credibility and avoid conflict of interest. The above would improve the urban renewal work efficiency and effectiveness as compared to the approach adopted by the current setup.
RI 2	**What are the effects of a headquarters organisational structure with formal project management community, project auditing team, project support group and functional specialist advisory group on supporting the projectised organisational structure for each targeted district?**

	The headquarters structure is to comprise of the following: • formal project management community to resolve potential problems and interfaces between the regional teams; • an independent auditing team to provide unbiased checking of the team operation, informed and intelligent answer on strategic issues and stakeholder interest; and • project support and functional advisory group with no executive power on the day-to-day operation of the project teams to formulate standards/procedures and act as the centre of excellence for training the appropriate specialised skills and giving advice. These specific teams in the headquarters are effective in enhancing regional team performance and minimise potential problem.
RI 3	**What are the effects of a flattened hierarchical structure with team members possessing sustainability knowledge and project managerial leaders being generalising specialists on the project team performance?** A flattened hierarchical structure will have efficient communication, better accountability, clearer roles and responsibility, better team spirit and motivation. Team members and leaders are to possess sustainability knowledge to facilitate the incorporation of such concept in the urban renewal projects. The project managerial leader is to be a generalising specialist with appropriate technical and general management skills, having a system approach perspective as well as the ability to instill open culture in the team for effective operation of the project management community. The effects of the above team structure and members' attributes are improvement of team performance, effectiveness of the project management community in the regional team and facilitation of the sustainability objective for urban renewal that can resolve urban dilapidation on long term basis.
RI 4	**What are the effects of involving stakeholders at the outset of and throughout the projects with partnering relationship and formation of district advisory committee/community on urban renewal project implementation?** Stakeholders that are to be involved at the outset include consultants, government, community, joint venture developers, social services teams and pressure groups. The appropriate relationship between the urban renewal agent and the consultants, government, community, joint venture developer, social services teams, pressure groups and contractors is partnering. However, pilot projects may first be implemented to go through learning and experience curve before applying to larger scale projects. Such stakeholder management will address the critical issues of sustainability, quality and customer-focused at the outset, which can enhance the long term goals of urban renewal. Formation of district advisory community/committee can encourage community participation and solicit heritage local knowledge. Community participation will facilitate project implementation

	whereas heritage local knowledge is an important objective of sustainable urban renewal. However, mechanisms to ensure true representation of the participants for the community are required.
RI 5	**What are the effects of adopting information technology enablers by establishing computerised project management information system interlinked to Web site accessible to the public on communication to stakeholders?** Information technology enablers can enhance communication to stakeholders, which is imperative for achieving urban renewal project task. The computerised PMIS will be able to display all relevant project data, keep up-to-date and user friendly. It will have different access levels to appropriate types of information for different internal and external stakeholders. The system will include a Web site accessible by different stakeholders for different appropriate and controlled information. With these information technology enablers, communication to stakeholders is enhanced. Transparency and public participation can be achieved. Urban renewal project implementation will subsequently be improved.
New findings	<u>Government support</u> Better government support or involvement can be solicited by establishing a close link with the relevant government departments at two levels of the project management application model i.e. working level at the regional team level and policy level at headquarters level. <u>Team member attributes</u> Team members can develop general knowledge of other disciplines, a broader view of the project and some other knowledge such as social impact assessment through the multi-disciplinary project team structure. <u>Top management attributes</u> No definite conclusion about the suitability of generalising specialist or specialising generalist can be drawn from the analysis. Separate detailed research is required. However, the project team structure is suitable for developing future top managerial leader since members are exposed to a broader perspective of the entire project, which is one of the essential attributes for top management. <u>Education of the public</u> It can be tackled in two levels i.e. at local level by the community communication professional team in the regional team and at general public level by the corporate communication professional in the functional specialist advisory group in headquarters. <u>Maintenance strategy, environmental forces consideration, financial viability and urban renewal strategy/direction</u> These inter-related issues concern with the broader picture of urban renewal policies and are excellent separate research topic. <u>Face-to-face communication</u> The importance of face-to-face communication strengthens the proposal of setting up district advisory

	committee/community in RI 4. The information technology enablers in RI 5 will enhance the face-to-face communication that can facilitate urban renewal project implementation. <u>Testing of the model</u> This finding has echoed the pilot project issue in RI 4. <u>Placement of appropriate award system</u> This issue relates to the implications for practice, which will be covered in section 5.11. <u>Legislative councilors</u> They are considered as political groups, which can be treated as one of the stakeholders in RI 4.

Source: developed for this research

5.9 Conclusions about the research question

From the above discussion of the five research issues and the new findings, it is now possible to address the research question of ***how can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region?*** The application model for implementing urban renewal projects taking into account the resolution of the research issues and new findings in sections 5.2 through 5.8 is shown in figure 5.4. The application model covers project management body of knowledge and practice regarding four main areas i.e. organisational structure, team structure and attributes of team members, stakeholder management, communication and information technology enablers, taking into consideration of urban renewal practices, objectives and principles.

Organisational structure. To enhance the efficiency and effectiveness of urban renewal, a regional team approach is used. Within each regional team, multi-disciplinary and integrated projectised teams are established to handle the projects for enabling sustainable design, which can resolve urban dilapidation on long term basis. Community communication team in each region will improve communication with the local communities and hence facilitating project implementation. A project management community is required to minimise inconsistency among the project teams.

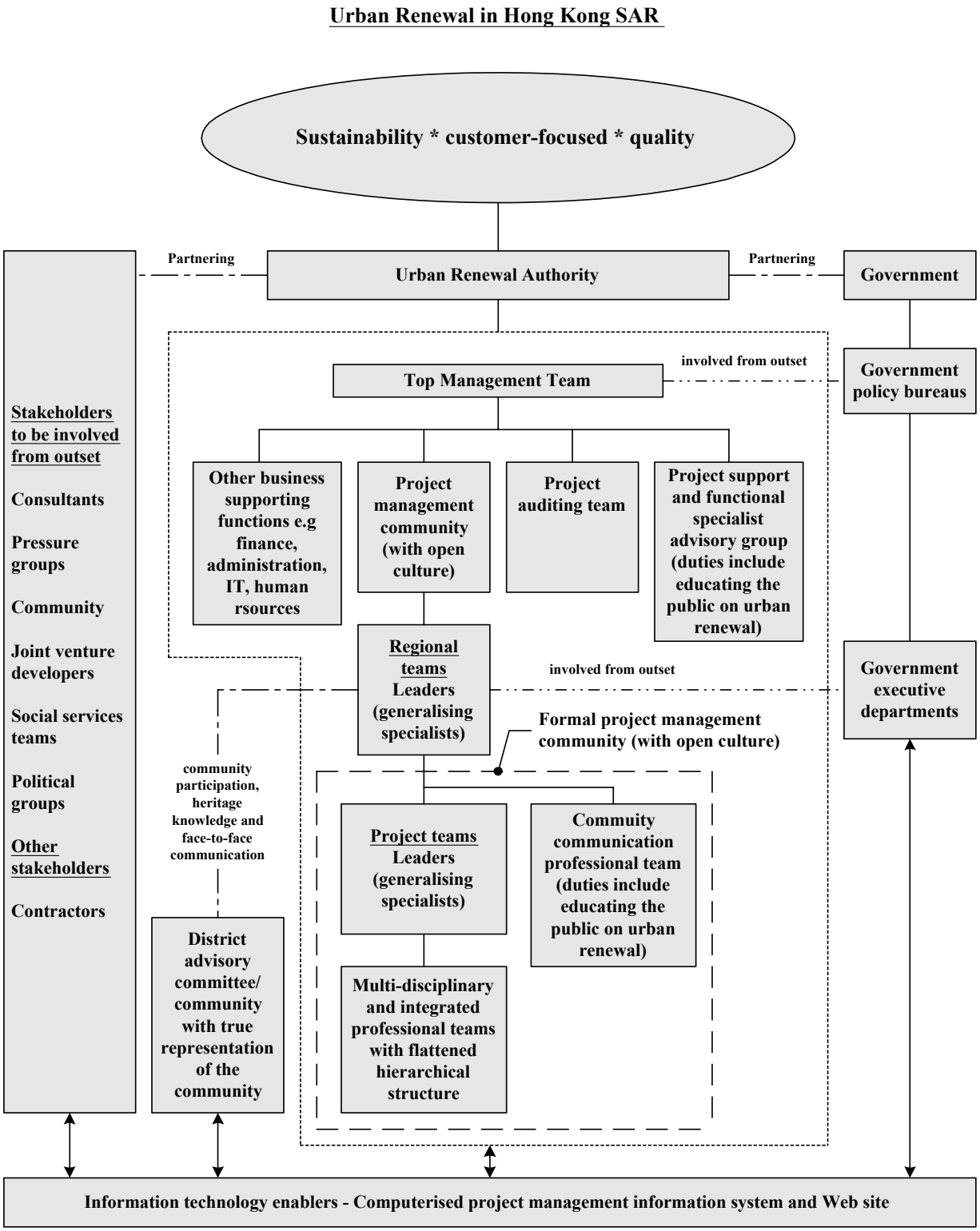


Figure 5.4: Application of project management body of knowledge and practice for effective and efficient implementation of urban renewal projects in Hong Kong Special Administrative Region, China

Source: developed for this research

The effectiveness of the regional teams structural approach needs to be supported by an appropriate headquarters structure. In the headquarters, project management community comprising of members from the regional teams and other headquarters teams is formed to minimise inconsistency, resources allocation and communication between regional teams. Besides the basic supporting functions such as finance and administration, human resources and information technology, two special teams, namely the project auditing team, and the project support and functional specialist advisory group are required to support the regional teams. The communication specialist in the headquarters and the community communication team in each regional will also be responsible for educating the public at large to solicit support for facilitating project implementation.

Team structure and members attributes. Appropriate team structure and members attributes are essential for improving the team performance, effectiveness of the project management community in the organisational structure and facilitating the sustainability objective for long term urban renewal. A flattened hierarchical structure is better than complex structure with multi-layers of staffing in the aspects of communication, accountability and team spirit and motivation. The team members including the leaders should possess sustainability knowledge. The team leaders are preferably generalising specialists with appropriate technical and management skills, having a system approach perspective and ability to instill open culture in the team. The projectised team approach may have the benefits of training the members to have knowledge of other disciplines other than that of their own and a broad picture of the urban renewal projects, which can facilitate the efficiency of the project team.

Stakeholder management. Sustainability, customer-focused and quality are key issues that determine the effectiveness of urban renewal. These critical issues need to be addressed from the outset of the urban renewal projects and require careful management of the stakeholders. Stakeholders have to be involved at the outset and throughout the project. Further, partnering is appropriate relationship with them. Government support and involvement is considered critical in determining the project success. Besides, community participation, acquisition of heritage knowledge and face-to-face communication are important in successfully

implementing sustainable urban renewal projects. These issues can be achieved by the formation of a district advisory community/committee with true representation of the community.

Communication and information technology enablers. Information technology enablers enhance communication to stakeholders, which is essential for achieving urban renewal project tasks. Appropriate information technology enablers are computerised PMIS with Web site accessible by different stakeholders for different type and level of controlled information. Transparency and public participation can be achieved and thus urban renewal project implementation will subsequently be improved.

The abovementioned issues regarding the application of project management body of knowledge and practice to urban renewal projects, namely, organisational structure, team structure and members attributes, stakeholder management, communication and information technology enablers will reinforce each other in enabling the effective and efficient implementation of the urban renewal projects in Hong Kong SAR. The implications for theory of the resolution to the research question and its four main areas are discussed next.

5.10 Implications for theory

Resolving the research question of how the project management body of knowledge and practice can be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR has several implications for the parent disciplines of project management and urban renewal body of knowledge. These implications are discussed in the ensuing paragraphs.

Sustainability, multi-disciplinary and integrated approach. The literature review of this research found that the project management body of knowledge has not mentioned sustainability. Sustainability is a contemporary issue considered by many nations of the world nations as an essential task for maintaining the future prosperity of human beings. To achieve such task, multi-disciplinary and integrated professional project teams approach has to be adopted as found out from the research. The implication for theory is that the project management body of knowledge should include this essential knowledge area and emphasise the importance of multi-disciplinary and integrated approach.

Team hierarchical structure and team member attributes. The research has found that a flattened hierarchical structure is conducive to the team performance. Furthermore, team members and leaders should also possess sustainability knowledge and a generalising specialist is more appropriate for project management leadership. Although project team structure has been covered in depth in the project management literatures, there is no mention about the hierarchical structure in matching the professional nature of the teamwork as well as the idiosyncrasy of professionals. The possession of the contemporary knowledge of sustainability by the team members has also not been covered. The suitability of generalising specialist or specialising generalist for project leader is not indicated in the project management literature. Thus, the project management body of knowledge may have to be updated to include these facets.

Stakeholder involvement. Stakeholder management was considered as an important issue by a number of literatures. This research has found that involving the stakeholders at the project outset is important in soliciting their support. The implication to this body of knowledge in project management is that timing for involving the stakeholders is important in managing projects. Further, participation of the public, as one of the stakeholders is also a critical key success factor to project management as found in this research.

Information technology enablers. Information technology enablers have been found by this research as a useful tool to enhance communication with the stakeholders, which is imperative for achieving the project tasks. This is especially important for the knowledge workers in the current information age. Some literatures have reviewed the usefulness of PMIS in managing projects. However, given the fast pace of information technology development, project management body of knowledge may need to exploit more information technology enablers for enhancing the efficiency and effectiveness of project implementation.

Government support. In the literature review of the parent discipline of urban renewal, community has been considered as the most important stakeholder for the successful implementation of urban renewal. However, this research has found that besides the community, government support is also imperative, especially for non-governmental urban renewal organisations like the case in Hong Kong SAR. Government support in both policy and implementation levels may therefore require more attention and focus in urban renewal.

Urban renewal strategy and policy. As detailed in this research, urban renewal work needs to be on long term basis and is a continuous task. Achievement of the desired quality will require the application of project management body of knowledge and practice. In addition, this research has also found that urban renewal strategy/direction, effect of environmental forces such as economy, and financial aspects will affect the success of urban renewal and these inter-related issues will necessitate further research.

The implications of the findings and conclusions from this research on practice and on policy are discussed next.

5.11 Implications for practice and policy

As with the theory of project management and urban renewal, resolving the research question has many implications for practice and for policy in applying the body of knowledge for urban renewal projects implementation in Hong Kong SAR. Those implications are now discussed in turn.

Practice. The implementation of the findings and conclusions of this research i.e. the application model require the re-structuring of the existing URA organisation. A comprehensive change management plan is necessary especially with the existing setup that has been operating for more than ten years. Based on the five-step change model of Lussier (1999) and key success factor approach of Ulrich (1997), the recommended procedure/steps are as follow:

- change leadership – a leader to be identified to own, commit to making it happens, champion the change and garner the resources necessary to sustain it;
- defining change and creating share need – the internal stakeholders to understand the change, reason for the change, why the change is necessary and important, and how it will help to achieve the mission of urban renewal on long term basis;
- shaping a vision – the internal stakeholders to understand how the change will benefit the community and other stakeholders, the outcomes of the change in terms of what they will do differently as a result of the change;
- identifying possible resistance to the change – internal and external forces to be identified especially the possible deeply rooted culture of the existing organisation;

- mobilising commitment – stakeholders who need to be committed to the change to make it happen to be identified and commitment/support to be solicited;
- implementing the change – systems, technology and structures to be institutionalised including new staffing, training, appraisal, rewards, structure and communication for supporting the change, and internal stakeholders to be involved wherever possible; change to be implemented in phases and for pilot projects initially to go through the learning and experience curves before applying to larger scale projects and the entire organisation;
- controlling, monitoring progress and reinforcing the change - means of measuring the success of the change, plan to benchmark progress on both the results of the change and the implementation process to be formulated; and
- making the change last - short and long term plans to keep attention focused on the change, and plan for adapting the changes over time to be formulated.

Policy. As government involvement is imperative to the success of the application model, a more proactive approach than the current policy has to be adopted by the relevant governmental departments to facilitate direct communication with URA. Close communication link has to be established at both operational and policy levels to enhance the urban renewal project implementation. Such change in policy may require the introduction of new legislation to supplement the existing ordinance, on which the operation of the URA is to be based.

Despite the implications for theory, practice and policy when applying project management body of knowledge and practice to enhance urban renewal project implementation efficiency and effectiveness, the limitations of this research should be noted. These limitations are discussed next.

5.12 Limitations

The findings of this research are for urban renewal project implementation in Hong Kong SAR only. The application of these findings beyond Hong Kong SAR should be made with caution because of the inevitable differences in cultural, political, economical and social environmental between countries and places. However, this research will be a springboard for

generalising these results for application to other countries, which is addressed in section 5.13 below.

The data were collected from the single case in Hong Kong SAR i.e. URA, which is the sole urban renewal organisation. This research nevertheless sought triangulation of evidence from overseas cases as described in research methodology section. Furthermore, non-governmental urban renewal organisation is the focus of this research. However, majority of the findings can be equally applied to governmental setup with required adjustment of the model. Thus, the findings can provide platforms for further research on this perspective as discussed in the next section.

5.13 Further research

There are some suggestions for further research. Firstly, because case study methodology was used for this research, there was a reliance on inductive analytical generalisation emphasising theory building aiming at internal validity through information-richness, coherence and insight from triangulated sources. In future, quantitative research considering numbers could be undertaken to test the theory built in this study by collecting survey data from the pilot projects regarding the time, cost and quality achieved.

Secondly, this research is concerned with the urban renewal work in Hong Kong SAR. Similar research could be conducted for urban renewal agent, governmental or non-governmental, in other cities of China and other countries, which may have different political, social, cultural and economical environments, and where urban renewal work is desperately needed. Furthermore, research may also be conducted on a broader scale by studying the effect of these different environments in other countries and generalising the project management application model.

Thirdly, besides project management body of knowledge, the success of urban renewal also hinges to the broader and inter-related issues of urban renewal policies such as the maintenance strategy, environmental forces consideration e.g. property market, and financial viability and support. These are also challenging or important factors for investigation in future research topics.

Fourthly, research on the attributes of the top management in the urban renewal agent could be undertaken as no definite conclusion about the suitability of generalising specialist or specialising generalist had been drawn from this research. Appropriate leadership is essential for managing project organisation to successfully achieve long term urban renewal mission.

Lastly, as Hong Kong SAR is an international arena for projects, cultural risk should be considered as one of the competencies for the team members to manage urban renewal projects. Cultural risk is the risk of business blunders, poor customer relations, and wasted negotiations that result when management fails to understand and adapt to the differences between their own and host countries' cultures (Czinkota, Ronkainen & Moffett 2000). It is an important competency that needs to be researched further.

5.14 Conclusion

This final chapter of the thesis discussed and compared the findings about the five research issues with the extant literature to identify the contributions that this research makes to understanding how the project management body of knowledge and practice can be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR. This was followed by the conclusions about the research question and the implications for theory, practice and policy. The limitations of the research were then discussed and finally several possible further research areas were suggested.

Given the scale of the urban renewal projects in Hong Kong SAR and the associated multi-billions cost in the next 20 years, as well as the recent re-organisation of the URA to expedite the urban renewal mission, this research has provided a timely understanding of the importance of applying appropriate project management body of knowledge and practice to urban renewal. The project management application model in terms of organisational structure, team structure and member attributes, stakeholder management, communication and information technology enablers identified in this research could improve the efficiency and effectiveness of the project implementation. Such enhancement will benefit Hong Kong SAR in terms of finance, public confidence and maintenance of sustainable competitive advantage.

Further, the research findings has set a foundation for future research about the application model for other places, in particular, cities in China, where urban dilapidation is getting serious, and the subsequent generalisation of results to take into account of the different

environments. This research also provides a platform for future research of the broader perspectives of urban renewal policies such as maintenance strategy, financial viability and environmental forces.

Bibliography

- Aiken, M. & Alford, R. (1970), Community Structure and Innovation: the Case of Urban Renewal, *American Sociological Review*, 35:650-665.
- Aquilar, F. (1967), *Scanning the Business Environment*, Macmillan, New York.
- Arksey, H. & Knight, P. (1999), *Interviewing for Social Scientists – An Introductory Resources with Examples*, Sage Publications, London.
- Ashley, E. (2000), Communication – A Key Player in Successful Project Management, *Journal of the Australian Institute of Project Management*, Vol. 20, No. 3, Sept., pp. 7-9.
- Atkinson, R. & Moon, G. (1994), *Urban Policy in Britain*, Macmillan, London.
- Augenbroe, G., Pearce, A. & Kibert, C. (1998), *Sustainable Construction in the United States of America – A Perspective to the Year 2010 (CIB-W82 Report)*, Georgia Institute of Technology, College of Architecture, Construction Research Center.
- Baker, B. (1998), Political Strategies for Project Managers, in Cleland, D. (ed), *Field Guide to Project Management*, John Wiley & Sons, USA.
- Barkley, B. & Saylor, J. (1994), *Customer-driven Project Management - A New Paradigm in Total Quality Implementation*, McGraw-Hill, New York.
- Barton, H. (1996), Going Green by Design, *Urban Design Quarterly*, January, Issue 57, [Online], Available: http://www2.rudi.net/ej/udq/57/ggd.html [Accessed 26 June 2001].
- Berg, B. (1995), *Qualitative Research Methods for the Social Sciences,* Allyn and Bacon, Boston.
- Berggren, C., Soderlund, J. & Anderson, C. (2001), Clients, Contractors, and Consultants: The Consequences of Organisational Fragmentation in Contemporary Project Environments, *Project Management Journal*, Vol. 32, No. 5, pp. 39-48.

- Black, K. (1996), Causes of Project Failure: A Survey of Professional Engineers, *PM Network*, Vol. 10, No. 11, pp. 21-24.
- Blackman, T. (1995), *Urban Policy in Practice*, Routledge, London.
- Blunkett, D. (2000), *Individual Learning News - Urban Renewal Depends on People and their Skills*, [Online], Available: http://www.lifelonglearning.co.uk/iln/j3-lat21.htm [Accessed 9 April 2001].
- Bounds, M., Trueman, P., Evans & Peck (2001), Managing Real and Perceived Threats of Construction Projects to the Community, *Australian Project Manager*, Vol. 21, No. 4, pp. 30-32.
- Boyer, J., Jeffery, W., Anderson, R., Cameron, I., Berry, A., Cutting M. & Norris, V. (1998), *Unit 405 - Environmental Management*, Association of Professional Engineers, Scientists and Managers, Australia and Deakin University, Australia.
- Brandon, P.S., Lombardi, P.L. & Bentivegna, V. (eds) (1997), *Evaluation of the Built Environment for Sustainability*, E & FN Spon, London.
- Brannen, J. (1992), Combining Qualitative and Quantitative Approaches An Overview, *Mixing Methods: Qualitative and Quantitative Research,* Aldershot, Avebury: 3-37.
- Breheny, M. (1992), *Sustainable Development and Urban Form*, Pion, London.
- Bryman, A. (1992), Qualitative and Quantitative Research: Further Reflections on their Integration, *Mixing Methods: Qualitative and Quantitative Research,* Aldershot, Avebury**:** 58-78.
- BSRIA (2000), *Sustainable Construction - Environmental Code of Practice*, CIBSE Members' CD-ROM.
- Bubshait, A. (2001), Partnering: An Innovative and Effective Project Organisation Concept, *Cost Engineering*, Morgantown, Vol. 43, Issue 4, pp. 32-37.
- Burke, R. (1999), *Project Management - Planning & Control Techniques*, 3rd edn, John Wiley & Sons, England.

- Carley, M. (2000), Urban Partnerships, Governance and the Regeneration of British's Cities, *International Planning Studies*, Abingdon, Vol. 5, Issue 3, pp. 273-297.
- Carmona, M (1996), The Local Plan Agenda, *Urban Design Quarterly*, January, Issue 57, [Online], Available: http://www2.rudi.net/ej/udq/57/tlpa.html [Accessed 26 June 2001].
- Carson, D., Gilmore, A., Gronhaug, K. & Perry, C. (2001), *Qualitative Research in Marketing*, Sage, London.
- Center of Excellence for Sustainable Development (CESD) (2000), *Green Buildings*, [Online], Available: http://www.sustainable.doe.gov/buildings [Accessed 8 May 2000].
- Chapman, D. & Larkham, P. (1999), Urban Design, Urban Quality and the Quality of Life: Reviewing the Department of the Environment's Urban Design Campaign, *Journal of Urban Design*, Abingdon, Vol. 4, Issue 2, pp. 211-232.
- Chiu, R. (2000), Environmental Sustainability of Hong Kong's Housing System and Housing Process Model, *International Planning Studies,* Abingdon, Vol. 5, Issue 1, pp. 45-64.
- CII (1997), An Assessment Tool for Improving Project Communications, *Publication 105-11*, University of Texas, Austin.
- Cleland, D. & King, W. (1983), *Systems Analysis and Project Management*, 3rd edn, McGraw-Hill International Edition, Auckland.
- Cleland, D. I. (1999*), Project Management - Strategic Design and Implementation*, 3rd edn, New York, NY: McGrawHill.
- Cleland, D. I. (ed) (1998), *Field Guide to Project Management*, John Wiley & Sons, USA.
- Cohen, D. & Graham, R. (2000), *Project Manager's MBA*, Jossey-Bass, USA.
- Cooke-Davis, T. (2001), *New Directions in Project Management*, First NSW Chapter Meeting of 2001, Australian Institute of Project Management.

- Counsell, D. (1999), Sustainable Development and Structure Plans in England and Wales: Operationalising the Themes and Principles, *Journal of Environmental Planning and Management*, Abingdon, Vol. 42, Issue 1, pp. 45-61.
- Crawford, L. & Cooke-Davies, T. (1999), Enhancing Corporate Performance through Sustainable Project Management Communities, *Proceedings*, the 30th Annual Project Management Institute 1999 Seminars & Symposium, 10-16 October, NC; Project Management Institute, Sylva.
- Creswell, J. W. (1994), *Research Design: Qualitative and Quantitative Approaches*, Sage Publications, Thousand Oaks.
- Czinkota, M. R., Ronkainen, I. A. & Moffett, M. H. (2000), *International Business – Update 2000*, The Dryden Press, USA.
- Dainty, R. (1991), What is Management Research?, *The Handbook of Management Research*, N. Craig Smith and P. Dainty, Routeledge**:** 67-83, London.
- Datta, S. & Mukherjee, S.K. (2001), Developing a Risk Management Matrix for Effective Project Planning - An Empirical Study, *Project Management Journal*, Vol. 32, No. 2, pp. 45-57.
- Denker, S., McLaughlin, H., Steward, D. & Browning, T. (2001), Information-Driven Project Management, *PM Network*, October, pp. 50-53.
- Dey, I. (1993), *Qualitative Data Analysis,* Routledge, London.
- Dick, B. (1990), *Rigour Without Numbers*, Sage, Sydney.
- Dill, W. (1958), Environment as an Influence on Managerial Autonomy, *Administrative Science Quarterly*, March, pp. 409-443.
- Dinsmore, P. (2002), Sixteen Reasons Not to Implement a Project Office, *PM Network*, February, pp. 24-25.
- Drucker, P. (1988), The Coming of the New Organisation, *Harvard Business Review*, Jan-Feb.
- Drucker, P. (1991), Knowledge-worker Productivity, *Management Challenges for the 21st Century,* Butterworth-Heinemann, Oxford, pp. 141-159.

- Drucker, P. (1992), The New Society of Organisations, *Harvard Business Review*, Sep-Oct.
- Easterby-Smith, M., Thorpe, R. & Lowe, A. (1991), The Philosophy of Research Design, *Management Research: An Introduction*, SAGE Publications.
- Easton, G. (1994), Methodology and Industrial Networks, in Wilson, D. & Moller, K. (eds), *Relationship and Networks: Theory and Applications*, PWS, Kent.
- Eisenhardt, K. (1989), 'Building Theories from Case Study Research', *Academy of Management Review*, 14(4): 532-50.
- Elkin, T., McLaren, D. & Hillman, M. (1991), *Reviving the City: Towards Sustainable Urban Development*, Friends of the Earth, London.
- Emory, C. & Cooper, D. (1991), *Business Research Methods*, 4th ed, Richard D. Irwin, Inc., Boston.
- Environmental Resources Management (ERM) (1999), *Integrating Sustainability and 'Rethinking Construction'*, CRISP Sustainable Construction Theme Group.
- Fordham, G., Hutchinson, J. & Foley, P. (1999), Strategic Approaches to Local Regeneration Budget Challenge Fund, *Regional Studies*, Cambridge, Vol. 33, Issue 2, pp. 131-141.
- Foti, R. (2001), Forecasting the Future of Project Management, *PM Network*, October, pp. 28-31.
- Futcher, K. (1998), Customized Management System to Public works Programme, *Asia Engineer*, March, pp. 20-21.
- Geddes, M., Hastings, C. & Briner, W. (1990), *Project Leadership*, Gower (paperback edition 1993).
- Giplin, A. (1995), *Environmental Impact Assessment (EIA): Cutting Edge for the Twenty-first Century*, Cambridge University Press, UK.

- Girard, L. (1997), Self-sustainable Urban Development, in Brandon, P.S., Lombardi, P.L. & Bentivegna, V. (eds), *Evaluation of the Built Environment for Sustainability*, E & FN Spon, London.
- Glaser, B and Strauss, A. (1967), *The Discovery of Grounded Theory*, Adline Publishing Company, New York.
- Greene, D. (1997), *Towards Sustainable Engineering Practice - Engineering Frameworks for Sustainability*, Institution of Engineers, Australia.
- Grey, R. & Halliday, S. (1997), Designing and Revitalising Communities, in Brandon, P.S., Lombardi, P.L. & Bentivegna, V. (eds), *Evaluation of the Built Environment for Sustainability*, E & FN Spon, London.
- Gummesson, E. (1991), *Qualitative Methods in Management Research*, Sage Publications, Newbury Park.
- Guy, S. & Marvin, S. (2001), Constructing Sustainable Urban Futures: From Models to Competing Pathways, *Impact Assessment and Project Appraisal*, Surrey, Vol. 19, No. 2, June, pp. 131-139.
- Hamilton, A. (1997), *Management by Projects - Achieving Success in a Changing World*, Thomas Telford Services, London.
- Hammersley, M. (1992), Deconstructing The Qualitative-Quantitative Divide, *Mixing Methods: Qualitative and Quantitative Research*, Aldershot, Avebury**:** 40-55.
- Harding, R. (ed) (1998), *Environmental Decision-making – the Roles of Scientists, Engineers and the Public*, The Federation Press, NSW.
- Haughton, G. (1999), Searching for the Sustainable City: Competing Philosophical Rationales and Processes of 'Ideological Capture' in Adelaide, South Australia, *Urban Studies,* Edinburgh, Vol. 36, Issue 11, pp. 1891-1906.
- Herriot, R. & Firestone, W. (1983), Multisite Qualitative Policy Research: Optimising Description and Generalisability, *Educational Researcher*, 12, 14-19.
- Hibbert, S. (1994), Partnering; Some Legal Issues, *Australian Project Manager*, Vol. 14, No. 1, pp. 15-16.

- Hong Kong SAR Government (2001), *Urban Renewal Authority Ordinance (chapter 563)*, Government Printer, Hong Kong SAR.
- Housing Authority (2000), *Quality Housing: Partnering for Change - Consultative document*, [Online], Available: http://www.info.gov.hk/hd/eng/ha/consult/index.htm [Accessed 10 July 2001].
- Hussey, J. and R. Hussey (1997), *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*, MacMillian Business, London.
- Jenkins, B. (1995), Project Management and Environmental Issues, APESMA Management Education Program, *'Environmental Management Skills'*, pp. 149-156.
- Kanter, R. (1989), The New Managerial Work, *Harvard Business Review*, Nov-Dec.
- Katzenbach, J. & Smith, D. (1993), The Discipline of Teams, *Harvard Business Review*, Mar-Apr.
- Kennett, S. & Fletcher, K. (2002), Partner Pyramid, *Building Services Journal*, August, pp. 28-30.
- Kezsbom, D. & Edward, K. (2001), *The New Dynamic Project Management – Winning Through the Competitive Advantage*, 2nd edn, John Wiley & Sons, New York.
- Kibert et al. (1994), closing discussion at the First International Conference on Sustainable Construction, Florida, USA.
- Kotter, J. (1990), What Leaders Really Do, *Harvard Business Review,* May-Jun.
- La Monica, E. (1994), *Management in HealthCare*, The Macmillan Press.
- Larson, E. (1987), Matrix Management: Contradictions and Insights, *California Management Review*, Vol. 29, No. 4.
- Larsson, N. (2000), *Moving Towards Sustainability with Green Building*, [Online], Available: http://www.greenbuilding.ca/down/gbc2000 [Accessed 18 July 2001].
- Leedy, D. (1997), *Practical Research, Planning and Design,* Merill, Upper Saddle River.

- Lennon, J. (1998), History, Cultural Heritage and the Regional Forest Assessment Process, *Australian Journal of Environmental Management*, Vol. 5, pp. 38-45.
- Livingston, J. (1988), Pygmalion in Management, *Harvard Business Review*, Sep-Oct.
- Lock, D. (1996), *The Essentials of Project Management*, Gower Publishing Ltd, England.
- Lussier, R. (1999), *Human Relations in Organisations: applications and skill building*, 4th edn, Irwin McGraw Hill, Boston.
- Maclaren, V. (2001), Urban Sustainability Reporting, in Willis, K., Turner, R. & Bateman, I. (eds), *Urban Planning and Management*, Edward Elgar Publishing Ltd, UK.
- Maiellaro, N. & Lerario, A. (2000), Knowledge Systems for Sustainable Design, *Sustainable Building Resource Research*, [Online], Available: http://www.iris.ba.cnr.it/sustain/research/know.htm [Accessed 9 April 2001].
- Major, D. (1999), The Management of Project, in Loftus, J. (ed), *Project management of Multiple Projects and Contracts*, Thomas Telford, London.
- Marsh, C. (2000), Sustainable Construction, *Building Services Journal*, Vol. 22, No. 9, pp. 48-49.
- Martin, E., Brown, C., Dehayes, D. & Perkins W. (1999), *Managing Information Technology - What Managers Need to Know*, 3rd edn, Prentice Hall, New Jersey.
- Maxman, S., Hotes, R., Martin, M., Prowler, D., Brewster, G. & Porter, D. (2000), Sustainable Building, in Porter, D. (ed), *The Practice of Sustainable Development*, Urban Land Institute, USA.
- McCarthy, J. (1999), Urban regeneration in Scotland: An Agenda for the Scottish Parliament, *Regional Studies,* Cambridge, Vol. 33, Issue 6, pp. 559-566.
- McDaniel, C. & Gates, R. (1991), *Contemporary Marketing Research*, West, St. Paul.
- Mead, S. (2001), Using Social Network Analysis to Visualise Project Teams, *Project Management Journal*, Vol. 32, No. 4, pp. 32-38.

- Mendler, S. & Odell, W. (2000), *The HOK Guidebook to Sustainable Design*, John Wiley & Sons, New York.
- Meredith, J. & Mantel, S. (1995), *Project Management - A Managerial Approach*, 3rd edn, John Wiley & Sons, USA.
- Miles, M. & Huberman, A. (1984), *Analysing qualitative data: A source book for new methods*, Sage, Beverly Hills, CA.
- Miles, M. & Huberman, A. (1994a), *Qualitative Data Analysis: An Expanded Sourcebook,* Sage Publications, Thousand Oaks.
- Miles, M. & Huberman, A. (1994b), Data Management and Analysis Methods, in Denzin, N. & Lincoln, Y. (eds), *Handbook of Qualitative Research,* Sage Publications, Thousand Oaks.
- Mintzberg, H. (1979), *The Structure of Organisations*, Prentice-Hall, New York.
- Morris, P. (1999), What Project Managers Need to Know*, IEE Review*, Vol. 45, No. 4, pp. 173-175.
- Morris, P. (2001), Updating the Project Management Bodies of Knowledge, *Project Management Journal*, Vol. 32, No. 3, pp. 21-30.
- Morris, P. (n.d.), *The Management of Projects: the New Model*, [Online], Available: http//www.UMIST.ac.uk/CRMP/management_of_projects.htm [Accessed 6 June 2001].
- Pacione, M. (1997), Urban Restructuring and the Reproduction of Inequality in Britain's Cities: An Overview, in Pacione, M. (ed), *Britain's Cities: Geographies of Division in Urban Britain*, pp. 7-62, Routledge, London.
- Parkhe, A. (1993), 'Messy' Research, Methodological Predispositions and Theory Development in International Joint Ventures, *Academy of Management Review*, 18(2), pp. 227-268.
- Paterson, R. (2000), *Constructing Effective Questionnaires*, Sage Publications, London.

- Patton, M. Q. (1990), *Qualitative Evaluation and Research Methods*, Sage Publications, Newbury Park.
- Perry, C. & Cavaye, A. (2001), *How to Identify an Appropriate Method for My Thesis*, Southern Cross DBA Workshop, 12-14 October 2001, Coolangatta, Queensland.
- Perry, C. & Coote, L. (1994), Processes of a Case Study Research Methodology: Tool for Management Development?, Australia and New Zealand Academy of Management Annual Conference, p.101-127.
- Perry, C. (1995), A Structured Approach to Presenting PhD Theses: Notes for Candidates and their Supervisors, paper presented to the ANZ Doctoral Consortium, University of Sydney, February, with later additions to January 1995.
- Perry, C. (1998), Processes of a Case Study Methodology for Postgraduate Research in Marketing, *European Journal of Marketing*, Vol. 32, No. 9, pp. 785-802.
- Planning Department, Government of the Hong Kong Special Administrative Region (PD) (2000), *Sustainable Development for the 21st Century – Executive Summary*, Hong Kong Special Administrative Region of the People's Republic of China.
- Planning and Lands Bureau, Government of the Hong Kong SAR (PLB) (2001a), *Urban Renewal in Hong Kong*, [Online], Available: http://www.plb.gov.hk/renewal [Accessed 12 June 2001].
- Planning and Lands Bureau, Government of the Hong Kong SAR (PLB) (2001b), *People First - A Caring Approach to Urban Renewal: Urban Renewal Strategy Consultation Paper*, Printing Department, Hong Kong SAR.
- Planning and Lands Bureau, Government of the Hong Kong SAR (PLB) (2001c), *People First - A Caring Approach to Urban Renewal: Urban Renewal Strategy*, Printing Department, Hong Kong SAR.
- Post Conference Report, *First International Conference on Urban Regeneration and Sustainability - The Sustainable City 2000 (2000)*, [Online], Available: http://www.wessex.ac.uk/conferences/2000/scity/ [Accessed 9 April 2001].
- Project Management (2001), *Engineers Australia*, June, Vol. 73, No. 6, pp. 42-45.

- Project Management Institute (PMI) (2000), *A Guide to the Project Management Body of Knowledge*, Project Management Institute, Inc., Newton Square, Pennsylvania.
- Public Technology Inc. & US Green Building Council (PTI & USGBC) (1996), *Sustainable Building Technical Manual: Green Building Design, Construction, and Operations*, Public Technology Inc., USA.
- Rating and Valuation Department (2000), *Hong Kong Property Review 2000*, Government of the Hong Kong Special Administrative Region.
- Robson, C. (1993), *Real World Research*, Oxford, Blackwell.
- Robson, R. (1989), The Multiproject Environment, in Kimmons & Loweree (eds), *Project Management - A Reference for Professionals*, Dekker, New York.
- Rodman, D. & Lenssen, N. (1995), A Building Revolution: How Ecology and Health Concerns are Transforming Construction, *Worldwatch Paper 124*, March.
- Rubin, H. & Rubbin, I. (1995), *Qualitative Interviewing – the Art of Hearing Data*, Sage Publications, London.
- Ruskin, A. & Eugene Estes, W. (1989), Organisational Factors, in Kimmons & Loweree (eds), *Project Management - A Reference for Professionals*, Dekker, New York.
- Sankaran, S. (2000), *How to Do Action Research*, Southern Cross University DBA Workshop, 11-13 May 2000, Coolangatta, Queensland.
- Sanvido, V., Grobler, F., Parfitt, K., Guvenis, M. & Coyle, M. (1992), Critical Success Factors for Construction Projects, *Journal of Construction Engineering and Management*, 118(1), pp. 94-111.
- Sauer, C., Liu, L. & Johnson, K. (2001), Where Project Managers are Kings, *Project Management Journal*, Vol. 32, No. 4, pp. 39-49.
- Shane, A. & Graedel, T. (2000), Urban Environmental Sustainability Metrics: A Provisional Set, *Journal of Environmental Planning and Management,* Abingdon, Vol. 43, Issue 5, pp. 643-663.

- Sinclair, R. and R. Hogon (1996), "The Answer is Still Yes: But What was the Question.", *Journal of Applied Behavioural Science,* Vol. 34(4): 434-440.
- Smales, J. (1996), Leeds Conference Report: Sustainable Development, *Urban Design Quarterly*, no. 16, [Online], Available: http://www2.rudi.net/ej/udq/60/topic_4.html [Accessed 26 June 2001].
- Smith, M., Whitelegg, J. & Williams, N. (1998), *Greening the Built Environment*, Earthscan Publications Ltd, London.
- Smith, P. (1998), Concurrent Engineering Teams, in Cleland, D. (ed)*, Field Guide to Project Management*, John Wiley & Sons, USA.
- Stake R. (1994), Case studies in N.K. Denzin and Y.S. Lincoln (eds), *Handbook of Qualitative Research*, Sage, Newbury Park.
- Stephenson, R. (1996), *Project Partnering for the Design and Construction Industry,* John Wiley & Sons, Inc., New York
- Stokes, E. (1998), *Unit 303 - Project Management*, Association of Professional Engineers, Scientists and Managers, Australia and Deakin University, Australia.
- Strauss, A & Corbin, J. (1990), *Basics of Qualitative Research: Techniques and Procedures*, Sage Publications, Newbury Park.
- Symes, M. & Pauwels, S. (1999), The Diffusion of Innovations in Urban Design: The Case of Sustainability in the Hulme Development Guide, *Journal of Urban Design,* Abingdon, Vol. 4, Issue 1, pp. 97-117.
- Thamhain, H. (1997), *Engineering Management: Managing Effectively in Technology Based Organisations*, John Wiley & Sons, New York.
- The Hutchinson Family Encyclopedia (2000), *Urban Renewal*, [Online], Available: http://ebooks.whsmithonline.co.uk/encyclopedia/54/M0021854.htm [Accessed on 25 April 2001].
- The Institution of Structural Engineers (1999), *Building for a Sustainable Future: Construction without Depletion*, SETO, London.

- Thompson-Fawcett, M. (2001), Leon Krier and the Organic Revival within Urban Policy and Practice, in Willis, K., Turner, R. & Bateman, I. (eds), *Urban Planning and Management*, Edward Elgar Publishing Ltd, UK.
- Tsoukas, H. (1989), The Validity of Idiographic Research Explanations, *Academy of Management Review*, 24(4), pp. 551-561.
- Tung, C. H. (1998), From Adversity to Opportunity, *The 1998 Policy Address*, Hong Kong Special Administrative Region of the People's Republic of China.
- Tung, C. H. (1999), Quality People Quality Home - Positioning Hong Kong for the 21st Century, *The 1999 Policy Address*, Hong Kong Special Administrative Region of the People's Republic of China.
- Tung, C. H. (2000), Serving the Community Sharing Common Goals, *The 2000 Policy Address*, Hong Kong Special Administrative Region of the People's Republic of China.
- Turner, J., Keegan, A. & Crawford, L. (2000), Learning by Experience in the Project-based Organisation, in *Project Management Research at the Turn of the Millennium*: Proceedings of PMI Research Conference, 21-24 June 2000, Paris, France, NC: Project Management Institute, Sylva, pp. 445-456
- Turner, R. (1993), *The Handbook of Project-Based Management*, McGraw-Hill Book Company.
- Ulrich, D. (1997), A New Mandate for HR, *Harvard Business Review*, January/February, 124-134.
- United Nations Conference on the Environment and Development (UNCED) (1992), *Agenda 21*.
- Urban and Economic Development Group (URBED) (n.d.), *The Sustainable Urban Neighbourhood*, [Online], Available: http://www.urbed.co.uk/sun/ [Accessed 22 August 2001].

- Urban Design Group (UDG) (1998), Special Report, *Urban Design Quarterly*, July, report 67, [Online], Available: http://www2.rudi.net/ej/udq/67_report [Accessed 26 June 2001].
- Viljoen, J. (1998), Strategic Management – Planning and Implementing Successful Corporate Strategies, 2nd edn, Longman, Australia.
- Walton, R. (1985), From Control to Commitment in the Workplace, *Harvard Business Review*, Mar-Apr.
- Warne, T. (1994), *Partnering for Success*, ASCE Press, New York.
- Weber, R. (1997), Planning a Path to the Top, *Business Review Weekly*, March issue, pp. 63-67.
- Weiner, E. & Brown, A. (1986), Stakeholder Analysis for Effective Issues Management, *Planning Review*, May, pp. 27-31.
- Wideman, R. (1985), Good Public Relations an Essential Part of Successful Project Management, *Proceedings*, PMI Seminar/Symposium, Vol. 1, pp. 6-7.
- Wideman, R. (1998), How to Motivate All Stakeholders to Work Together, in Cleland, D. (ed), *Field Guide to Project Management*, John Wiley & Sons, USA.
- Williams, K., Burton, E. & Jenks, M. (eds) (2000), *Achieving Sustainable Urban Form*, Oxford Brookes University, UK.
- Willis, K. (2001), Urban Planning and Management: An Overview, in Willis, K., Turner, R. & Bateman, I. (eds), *Urban Planning and Management*, Edward Elgar Publishing Ltd, UK.
- Woolley, H. (1999), Regeneration Through Integration, *Urban Design Quarterly*, July, Issue 71, [Online], Available: http://www2.rudi.net/ej/udq/71/topic_3.html [Accessed 26 June 2001].
- Wysocki, R., Beck Jr, R. & Crane, D. (2000), *Effective Project Management*, 2nd edn, John Wiley & Sons, USA.

- Yin, R. K. (1994), *Case Study Research: Design and Methods*, 2nd edn, Sage Publications, Thousand Oaks, CA.
- Zielenback, S. (2000), *The Art of Revitalisation – Improving Conditions in Distressed Inner-city Neighbourhoods*, Garland Publishing Inc., New York.
- Zikmund, W. G. (2000), *Business Research Methods*, 6th edn, the Dryden Press, Fort Worth, Texas.

List of appendices

Appendix A: Case study research protocol

(1) Overview of the project

Urban decay in Hong Kong SAR is getting serious as pointed out by the administration. With the rapid rate of urban deterioration, Land Development Corporation, which was formed in 1987, was unable to deliver the urban renewal on a sufficient scale and quickly enough to avoid long-term decay without new operating mechanisms and increased support from the government. Hence, a new setup, Urban Renewal Authority was then established to replace Land Development Corporation in May 2001 with the aim to expedite the mission.

The government has also begun to address the vital issues of sustainability to make Hong Kong SAR a truly sustainable city. Further, stakeholder interface has always been an issue for urban renewal. The recent quality problem in government housing projects has also highlighted some pitfalls of the present project management approach in the construction industry.

Against this background, a research project involving the development of an appropriate project management approach for effective and efficient implementation of urban renewal projects in Hong Kong SAR was proposed.

The research question formulated was '*How can the project management body of knowledge and practice be applied to enable effective and efficient implementation of urban renewal projects in Hong Kong SAR?*'.

Based on the proposed research question, literature review has been conducted on two parent disciplines, namely, urban renewal and project management. These parent disciplines have formed the background for the immediate discipline of applying project management knowledge to urban renewal projects. A project management application model for urban renewals was finally developed with five research issues involving following issues

- organisational structure;
- project team structure;

- stakeholder management;
- partnering relationship; and
- information technology enablers for enhancing project communications.

After detailed analysis of the research issues, case study was selected as the research methodology and was justified. Several case study options have been considered for the research issues identified. Since Urban Renewal Authority is the only available case locally in Hong Kong SAR, the option of using embedded cases to allow extensive in-depth analysis of this single local case was designed. Functional departments are to be selected for embedded sub-units on the basis of information richness. Despite the unique characteristics of urban renewal in other countries and cities due to differences in social, political, legal and economic situations, overseas cases are used for cross case analysis and verification of some of the research issues. This option has the advantages of less in-depth studies required for overseas cases, which may have accessibility and sensitivity of information problems.

(2) Selection of respondents for interviews and overseas cases

The cases are to be selected based on the criteria listed in the following table:

Sub-units/Respondents/ Cases	Selection Criteria
Embedded sub-units within the Hong Kong SAR case	• the functional groups have been involving in the value-chain of urban renewal projects.
Individual respondents within embedded sub-units of the Hong Kong SAR case	• respondent has management responsibility for urban renewal projects and/or has been led in a 'team'; • respondent is a professional in one of the functional groups constituting the value chain of urban renewal project; • respondent has participated in the present or past urban renewal projects in which he/she is a member the 'team'; • respondent has a general overview of urban renewal projects; and • respondent can provide specific additional knowledge related to this issue.
Overseas cases for cross case analysis	• core business is urban renewal; • a non-commercial organisation in which profit-making is not the main objective; • urban renewal strategy is focusing on long-term;

	• replication logic can be applied for some of the research issues; • urban renewal projects have been completed by adopting the issues of the model identified for this research; • they are developed countries with considerable experience in urban renewal; and • information is readily accessible.

(3) Interview guide for embedded sub-units in Hong Kong SAR case

Purpose of the Interview

To investigate the issues which affect the project management model for the effective and efficient implementation of urban renewal projects in Hong Kong SAR.

Respondent(s) _____

Organisation/Department _____

Position in the organisation _____ Profession _____

Years of services in the organisation _____ Contact tel. No. _____

Date _____ Serial No _____

Confidentiality

This survey is being conducted in part to meet the course requirements of the Doctor of Business Administration programme conducted by the Graduate School of Management of Southern Cross University, Tweeds Head, Queensland.

The findings of the research may present some insights of the project management model that can be adopted to improve the efficiency and effectiveness of urban renewal projects and hence enabling a faster pace of the work. Hence, the final thesis may also be submitted to the Chief Executive of the HKSAR for his reference in the future review of the working strategies of the Urban Renewal Authority.

Information gathered during this interview will be used for the sole purpose of gaining an understanding project management perspective for the urban renewal projects. No person or company will be identified during the preparation of the thesis.

Information gathered during the interviews will be retained by the researcher but will not be made available to other respondents of this survey.

Any recordings made during the interviews will be labeled and kept by the researcher as supporting information.

Field Procedures

The interviews will be conducted as one-on-one basis.

The respondents will first be contacted and asked for permission. The intention, nature of the interview and confidentiality will be explained.

The interview date, time and location will then be fixed.

Notes will be taken during the interview. If the respondent agrees a tape recorder will be used during the interview.

The interview is expected to take between 60 – 90 minutes.

The respondent can refuse to answer any specific questions.

The respondent can terminate the interview at any time.

The researcher will ask questions related to the experience and opinion of the respondent for urban renewal projects with specific interest in the following areas:

- project organisational structure;
- team structure;
- attributes of team members;
- stakeholder management; and
- communication and information technology enablers.

The sequence of themes and main questions will be followed during the interview.

Copy of documentation will be requested if necessary.

Identification of Researcher

Dennis Mui will conduct the following interview. Dennis is currently enrolled as a graduate student with the Southern Cross University. He had previously worked in Land Development Corporation and involved in urban renewal for over five years. He has acquainted with reasonable knowledge of urban renewal projects.

Questions

General

1. What are your comments on the current urban renewal work in Hong Kong SAR?
2. What are your comments on the urban renewal work of Land Development Corporation (now supplant by Urban Renewal Authority)?
3. What is the project management approach of Land Development Corporation?
4. What are the deficiencies in the organisational work arrangement?

Research Issue 1 (organisational structure for each targeted district)

5. What do you think are the objectives of urban renewal, Hong Kong in particular?
6. Do you think sustainable development should be one of the main objectives?
7. Do you think sustainable development can achieve a sustainable city that can solve urban dilapidation on long term basis?
8. What are your comments on the three different types of organisational structure

   (a) Functional,

   (b) Matrix,

   (c) Project type?

   (Probe remark: explanation of three types of organisational structure and the three types of matrix i.e. functional, balanced and project)

   Follow up questions:

   What are the advantages and disadvantages of each type?

Which one is more preferable than the others for urban renewal projects, assigning the ranking of good/fair/bad to each?

Any other form of organisational structure is considered appropriate, for example, hybrid system?

9. With the given workload of urban renewal in the next 20 years, do you think 'life after the project ends' is a problem for project type organisation?

10. What do you think are the effects of multi-disciplinary and integrated team approach on sustainable design?

11. Do you think dividing the urban renewal work into region to take care of the stakeholders (i.e. decentralised decision) will facilitate the urban renewal process?

12. With regard to the composition of the regional team, what are your views on the following arrangement?

    (a) project team comprising of different professionals such as architects, engineers, planners, surveyors managing projects in that region

    (b) corporate communication team responsible for the corporate affairs of that particular region

    (c) social services team to take care of the social problems arising from urban renewal in that region

13. With different project teams handling different projects in the region, do you think that it is necessary to set up 'project management community' to enhance consistency?

14. With the regional team approach, how would the *efficiency* of urban renewal be compared with the current approach?

15. With the regional team approach, how would the *effectiveness* of urban renewal be compared with the current approach?

<u>Research Issue 2 (headquarter organisational structure)</u>

16. With the regional team approach, what problems would you anticipate?

17. Do you think the headquarters can help to eliminate the problems by having the following organisational approach?

(a) Project support group

(Probe/follow up remark: function is to formalise procedure and standards for consistency among districts)

(b) formal project management community

(Probe/follow up remark: function is to eliminate projectitis diseases and allocate resources)

(c) auditing team

(Probe/follow up remark: function is to give informed and intelligent answer on strategic issues and stakeholder interest)

(d) functional specialist advisory groups

(Probe/follow up remark: function is to be the centre of excellence for training the appropriate specialised skills and giving advice)

Research Issue 3 (team structure and attributes of team members)

18. How would you compare a flattened hierarchy and a complex structure with more vertical levels and chain of command?

    Probe question:

    What are the pros and cons for each one?

19. As a professional, which one of the above two hierarchies is more preferable in terms of motivation and soliciting commitments from you?

    Follow up question:

    What other benefits you can see?

20. Would a flattened hierarchy facilitate communication in the project team between team members?

21. What do you think are the essential attributes of a team leader?

22. What do you think are the essential attributes of the team members?

23. How would you compare a generalising specialist and a specialising generalist in managing the team in urban renewal project?

    (Probe remark: a generalising specialist is a specialist with a level of generalized expertise; a specialising generalist utilises his general management principles on functional areas)

24. Do you think the team leader and team member should possess environmental and sustainability knowledge for urban renewal project?

25. What will be the effect on the overall team management for the flattened hierarchical structure and the attributes of the members and leaders identified in Question 21-24?

Research Issue 4 (stakeholder management)

26. Regarding the sustainability issues, quality and customer-focused, do you think that these issues should be addressed at the outset of the project?

27. If the issues mentioned in Question 26 are not addressed at the outset but added piece by piece afterward (i.e. sequential and independent approach) instead, what would be the consequences?

28. What stakeholders should be involved at the outset, consultants, government, community, pressure group, contractors and others?

29. What should be the relationship with them?

    Follow up questions:

    Do you think partnering is a feasible alternative? (probe remark: explanation of the meaning of 'partnering')

    What are the advantages of partnering approach?

30. Will community participation facilitate urban renewal projects?

31. Will setting up district advisory community/committee encourage true community participation and provide a platform for obtaining heritage local knowledge?

32. Will all these (early involvement of stakeholders, partnering, community participation, setting up district advisory community/committee) lead to sustainable design, better quality, and customer-focused?

Follow up question:

If yes, what is the effect on the implementation of urban renewal projects?

Research Issue 5 (communication and information technology enablers)

33. Do you think communication system (verbal and written) is critical for information sharing and dissemination to all external and internal stakeholders in order to achieve the urban renewal project tasks?

34. What types of communication system are required for the internal and external stakeholders?

35. How you think information technology can enhance such communication process, for example, a computerised project management information system?

36. What essential features are important for such computerised project management systems?

37. Will a Web site accessible by public help to achieve transparency and public participation as encouraged by the government?

Follow up question:

Will community support be subsequently solicited?

38. With computerised project management information system and Web site, do you think the communication process to both the internal and external stakeholders will be improved as compared to the existing set up?

Follow up question:

With such improvement, do you think that the project implementation will be enhanced?

Overall summary of effect on urban renewal project implementation

39. In sum, if the above project management model is implemented, do you think the overall effectiveness and efficiency of implementing urban renewal project be improved and urban renewal can be resolved on longer term basis as compared to the present approach?

(4) Overseas urban renewal organisation case study guide

Urban renewal is unique for different countries and cities, it is not possible to find an overseas case that is very similar to that in Hong Kong. Therefore, the overseas cases may not be able to provide information for all the research issues. If the overseas case can provide information for some of the research issues, it should be selected for consideration. The procedure for soliciting information is as follows:

1. Search information through Web site.
2. Check against the selection criteria as stipulated in section 2.
3. Check the nature of the setup and role/responsibilities to see whether they are similar to those of Hong Kong SAR.
4. Study the aim and objective of urban renewal i.e. whether sustainability is a key issue.
5. Look at the structure of the organisation and project team structure in handling the urban renewal projects.
6. Study the internal and external stakeholder management of the organisation especially for the community.
7. Check whether the stakeholders are involved at early stage of the projects.
8. What attributes are the team personnel?
9. Find out the communication link between the organisation and the stakeholders.
10. Check whether information technology enablers are employed to enhance communication.
11. Check whether the progress of urban renewal is considered satisfactory and any other comments raised.

12. If clarifications or additional points are required, send e-mail to the organisation.

13. Keep record of the information and correspondences with the overseas urban renewal organisations.

(5) Case study report writing

Embedded sub-units of the Hong Kong SAR case

Individual report will be prepared for each interview and will include the following items:

1. Details of the interview (date, time, location)
2. Description and background information of the sub-unit and respondent (department, profession, year of service, seniority, current roles and responsibilities in urban renewal projects)
3. Answers for the interview questions
4. Answers for the five research issues
5. New findings
6. Appendix – list of documents retained

The draft of the report will be reviewed and endorsed by the respective respondent to enhance the quality of the case study.

For each embedded sub-units (functional group), report will be prepared based on the individual interview reports and will include the following items:

1. Source of information (number of interviews, level of informants, documentation)
2. Description of the embedded sub-unit case
3. Answers for the five research issues
4. New findings
5. Appendix – list of documents retained

Overseas cases

For each overseas case, the report will include the following items:

1. Source of information (Web site, e-mail correspondence)
2. Description of the case (country/city, organisational information, setup and structure, nature of business, roles and responsibilities)
3. Answers for the five research issues
4. New findings
5. Appendix – list of documents retained

Appendix B: Data display matrices of the case studies for the research issues

Table B1: Embedded sub-units data analysis for Research Issue 1 – sustainable development for urban renewal

Embedded sub-units	Sustainable development to be one of the main urban renewal objectives	Ability of sustainable development to solve urban dilapidation on long term basis
ES-1	Yes	Effective
ES-2	Yes	Effective
ES-3	Yes	Effective
ES-4	Yes	Effective
ES-5	Yes	Effective
ES-6	Yes	Effective
ES-7	Yes	Effective

Source: developed for this research

Table B2: Embedded sub-units data analysis for Research Issue 1 – regional team approach and organisational structure

Embedded Sub-unit	Regional team approach	Organisational structure in each regional team*			
		F	M	P	Key reasons for the preferences
ES-1	Effective: • more focusing on the particular and different needs of the region	1.67	8.33	7.5	Matrix type: • better resources allocation • best use of functional expertise in assigning to job • retaining functional identity while making use of the good characteristics of project type Projectised type: • better interface • promotion of team spirit • no 'life after project ends' problem because of the given workload
ES-2	Effective: • more familiar with the needs and characteristics of each region • building stakeholder relationships • resources more focusing	7.5	2.5	10	Projectised type: • better accountability • no 'life after project ends' problem because of the given workload Functional: • specialisation • clearer functional responsibility • projectised type yet to be proved
ES-3	Effective: • broader picture of the region • facilitating priority setting • facilitating financial planning • better resources allocation	0	10	5	Matrix type: • better resources allocation • better co-ordination • exposure of members to both project and functional specialisation environment
ES-4	Effective: • building stakeholder relationships • developing sense of responsibility and accountability • more focusing on details of the region • awareness and provision of appropriate solutions to meet the needs and characteristics of the region • better control of projects	0	6.25	10	Projectised type: • continuity • better team co-ordination • clearer roles and responsibilities • clearer line of communication • no 'life after project ends' problem because of the given workload Matrix type: • project matrix was considered as an viable alternative to projectised type

ES-5	Effective: • more focusing on needs of the region • better overall planning and project co-ordination	0	5	10	Projectised type: • better co-ordination • clearly defined roles and responsibilities • team following through the entire project life cycle • no 'life after project ends' problem because of the given workload
ES-6	Effective: • better understanding of the needs in the region • ability to have a more macro perspective on the development of the region	5	2.5	7.5	Projectised type: • better co-ordination and project control • no 'life after project ends' problem because of the given workload Functional type: • better consistency in its own functional work
ES-7	Effective: • more focusing on the particular needs of the region	0	10	5	Matrix (balanced or project type): • enabling staff development while having the advantages of both functional and projectised types

Remark: * F – functional type; M – matrix type; P – projectised type
The indicated score is the average of the ratings given by the informants for each organisational type:

Rating		Points
Good	-	10
Fair	-	5
Bad	-	0

Source: developed for this research

Table B3: Embedded sub-units data analysis for Research Issue 1 – structure in each regional team and its effect

Embedded Sub-unit	Regional team structure				Overall efficiency and effective-ness of the commented approach
	Multi-disciplinary and integrating professional team	**Corporate communication team**	**Social services team**	**Informal project management community**	
ES-1	Mixed effective: Functional type – • more innovative sustainable design possible • but sacrificing efficiency because of co-ordination Multi-disciplinary – • better interface co-ordination and team spirit • availability of necessary expertise and better perspective for sustainable design • but less creativity because of group pressure to conform	Effective: • more focusing on different needs and problems of the region • enabling inter-project reflection within the region • community receiving more attention and better communicated		Mixed effective: • improving consistency, but proper leadership required to instill culture of open discussion and team spirit • corporate communication and social services teams to be represented in the community	Improved and better than current set up
ES-2	Mixed effective: Functional type - better sustainable design quality because of specialisation Multi-disciplinary – • availability of necessary expertise • better team	Effective: • more focusing on the region • better management of expectation of the community	Effective: ironing out difficult social case	Effective: improving consistency	Improved and better than the current set up (possible loss of quality as compared to functional approach)

	goals, efficiency and co-ordination • thus facilitating sustainable design				
ES-3	Effective: facilitating sustainable design because of the availability of different expertise	Effective: more focusing on the region	Ineffective: should be independent of the organisation for credibility reason	Mixed effective: improving consistency, but proper leadership required to instill culture of open discussion	Improved and better than the current set up
ES-4	Effective: facilitating sustainable design because of : • concurrent design discussion • availability of necessary expertise to aware of the requirements • better information flow, co-ordination, team efficiency and management	Effective: • providing dedicated services to the region • more direct communication with the community • building up relationship in the region • responding quickly to the stakeholders • more focusing on the needs (need to balance the social services teams' professionalism and organisational goals)		Effective: • promoting awareness of other project development details in the same region • improving consistency of policy and objective within region	Improved and better than the current set up
ES-5	Effective: • necessary expertise available throughout the process to achieve the sustainable design task • more project focus • generating better sustainable design solution • enhancing better co-ordination • thus	Effective: • providing a unified line to take for the region • more focusing on the needs of the region • responding quicker to problems	Mixed effective: • team members knowing clearly the ultimate aims and objectives of urban renewal projects • community well taken care of in the interest of broader public interest rather than individual benefits • reservation on	Effective: • improving inconsistency • formal and regular meeting required	Improved and better than the current set up

	facilitating sustainable design		accountability and impartiality of the team to the community if employed by the organisation		
ES-6	Effective: facilitating sustainable design because of: • availability of necessary expertise • better co-ordination • healthy competition	Mixed effective: • to be restricted to community communication, leaving corporate communication of all regions to a central functional team to ensure consistency • one single functional team to centrally handle for corporate image and policy	Ineffective: to be outsourced for credibility, independency and resource efficiency standpoints	Effective: improving consistency, but culture of open-minded and reporting of true picture to be instilled	Improved and better than the current set up
EMSU-7	Effective: facilitating sustainable design because of: • availability of necessary expertise • minimising abortive work • enhancing efficiency	Ineffective: advantage of more focusing on regional needs to be weighed against the economy of scale		Effective: improving inconsistency	Improved and better than the current set up

Source: developed for this research

Table B4: Overseas cases data analysis for Research Issue 1

Over-seas Case	SUS	Regional team approach	Organisational structure	Team structure			
				MD&IPT	CCT	SST	IPMC
OC-1	Yes	Yes, taskforce formed for the selected area	Matrix led by a dedicated project manager with members drawn from the City Council	Yes	U	U	U
OC-2	Yes	U	Hybrid - planning (functional); design and implementation (projectised)	Yes, led by project manager	Centrally by the Public Relations Section	U	By regular meetings of project teams with director and the section head
OC-3	Yes	Yes, area based	Matrix with members from various departments of the local authority	Yes	Yes, members trained to deal with public	Yes, community worker employed	Yes, by the formal officer implement-ation group
OC-4	Yes	U	U	U	U	U	U
OC-5	U	U	U	U	U	U	U
OC-6	Yes	Yes, project management team formed for the local renewal area	Projectised staffed by professional personnel	Yes	U	U	U
OC-7	Yes	U	U	U	U	U	U
OC-8	Yes	Yes, decision making and financing procedures at local levels	U	U	U	U	U
OC-9	Yes	Yes, area based	Projectised for each sub-project in the renewal area	-	Yes, the project office formed for this purpose	-	Yes, the formal project office to ensure synergies between various sub-projects
OC-10	U	U	U	U	U	U	U

Legend:
SUS – sustainable development as one of the main objective
MD&IPT – multi-disciplinary and integrating professional team
CCT – corporate communication team SST – social services team
IPMC – project management community U – unknown due to information not available
Source: developed for this research

Table B5: Embedded sub-units data analysis for Research Issue 2 – headquarters organisational structure

Embedded Sub-unit	Problems with regional team approach	Headquarters structure to solve the problems and enhance regional team performance			
		Formal project management community	**Project auditing team**	**Project support group**	**Functional specialist advisory group**
ES-1	• too large organisation • uneven workload • lack of cross fertilisation • duplication of efforts • control of the regional teams • inconsistencies of policies and procedures between regional teams	Effective	Effective	Effective - to be a special taskforce on ad hoc basis instead of dedicated team to keep a slim organisation, or be combined with auditing team so that both checker and drafter of policies and procedures to be within same team	Effective - specialists to be external consultants employed on need basis, or from regional teams on temporary or part time basis to keep a slim organisation
ES-2	• inconsistencies of policies and procedures between regional teams • resources allocation • unhealthy competition • control of the regional teams	Effective	Effective	Effective	Effective – could also be the centre of excellence and providing strategic suggestions to top management
ES-3	• inconsistencies of policies and procedures between regional teams • resources allocation • priority setting	Mixed effective – appropriate leadership required to instill culture of open discussion	Effective	Effective – could be combined with the functional specialist advisory group to streamline the structure since the functional specialists would have the expertise to formulate standards and policy	Effective
ES-4	• inconsistencies of policy and procedure between regional teams • priority setting • resources allocation • staff	Effective	Effective – perform constructive auditing function rather than just gesture or for political	Mixed effective – • to be with no executive power on the day-to-day work of the regional team • to be combined with the functional specialist group	Mixed effective – • the specialists need to be proactive and make regular visit to regions to identify the

	performance appraisal		reason		related problems • members to be selected from regional teams and work on part-time basis since they have the up-to-date experience and knowledge
ES-5	• too large organisation • resources allocation • uneven workload • control of the regional teams • duplication of resources • inconsistencies of policy and procedure between regional teams	Mixed effective – culture to be instilled so that the regional team leader would report the true account of the work status in the region	Effective	Effective – to be combined with the formal project management community, or the auditing team since the checker should be the one who drafts the standards, or the members to be rotated with the team members of the regional teams to ensure the standards and procedures would not be too theoretical	Effective
ES-6	• inconsistencies of policy and procedure between regional teams • priority setting • communication between regional teams • resources allocation	Mixed effective – open-minded culture to be instilled so that members would report the true picture of the regional work	Effective	Effective – to be combined with the functional specialist advisory group since the functional specialist would have the expertise to formulate policies and procedures	Effective
ES-7	• inconsistencies of policy and procedure between regional teams • resources allocation • control of the regional teams	Effective	Effective	Effective – to be combined with the functional specialist advisory group since the specialists would be conversant with the work of each function and helpful in formalising standards and procedures	Effective

Source: developed for this research

Table B6: Overseas cases data analysis for Research Issue 2

Overseas case	Formal project management community	Project auditing team	Project support group	Functional specialist advisory group
OC-1	U	U	U	U
OC-2	U	Yes, an internal audit section administratively responsible to the Chief Executive Officer, but directly reporting to the Chairman	U	U
OC-3	Yes, management system in place to facilitate inter area communication and co-ordination on resources allocation, best practice transfer and stakeholder liaison	U	U	U
OC-4	U	U	U	U
OC-5	U	U	U	U
OC-6	U	U	U	U
OC-7	U	U	U	U
OC-8	U	U	U	U
OC-9	U	U	U	U
OC-10	U	U	U	U

Legend:
U – unknown due to information not available
Source: developed for this research

Table B7: Embedded sub-units data analysis for Research Issue 3 – team hierarchical structure and attributes of team members

Embedded sub-units	Flattened hierarchical team structure	Sustainability knowledge for team members and leader	Project managerial leader	Team performance improvement
ES-1	Preferred: • Facilitating project team communication • effective workforce • less political rivalry between peers • clearer roles and accountability • efficient decision-making • less distortion • promoting cohesive team and motivation • soliciting commitments because of job satisfaction despite less promotional opportunities and less checking than complex structure	• members required to know the scope and practicability of environmental and sustainability for facilitating project planning and implementation • not essential for the leader, expertise or consultants to be drawn from outside	Generalising specialist preferred: possessing the basic knowledge that would enable • efficient communication and work environment • understanding the issues • making appropriate decision Specialising generalist could be: • indecisive due to lack of understanding of the problem • subsequently making wrong decision or giving inappropriate direction • making the sub-ordinates to feel frustrated under such leadership	Effective
ES-2	Preferred: • more direct and efficient communication/co-ordination • more opportunities for team members to exercise their expertise • better accountability • better recognition of performance despite less promotional opportunities than complex structure	Required for both	Generalising specialist preferred: possessing the essential basic knowledge of the project and the necessary soft skill Specialising generalist: due to the lack of the basic knowledge and understanding, affecting the project progress, causing resource waste in explaining the issues to him/her by the specialist staff, unaware of critical issues	Effective
ES-3	Preferred: • better span of control • less bureaucratic • efficient communication • team members better informed, have better exposure and clear sense of responsibility	Required for both	Generalising specialist preferred: possessing the professional knowledge to complete the project oriented work	Effective

ES-4	Preferred: • efficient communication • quicker instruction and direction • better control • less paperwork, faster response time • less finite division of work • more direct contribution to the projects • better job satisfaction • better understanding of instructions and end products • shoulder greater responsibility • quicker direction from senior despite less promotional opportunities and less finite control between layer than complex structure	Required for both to facilitate communication and minimise co-ordination problem and integrated effort	Generalising specialist preferred: possessing the basic knowledge and understanding of the project needs that were of technical nature and to foresee problems Specialising generalist: • might neglect functional requirements and concentrate setting goals and timeframe without perceiving the technical difficulties, and hence affecting quality • affecting team efficiency and pace of work due to long learning curve • might make wrong decision • causing low morale of professional staff	Effective
ES-5	Preferred: • better communication with less distortion • less paperwork • broader and clearer roles and responsibilities for individuals • prompt response from senior, creating job satisfaction, causing motivation and soliciting commitment from team members despite less promotional opportunities and less perception of problem from different layer than complex structure	Required for both so as to aware of the impact during implementation	Mixed preference – Generalising specialist: possessing the necessary technical background to aware of the project details and to manage professionals, could be for project manager level Specialising generalist: stronger management ability for people and resources, good at paperwork but needs patience for explaining the details to him/her, could be the leader if able to acquire the basic technical knowledge quickly, could be for regional team head	Mixed effective – a good balance between authority dedication and control required

ES-6	Preferred: • clearer responsibilities and accountability • efficient communication with less distortion • broader role • greater exposure for staff career development despite less promotional opportunities than complex structure	Required for both	Mixed preference: Generalising specialist: possessing the basic knowledge to understand the complex and technical nature of the projects and to communicate with the professional staff Both generalising specialist and specialising generalist suitable depending on personal calibre	Effective
ES-7	Preferred: • higher efficiency of communication from decision-making to point of action • staff motivated because of the ability to acquire more information despite less promotional opportunities than complex structure	Required for both	Generalisng specialist preferred: possessing the basic knowledge to comprehend problems and to find optimum solutions Specialising generalist: inability to do so, causing delay to project	Effective

Source: developed for this research

Table B8: Overseas cases data analysis for Research Issue 3

Overseas case	Team hierarchical structure	Requirement of sustainability knowledge for team members	Project managerial leadership
OC-1	U	U	U
OC-2	Flattened, under each section head at most two layers	U	Except the Chairman and Chief Executive Officer, generalising specialist ranging from architects, planners to engineers for managerial leaders
OC-3	Small team with flattened structure	Yes, staff also to be trained in project management	Team leaders to have personal and professional skills and ability to lead multi-disciplinary team – generalising specialist
OC-4	U	U	U
OC-5	U	U	U
OC-6	U	Yes, project management team required to develop environmental-friendly building techniques and products	U
OC-7	U	U	U
OC-8	U	U	U
OC-9	U	Yes, framework developed to ensure sustainability	U
OC-10	U	U	U

Legend:
U – unknown due to information not available
Source: developed for this research

Table B9: Embedded sub-units data analysis for Research Issue 4 – sustainability, quality and customer-focused issues in urban renewal

Embedded sub-unit	Sustainability, quality and customer-focused issues in urban renewal		
	To be addressed at outset of project	Reasons given	Effect on urban renewal projects
ES-1	Yes	To minmise abortive work affecting the optimization of design, benefits, cost and quality	Increasing chance of achieving urban renewal goals
ES-2	Yes	To meet customer needs, achieve the end results, minimise co-ordination problems, duplication of resources, project delay and additional cost	Though the process might be difficult, if achieved, implementation of urban renewal projects could be enhanced
ES-3	Yes	To minmise negative impact on project time and cost	Enhancing implementation
ES-4	Yes	To minmise abortive work affecting project cost, time and quality, and to gain customer support and co-operation of the concerned parties	Enhancing implementation
ES-5	Yes	To achieve the task and quality, avoid higher cost and programme delay if added at later stage	Enhancing implementation, more effective and sustainable, customer-focused and reducing urban blight on long term basis
ES-6	Yes	To achieve the objective and minimise abortive work affecting project cost and time	Enhancing implementation
ES-7	Yes	To obtain optimum solution	Enhancing implementation

Source: developed for this research

Table B10: Embedded sub-units data analysis for Research Issue 4 – involvement of stakeholders at outset for achieving sustainability, quality and customer-focused

Embedded sub-unit	Consultants	Government	Community	Pressure group	Contractors	Other stakeholders
ES-1	Yes, only if expertise not available in-house	Yes	Yes	Mixed response: only after proper management of community expectation	Mixed response: if the project is a design and build contract, otherwise at a later stage	None raised
ES-2	Yes	Yes	Yes	Yes	Yes	None raised
ES-3	Yes, only if expertise not available in-house	Yes	Yes	Yes	At a later stage	Joint venture developers for obtaining financial support
ES-4	Yes	Yes	Yes	Mixed response: at a later stage to avoid politics	Mixed response: at a later stage	Joint venture developer for obtaining financial support
ES-5	Yes	Yes	Yes	Mixed response: to be selective to avoid excessive political rivalry	Mixed response – could be at a later stage	None raised
ES-6	Yes	Yes	Yes	Yes	At a later stage	None raised
ES-7	Yes	Yes	Yes	At a later stage	At a later stage	None raised

Source: developed for this research

Table B11: Embedded sub-units data analysis for Research Issue 4 – relationship with stakeholders for achieving sustainability, quality and customer-focused

Embedded sub-unit	Consultants	Government	Community	Pressure group	Contractors	Other stakeholders
ES-1	Mixed response – partnering or employer/ employee	Partnering – resolving problems earlier, fostering buy-in, better communication, minmising conflict and misundertanding, advocating strong and transparent working relationship, facilitating negotiation, greater chance of accepting the projects			Mixed response – partnering or others	None raised
ES-2	Partnering – despite its dubious workability in practice					None raised
ES-3	No suggestion	Partnering – gaining more support, eliminating platform for politic			No suggestion	None raised
ES-4	Partnering – though difficult to achieve in practice	Partnering for soliciting support	Mixed response: inappropriate because of the vested interest conflicting with organisational goals, consultation might be better		Partnering – though difficult to achieve in practice	Joint venture developers – partnering for financial benefits
ES-5	Partnering – though difficult to achieve in real life, each party recognising others' opinion, facilitating co-ordination, enabling better understanding, broader view and fewer disputes because of equal status of the parties, enabling long term and long lasting relationship, as well as symbiotic relationship			Mixed response: partnering might not be appropriate because of adversarial stance	Partnering – reasons as stated for consultants, government and community	None raised
ES6	Mixed response: partnering (more participation, shoulder more responsibilities and cultivating the sense of ownership) or strategic partnership (partnering not feasible for relationship adversarial in nature)		Consultation or strategic partnership (partnering relationship not feasible for relationship adversarial in nature)		Strategic partnership (partnering relationship not feasible for relationship adversarial in nature)	None raised
ES-7	Partnering – parties working as team and minimising conflict, but need to prepare for tradeoff on some issues					None raised

Source: developed for this research

Table B12: Overseas cases data analysis for Research Issue 4

Overseas case	**Involvement of stakeholders at outset**	**Relationship with stakeholders**	**Community participation**	**District advisory committee/community**
OC-1	Private industry, local government authorities, local councilor and local community involved at planning stage and on-going	Partnership approach with between government, community and business (joint venture developers)	encouraged	Community Liaison Committee and Community Action Network formed
OC-2	Professional associations, industry player and public involved at Concept Plan Stage	Partnership with private sector (developer) and community (stated in mission statement)	encouraged	Public involved through focus groups, discussion with industry players and professional associations, website, public forum, draft plan exhibition and public dialogue with the Minister for National Development
OC-3	Throughout the process at the Neighbourhood Renewal Assessment	Partnership approach between government offices of local authorities, agencies, communities, local pressure groups, local political groups and between departments within local authority	encouraged	Local Renewal Area Committee
OC-4	Early involvement of residents and stakeholders in planning	Equal partners between government officials and community	encouraged	U
OC-5	Community involvement at early stage before submitting to local council	Partnership approach between the authority and city, as well as neighbourhood planners	encouraged	Community steering committee
OC-6	Local residents involved during the drawing up of the development plan, developers also involved at early stage of the project	U	encouraged	Steering Committee to take care of the local stakeholders interests
OC-7	Citizens involved at early stage during the planning and design process	U	encouraged	Working groups formed with the function to keep up communication with residents/owners
OC-8	Early information of citizens on new projects and active involvement into the planning process	Participatory strategies for citizens	encouraged	Local community offices
OC-9	U	Partnership with public and private interests, including local and central government	encouraged	Consultative Committee to build partnership with a variety of external stakeholders

OC-10	U	Partnerships with local business and neighbourhood associations, local city authorities, government and university	encouraged	Steering Group participated by local residents

Legend:
U – unknown due to information not available
Source: developed for this research

Table B13: Embedded sub-units data analysis for Research Issue 5 – adopting information technology enablers in communication to stakeholders

Embedded Sub-unit	Computerised project management information system		Web site accessible by public	
	Effectiveness for communication	**Desired features**	**Achieving transparency and public participation**	**Soliciting community support**
ES-1	Effective: • faster information exchange • better control of data and information flow • consistency of data • easy retrieval of information • more centralised and readily availability of information to key players and responsible officers	• user-friendly, window-based • linking up with GIS • interactive • with different access level and confidentiality for different stakeholders • designed for both internal and external stakeholders • able to display project data, highlights of key project events and inventory of previous project experience that could help future project implementation	Yes, if displaying appropriate information	Not necessarily, more information creating more conflict that might not be resolved satisfactory to all parties
ES-2	Effective: • centralised database and information • quicker accessibility and consistency of information	• user-friendly • able to display project data • with security features and different level of access for different users	Yes	Yes
ES-3	Effective: • facilitating information flow • centralisation, updating, standardisation and consistency of information	• able to display project data, programme and progress • designated responsibility for updating	Yes, only for transparency Not necessarily for public participation since face-to-face communication considered more effective by community	Not by Web site alone, actual work done in incorporating community's view considered more important
ES-4	Effective: quicker, availability, accessibility, updating, consistent, transparent, simpler and centralised information flow	• user-friendly, simple, secure • easy to update with different access level for different stakeholders • able to display project data, development information, programme and status	Yes	Not necessarily, but other factor such as actual work performed might be the dominant consideration of the community

ES-5	Effective: • facilitating quicker access to information • less paperwork • easier to disseminate and impart information	• simple to operate • with different level of access and security level • centralised information • standardised formats • able to produce project management reports for senior management • able to display project progress, programme, costing figures and status	Yes, but affected tenants might have difficulties in accessing Web site because of the education standard and infrastructure facilities	Yes, depending on the type of information disclosed
ES-6	Effective: • quicker sharing of information and data • less paperwork and environmental friendly • clearer, more centralised and better-controlled information communication	• user-friendly • easy retrieval, containing corporate policy and necessary project data • up-to-date • with access right for different stakeholders • with facilities for staff members to share experience	Yes, depending on the type of information displayed and involvement of the community	Yes, but information displayed and community expectation to be controlled
ES-7	Effective: consistency, timely availability and centralisation of information	• ready availability of information for the responsible staff • with different access level for different stakeholders	Yes	Yes

Source: developed for this research

Table B14: Embedded sub-units data analysis for Research Issue 5 – effect of information technology enablers on communication to stakeholders and project implementation

Embedded sub-unit	Importance of communication to stakeholders for achieving urban renewal project task	Improvement in communication to stakeholders as compared to current set up by adopting the IT enablers	Improvement in project implementation as a result of improvement in communication by adopting the IT enablers
ES-1	Yes, for gaining acceptance and discovering/resolving problems earlier	Yes	Yes, with appropriate level of details and type of information, otherwise, inappropriate or more information might lead to conflict and resulting in project delay
ES-2	Yes, essential for executing the work	Yes	Yes
ES-3	Yes, for facilitating co-ordination and co-operation	Yes	Yes
ES-4	Yes	Yes	Yes
ES-5	Yes	Yes, but stakeholders to be educated on the usage and accessibility of the system and the systems to be designed to suit the users	Yes
ES6	Yes, for minimizing conflicting information, enhancing consistency, timely sharing and dissemination of information to avoid confusion and misunderstanding	Yes	Yes
ES-7	Yes	Yes	Yes

Source: developed for this research

Table B15: Overseas cases data analysis for Research Issue 5

Overseas case	Information technology enablers	
	Project management information system	**Web site accessible by public**
OC-1	U	Yes, to promote initiatives with information on role of the taskforce, new opportunities, area's history, community information, data, graphs and maps showing programme performance and development
OC-2	Yes, also extensive application of information technology enablers to improve productivity e.g. integrated land use system, e-commerce, on-line application, an organisation-wide intranet to improve internal communication providing timely corporate news and information, as a forum for staff and management to exchange frank views and ideas	Yes, URA-Online providing on-line services and containing complete and up-to-date information such as the latest news releases, circulars and real estate information
OC-3	No mention on the use of information technology enablers; but emphasised a communication strategy involving a variety of communication methods including letters, leaflets, newsletter, posters, project signboards, word of mouth, local office, going out to talk to all those people who might be interested in the Renewal Area, good network formation and promotion to local media	
OC-4	U	U
OC-5	U	U
OC-6	U	U
OC-7	U	U
OC-8	U	U
OC-9	U	U
OC-10	U	Yes, to give details of the plan so as to reach as wide an audience as possible

Legend:
U – unknown due to information not available
Source: developed for this research