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AN INTERPRETIVE COMPARISON OF CHINESE AND WESTERN CONCEPTIONS OF PROJECT MANAGEMENT WORK

SCHOOL OF MANAGEMENT

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ABSTRACT

This thesis presents a cross-cultural comparative field study of Chinese and Western managers' conceptions of their work. The thesis challenges the assumption that management practice is a generic social reality that may be transposed from one culture to another. The context for the study is construction project management, where the assumption of generic cross-cultural transposition is currently exemplified by attempts by Western professional bodies to transpose Western project management standards and practices into China.

The study applies the research approach known as *phenomenography*, previously used in diverse fields to understand the qualitatively different ways in which people conceive given aspects of their reality. In this thesis the approach is used to reveal culturally-based differences in conception of construction management work. Further, because the phenomenographic approach enables different conceptions of the same kind of work within the same cultural context to be arranged in a hierarchy of performance the study provides fresh insight into construction management competence in the two cultures separately.

Interviews in the workplace with 30 Chinese and 30 UK construction project managers revealed a hierarchy of three Chinese conceptions (planning and controlling; coordinating relationships; developing relationships) and a hierarchy of three UK conceptions (planning and controlling; organising and coordinating; predicting and managing potential problems). Each conception includes a different main focus and key attributes that appeared when project managers experienced and accomplished their work. Differences in conception reflect not only cultural differences but also different forms of project management competence within China and the UK.

Three aspects of cultural difference are illuminated (Chinese attention to relationships; Chinese concern for their company; UK attention to utilising the project contract). These differences were further reflected in Chinese and UK project managers' contrasting conceptions of certain aspects of their work, including relationship with client, relationship with subcontractors, relationship with project team, organisational structure preference, relationship with company, job satisfaction, and claim and conflict resolution.

The findings of this study contribute primarily to the field of cross-cultural management by demonstrating specific culturally-based differences between Chinese and UK conceptions of project management work. Two secondary areas of contribution are (1) the field of management competence, by providing an interpretive understanding of project management competence at work; and (2) research methodology for studies in the above two fields, by applying the phenomenographic approach to the comparison of cultures and sampling from practicing project managers working in their usual environment in their respective country. Implications for management practice are identified, including the need to take account of the impacts of cultural differences when transferring project management theories and practices across cultures, and offering a new approach to professional competence assessment and development, both in China and the UK.

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ABBREVIATIONS

APM	British Association for Project Management
BoK	Body of Knowledge
CAPM	Certificated Association in Project Management
CI	Construction Industry
CPM	Certificated Project Manager
ICB	International Project Management Association (IPMA) Competence Baseline
ID	Individualism vs. Collectivism
IPMA	International Project Management Association
IPMP	International Project Management Professional
KSAs	Knowledge, Skills and Abilities
LT	Long-term vs. Short-term Orientation
MA	Masculinity vs. Femininity
MCI	Management Charter Initiative
MoC	Ministry of Construction, P.R.China
PD	Power Distance
PERT	Programme Evaluation and Review Technique
PM	Project Management or Project Manager
PMBOK® Guide	A Guide to the Project Management Body of Knowledge, by PMI
PMI	American Project Management Institute
PMP	Project Management Professional
PMRC	Chinese Project Management Research Committee
UA	Uncertainty Avoidance
WBS	Work Breakdown Structure

CHAPTER 1 INTRODUCTION

During the last fifty years the professional discipline of project management has developed in the Western business world to the point that there are now a number of well-established project management standards. These standards define the scope of the discipline and describe the theories, processes, tools, and techniques of project management work, which are widely used as the basis for assessing and developing project management competence in the West. Until recently China has been relatively isolated from the influence of Western management practices, and there has in China been no comparable parallel development of the profession of project management. However, since the Chinese economic reforms of the 1980s, Western project management has become increasingly recognised in China.

Recent attempts to transplant Western project management theories and practices and the relevant standards-based professional competence certification programmes into the Chinese cultural context recall the need for caution in transferring management theories and practices across cultures. Not only are there a number of well-known contrasts between Chinese and Western cultural values that shape management beliefs and practices in important ways, but also evidence shows that cross-cultural transfer of management theories and practices in general is not always successful.

Although there have been many China-related studies and increasing numbers of cross-cultural comparisons addressing the cultural implications for transferring management theories and practices across borders, to date, empirical Chinese/Western cross-cultural comparisons of practicing managers' norms and conceptions of their reality, particularly in the context of project management work, remain limited. Methodologically, current Chinese/Western cross-cultural management studies are dominated by quantitative approaches based on questionnaire surveys of university students, which may not be appropriate for studies aimed at exploring and comparing meanings and conceptions individual managers in different cultures attach to their work.

In view of the above, this research seeks to provide an interpretive understanding of Chinese practicing managers' conceptions of Western originated project management theories and practices, and to compare them with the conceptions held by Western project managers. The interpretive research approach known as phenomenography is chosen for its potential to reveal culturally-based differences of conception, at the same time offering an interpretive understanding of project management competence in both cultures.

Originally developed by an educational research group in Sweden in the 1970s (see Marton, 1981), phenomenography is defined as a research

approach 'for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them' (Marton, 1986: 31). It was first used by the Swedish educational research group to better understand academic learning (see Gibbs, Morgan, & Taylor, 1982 for a review of the group's research), and has since become increasingly popular in exploring and describing students' conceptions of content and act of learning in various domains, as well as teachers' conceptions of teaching that were related to students' learning (see Table 2.5 for typical examples of such studies). The outcome of a phenomenographic study is a set of categories of conceptions that are usually linked in a hierarchical relationship. As a consequence of the phenomenographic studies undertaken in the educational context, it was proposed that if students had a finite number of qualitatively different conceptions of learning, then it was reasonable to expect that people hold finite numbers of qualitatively different conceptions of all kinds of phenomena (Marton & Booth, 1997). Within phenomenography, the term *conception* is used 'to refer to people's ways of experiencing or making sense of their world' (Sandberg, 2000: 12).

Marton and Booth's (1997) hypothesis has received considerable support from the findings of subsequent phenomenographic research studies outside of the educational domain in fields such as health care (Barnard, McCosker, & Gerber, 1999), leisure (Watkins, 2000), academic freedom (Akerlind & Kayrooz, 2003), information literacy (McMahon & Bruce, 2002), organisational change (Dunkin, 2000), leadership (Stewart, 2002) and most notably human competence at work (Sandberg, 1994, 2000).

Sandberg's phenomenographic study of human competence at work drew its sample from a group of engine optimisers working in a Swedish automobile factory, and revealed three hierarchical conceptions of engine optimisation work. Sandberg found that a worker's conception of their work has an integrative function in constituting competence. He suggests that '...competence is not primarily a specific set of attributes. Instead, workers' knowledge, skills, and other attributes used in accomplishing work are preceded by and based upon their conceptions of work' (Sandberg, 2000: 20). In other words conception and competence are effectively two sides of the same coin (Partington, Young, & Pellegrinelli, 2003). In addition to the potential of phenomenography to allow the development of a new understanding of project management competence, the approach provides a new opportunity to explore and compare culturally-based differences in Chinese and Western managers' conceptions of their work.

The central part of this thesis is a phenomenographic study exploring and comparing Chinese and UK practicing project managers' conceptions of their work. Based on my interviews with matched samples of 30 Chinese and 30 UK project managers selected from construction firms in the two nations, three categories of Chinese and three categories of UK conceptions of project management work were identified. Each conception included a

different main focus and different key attributes that appeared when project managers experienced and accomplished their work, reflecting different forms of project management competence in China and the UK separately. A comparison between and across each of the identified conceptions in the two cultures demonstrated certain aspects of cultural difference reflected in Chinese and UK project managers' conceptions of their work.

This study contributes to knowledge in two domains. First, in the field of cross-cultural management the research illustrates the culturally-based differences between Chinese and UK conceptions of project management work, and highlights the need to take account of cultural differences when transferring project management theories and practices across cultures. Second, in the field of project management competence the research offers an innovative interpretive understanding of project management competence based on conceptions, and demonstrates an opportunity for a new approach to competence assessment and development, both in China and the UK. Further, this research contributes to research methodology for studies in the above two domains of comparative cross-cultural management and project management competence, both of which have been dominated by quantitative surveys of either university students or experts.

In the following sections of this chapter, I first describe the development of project management in the West in Section 1.1. In Section 1.2 I discuss the recent moves to transfer Western project management processes into China. In Section 1.3 I identify possible problems and consequent research opportunities. Finally, in Section 1.4 I outline the structure of the thesis and describe how the research was conducted, what was found, how the research contributes to knowledge, and its implications for management practice.

1.1 The Western originated project management

Modern forms of project management have their origins in the Western aerospace and defence sectors in the late 1950s and 1960s. The discipline became more dispersed in the 1970s, most notably in construction-related work. During the 1980s the application of project management spread to a wide variety of business sectors, particularly due to the rise in information technology (Morris, 1994). In the 1990s interest in project management strengthened further, with increasing moves towards 'managing by projects' in organisations (Dinsmore, 1996) and greater attention to improving organisational project management maturity (PMI, 2003). Following this trend project management has grown in scope, importance, and recognition, with recent efforts directed at developing competence in 'project-oriented societies' that practise professional project management in social situations beyond industrial organisations (IPMA, 2002).

The rapid rise of project management as a professional discipline has given rise to a number of well-established standards that define the scope of the discipline and describe the tools, techniques and concepts of project management. These standards have been mainly produced and developed by Western project management professional organisations in so-called 'bodies of knowledge' (BoK).

Two key versions of project management standards are those produced by the American Project Management Institute (PMI) and the British Association for Project Management (APM) respectively. Other published versions are primarily based on these two models. For example, in Europe the APM model has been widely followed and has been used as the basis for compiling the Swiss-based International Project Management Association's (IPMA) Competence Baseline (ICB). These standards are now widely used as the basis for assessing and developing project management competence. PMI, APM and IPMA all have their own examination and certification programmes. Individuals who meet specific education and work experience requirements and are able to demonstrate under examination conditions their understanding of the knowledge, skills and principles of project management embodied in these standards are thus deemed to be professionally competent as project managers and are granted such qualifications as Project Management Professional (PMP), Certificated Project Manager (CPM) or Project Management Practitioner.

Table 1.1 below lists the three main Western project management professional associations, their latest versions of project management competence standards at the time of writing, and the corresponding certificated titles of qualification.

Table 1.1 Western project management standards of competence

Professional association	Standards* (BoK)	Qualifications**
USA: PMI www.pmi.org	PMBOK® Guide 5 process groups 9 knowledge areas (PMI, 2004)	• PMP® (Project Management Professional) • CAPM™ (Certificated Association in Project Management)
UK: APM www.apm.org.uk	APM BoK 7 sections 42 topics (APM, 2000)	• APM Introductory Certificate in Project Management • APMP • APM Practitioner Qualification • APM Certificated Project Manager • APM Risk Management Certificates
Swiss-based: IPMA www.ipma.ch	ICB 28 core elements 14 additional elements (IPMA, 1999)	IPMP (International PMP) Including 4 Levels: • A- Projects Director • B- Project Manager • C- Project Management Professional • D- Project Management Practitioner

*The core contents of these standards will be further described in Chapter 2.
**Source: The associations' respective websites visited during 8th-11th December 2004.

1.2 The transplant of Western project management into China

Although China started to import certain concepts and skills of project management, such as PERT (Programme Evaluation and Review Technique) and WBS (Work Breakdown Structure), from the West in the 1960s, these were narrowly confined to its national major research projects in the defence sector, such as the 'strategic missile system' project (Qiu, 2001). It was only after the Chinese economic reforms of the 1980s that project management became increasingly recognised as a management approach with a potentially broad application. For example, in the recent history of the Chinese construction sector, which had a legacy of poor performance, significant progress had been made towards the adoption of a commercial approach, including the introduction of Western project management concepts and processes. At the same time, the development of the

profession of project management in China is increasingly driven by attempts to transplant Western project management standards and the relevant professional competence certification programmes into the Chinese cultural context. Prominent recent examples of this trend include the launch of PMI's PMP® examination and certification programme in 2000, and the IPMA's IPMP in 2001, described below:

PMI's PMP® certification in China

In 2000 the Training Centre subordinate to the State Foreign Experts Bureau reached an agreement with PMI and became the sole authorised organisation in charge of launching and organising PMI's project management professional examination and certification programme in China. Since then, great efforts have been made to widely disperse in China PMI's standards of project management competence and its certification system. These efforts include, but are not limited to, organising project management conferences, symposia and seminars, establishing a specific website for PMP® examinations, building a training team of overseas and local project management experts, and translating and publishing project management textbooks (China PMP Net, 2004). As a result, the PMI's PMP® certification has become popular in China, particularly in large companies and joint ventures. The PMP® examination is held regularly every March, June, September and December in China. By September 2004, about 100,000 people in China had attended training on the PMBOK® Guide. More than 10,000 people had attended the PMI's PMP® examination. About 5,000 of them had passed the examination and been awarded the PMP® qualification (Xinhua News Net, 2004).

IPMA's IPMP certification in China

In 1991 an academic organisation – Project Management Research Committee (PMRC) – was set up to promote the application and development of the project management profession in China. PMRC is based at the Northwest Polytechnic University in Xi'an, and is now the only national professional organisation in project management that covers different areas and industries in China. In 1995 PMRC joined the International Project Management Association (IPMA) and acts as the National Association of the IPMA in China. In 1999 PMRC signed a cooperative agreement with IPMA to be in charge of organising the IPMA's four-level project management professional certification system in China (PMRC, 2004).

In July 2001, under the supervision of IPMA, PMRC launched the IPMA Level C certification for the first time in China. 136 candidates passed the examination and were designated certificated project management professionals. In December 2001 the Level D certification was launched,

and 33 candidates became certificated project management practitioners. Since then the IPMA's IPMP has spread rapidly to almost all the provinces and industries in China. In 2002 the IPMA Level A and Level B certification was also started in China. Since then the number of candidates participating in the relevant training and passing the examinations has increased steadily every year. Table 1.2 contrasts the growing number of certificated candidates obtaining the IPMP different level of qualification in 2001 and 2002 with the number by the end of October 2004.

Table 1.2 The increasing number of IPMP certificated candidates in China

	Number of certificated candidates for each level			
	Level A	**Level B**	**Level C**	**Level D**
In 2001*	0	0	136	33
In 2002*	4	9	1219	194
By October 2004**	4	46	3769	728

Source: *IPMA (2003); **PMRC (2004).

1.3 Possible problems and consequent research opportunities

An analysis of the literature relating to: (1) core contents of Western originated project management work; (2) Chinese/Western cultural differences and their potential implications for Chinese and Western different conceptions of project management work; (3) project management competence; and (4) the phenomenographic approach to both conceptions and competence suggests the possible problems arising from the attempts to transplant Western originated project management theories and practices across cultures into China and informs both the substantive and methodological orientation of this research.

First, the direct transplant of Western project management theories and processes, in particular, the relevant standards-based competence certification programmes into the Chinese cultural context assumes that management practices are universal. This may be questioned, since many cross-cultural studies have illustrated that different cultures support different sets of management beliefs and practices, particularly when those cultures reflect fundamentally different conceptions of reality. Hence in theory, because of certain well-known areas of difference between the two cultures, the basic conceptions of Western originated project management are unlikely to be fully supported by the Chinese culture.

Although there have been many cross-cultural comparisons addressing the cultural implications for transferring management theories and practices across borders, little has been done to question the recent moves to

transpose Western project management theories and practices into the Chinese cultural context. Methodologically most current Chinese and Western comparative studies are based on questionnaire surveys of university students. There is a need for an interpretive exploration and comparison of Chinese and Western practicing project managers' conceptions of their work.

Second, a review of an established interpretive approach to understanding conceptions, known as phenomenography, illustrates its potential for this research. Meanwhile, its recent application for understanding management competence provides an opportunity for an interpretive understanding of project management competence based on conceptions.

Current studies of management competence have been dominated by the so-called rationalistic approaches, whereby competence is described as a specific set of pre-defined context-free attributes such as knowledge, skills and abilities. In project management literature these lists of attributes are drawn up mainly by surveying experts' opinions and are summarised in the standards. However, whether the standards can actually capture project management competence in accomplishing work is questionable. Since the standards-based competence programmes are based on the assumption that individuals who are able to demonstrate under examination conditions their understanding of the principles of project management embodied in these standards are deemed to be professionally competent as project managers. Whether and how project managers use these knowledge and principles in accomplishing their work is neglected.

In sum, there is a clear opportunity to conduct an interpretive study of the meanings attached to their work by practicing project managers in the two cultures in order to (1) understand and (2) compare their conceptions of the project management work. The interpretive approach, phenomenography, founded for identifying and describing people's conceptions of their reality, namely, the reality of project management work in this study, is considered a better match for the purpose of this research and for its potential to have an interpretive new understanding of project management competence in the two cultures simultaneously.

1.4 Structure of the thesis

Following this introductory chapter, in Chapter 2, I present a review and analysis of literature relating to core contents of Western originated project management work, Chinese/Western cultural differences and their potential implications for Chinese and Western different conceptions of project management work, project management competence, and the phenomenographic approach to both conceptions and competence. The knowledge gaps identified inform both the substantive and methodological orientation of the research, based on which I formulate the conceptual

framework and the research question. Chapter 2 ends with a summary of the meanings of five key terms used in this research, namely, culture, conception, competence, attribute and phenomenography.

In Chapter 3, I describe the research design and methods, including the criteria for determining the research context and selecting samples, the processes of getting access to the samples, collecting data and analysing data. At the end of Chapter 3 I address the issues of reliability and validity that are relevant to the research.

In Chapter 4, I describe the three categories of Chinese conceptions of project management work identified from the data, and discuss the cumulative hierarchical relation between the three conceptions and the possible causes for the different conceptions.

In Chapter 5, I describe the three categories of UK conceptions of project management work identified from the data, and discuss the cumulative hierarchical relation between the three conceptions and the possible causes for the different conceptions.

In Chapter 6, I compare the two sets of conceptions of project management work described in Chapters 4 and 5. I first describe the similarities and differences between corresponding levels of conception in the two cultures, then generalise the similarities and differences between the two sets of conceptions. Finally I demonstrate the most apparent contrasting cultural differences between Chinese and UK conceptions of project management work with further examples of statements in the data.

In Chapter 7, I summarise the research conducted. I discuss the three parts of research findings described in Chapters 4, 5, and 6 in terms of the existing theory, highlighting how the empirical results of the research relate to the conceptual argument and contribute to the knowledge fields of cross-cultural management and project management competence and the research methodology. At the end of Chapter 7 I consider implications for practice, acknowledge the limitations of the research, and offer suggestions for future studies.

CHAPTER 2 LITERATURE REVIEW

In this Chapter I present a review and analysis of literature relating to Western originated project management theories and processes in the form of three popular standards, apparent areas of Chinese/Western cultural differences and their implications for conceptions of project management work in the two cultures, project management competence, and an interpretive approach to studying both conceptions and competence, known as phenomenography.

In Section 2.1 I summarise the core principles of Western originated project management work by outlining three popular project management standards. In Section 2.2 I review literature on China-related studies, cross-cultural comparative studies, and particularly Chinese/Western cross-cultural comparisons, in order to identify apparent areas of dimensional differences between Chinese and Western cultures. In Section 2.3 I draw together the findings of Sections 2.1 and 2.2 in order to examine the potential implications of cultural differences for conceptions of project management work. In Section 2.4 I summarise the gaps in current literature on Chinese/Western cross-cultural management research and conclude that there is a need for interpretive exploration and comparison of matched Chinese and Western project managers' conceptions of their work.

In Section 2.5 I review literature relating to an interpretive approach to studying both conceptions and competence known as phenomenography, and current studies of project management competence. I conclude that the phenomenographic approach has great promise in this research for a new understanding of project management conceptions and competence.

In Section 2.6 I summarise the knowledge gaps identified and formulate the conceptual framework and research question. In Section 2.7 I list the meanings of five key terms used in this research to help readers follow the thesis easily.

2.1 Core contents of Western project management work

Project management work means 'the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements' (PMI, 2004: 368). As introduced in Chapter 1 of the thesis, with the rapid rise of project management as a professional discipline in the West, there have been a number of well-established standards that define the scope of the discipline and describe the theories, processes, tools, and techniques of project management work. In this section I first review the three most popular Western project management standards: the PMBOK® Guide of the American Project Management Institute (PMI) in Section 2.1.1, the APM

Body of Knowledge (APM BoK) of the British Association for Project Management (APM) in Section 2.1.2, and the IPMA Competence Baseline (ICB) of the Swiss-based International Project Management Association (IPMA) in Section 2.1.3. Then in Section 2.1.4, I summarise the core contents of the Western originated project management work addressed in these standards, listed in Table 2.1.

2.1.1 PMBOK® Guide (PMI, 2004)

Since 1976 PMI has been defining and mapping project management theories and practice. In 1985, the first Body of Knowledge for project management was produced. In 2000, a book entitled *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* was published as the second version of the Body of Knowledge, and an updated version was later published in 2004.

The PMBOK® Guide emphasises that it is not intended to be comprehensive or all-inclusive. Rather, it is used by PMI as a basis for project management training and education, and a guideline for its Project Management Professional (PMP®) examination. The guide consists of nine knowledge areas and five process groups. The nine knowledge areas are: Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communications Management, Project Risk Management, and Project Procurement Management. The five process groups are: Initiating Process Group, Planning Process Group, Executing Process Group, Monitoring and Controlling Process Group and Closing Process Group. The PMBOK® Guide also offers a project management framework, including definitions of terms, a description of pertinent general management skills, and an introduction to the concept of a project management process model.

2.1.2 APM BoK (APM, 2000)

APM's Body of Knowledge (APM BoK) was initially developed by the Association for Project Management (APM) in the UK mainly for the purpose to assess its Certificated Project Manager (CPM). It was first published in 1992, and updated in 1994, 1996 and 2000.

The fourth edition of the APM BoK in 2000 is intended to be 'a practical document, defining the broad range of knowledge that the discipline of project management encompasses', and representing those 'topics in which practitioners and experts consider professionals in project management should be knowledgeable and competent' (Dixon, 2000: 9). It forms the standard against which the requirements for APM's various professional qualifications are set. The APM BoK contains seven sections, which are:

General, Strategic, Control, Technical, Commercial, Organisational, and People. These seven sections cover a total of 42 topics such as Risk Management, Quality Management, Budgeting and Cost Management, Time Scheduling/Phasing, Teamwork, Leadership, and Negotiation. Compared with the American PMBOK® Guide, the British APM BoK 'reflects a wider view of the discipline, addressing both the context of project management and the technological, commercial, and general management issues' (Morris, 2001: 22).

2.1.3 ICB (IPMA, 1999)

The International Project Management Association (IPMA) is a Swiss-registered organisation, the function of which is 'to be the prime promoter of project management internationally' (IPMA, 1999: 12). IPMA started in 1965 under its former name of INTERNET. It has now over 30 member associations that are primarily national project management associations, mostly in Europe. APM is its national member association in the UK. The IPMA Competence Baseline (ICB) was established on the basis of the national BoK of the UK, Switzerland, Germany and France. It was published in English, German, and French in 1999.

IPMA approved its universal system for the validation of the certification programmes on four levels in 1998 and communicated it worldwide. The ICB is the basis for all certification programmes of the national associations and their certification bodies that are validated by the IPMA. The ICB consists of 42 elements for knowledge and experience in project management (28 core elements and 14 additional elements) as well as 8 aspects for personal attitudes and 10 aspects for the general impression. Different from the PMBOK® Guide and the APM BoK that basically refer to the project management processes and knowledge, in the ICB, not only the elements of project management knowledge are described, but also a general structure for the assessment of project management competence is established, and the requirements for the certification are defined. Examples of taxonomy criteria and summary evaluation sheet are also provided at the end of the ICB.

2.1.4 Core contents of Western project management work

The three popular project management standards described in the above sections play a key role in the development and definition of project management as a profession. They form a basis for project management training and education worldwide, and provide a guideline for assessing and developing project management competence for professional certification or registration (Crawford & Gaynor, 1999). Despite their different structures they all embody the same fundamental characteristics, processes and practices of project management work. I summarise the fundamental

aspects of project management work that are commonly addressed in all the three standards, and list them and their Chapter/Section numbers in the respective standards in Table 2.1 below.

Table 2.1 Core contents of Western project management work

	PMBOK® Guide (PMI, 2004)	**APM BoK** (APM, 2000)	**ICB** (IPMA, 1999)
Cost management	Chapter 7	3.3, 4.2	16
Time management	Chapter 6	3.1	14
Quality management	Chapter 8	2.4	28
Organisational structure	2.3, 9.1, 9.2	6.6	22
Risk management	Chapter 11	2.3	18
Leadership	2.4.1	7.2	24
Teamwork	9.2, 9.3, 9.4	7.1	23
Negotiation	2.4.3	7.4	32
Communication	2.4.2, Chapter 10	7.0	25
Conflict management	2.4.3	7.3	26

2.2 Chinese/Western cross-cultural comparison

There have been many China-related studies. Most of them have focused on management and organisation theories and practices within the Chinese context, where only a particular country, namely China, was involved. Another big portion of such China-related empirical studies has taken a particular cultural and comparative focus involving two or more countries. In the following sections I focus on Chinese/Western cross-cultural studies – the main concern of this research – starting with an overview of literature on management and organisational research in the Chinese context.

2.2.1 Management and organisational research in the Chinese context

The economic reform in China over the past two decades has made China the largest emerging economy in the world, which has consequently made China a fascinating context for management and organisational research. On one hand, China presents great challenges to management and organisation theories that are largely derived from research in the West. On the other hand, China provides a fertile ground for examining the boundaries and validity of existing theories and developing new ones (Peng, Lu, Shenkar, & Wang, 2001). Prominent topics in the Chinese context addressed by researchers have included: (a) the reforms of state-owned enterprises (SOE) and the emergence of new forms of firms, such as private and hybrid public/private firms, township and village enterprises (see, for

example, Boisot & Child, 1988, 1996; Luo, Tan, & Shenkar, 1998; Nee, 1992); (b) the rise of and relevant issues on international joint ventures (IJV) and multi-national corporations (MNC) in China (see, for example, Cui, 1998; Davidson, 1987; Hui & Graen, 1997; Lu & Bjorkman, 1997; Luo, 1995; Shore, Eagle, & Jedel, 1993; Yan & Child, 2002; Yan & Gray, 1994); (c) the characteristics of Chinese management, such as various aspects of human resource management, decision making and negotiation (see, for example, Child, 1994; Ghauri & Fang, 2001; Lockett, 1988; Warner, 1993, 2004); (d) the social and political changes brought about by the economic reform and the 'open-door' policy (see, for example, Cooke, 2004; Hassard, Morris, & Sheehan, 2004; Walder, 1995).

These studies have provided critical information for non-Chinese business people, especially Westerners, who have engaged in or are planning to get involved in business in China, about how to enter and operate in the Chinese context. Although some of these studies have touched on cultural factors that affect management styles and practices in China, culture has not been their primary focus. However, another thread of management research relevant to the Chinese context has specifically taken a cultural and comparative focus, which is of the interest of this research. This literature is examined in the next section.

2.2.2 Chinese/Western cross-cultural comparative research

In Section 2.2.2.1 I first clarify the definition of *culture* used in this research. In Section 2.2.2.2 I give a brief description of cross-cultural comparative research in general before exploring in Section 2.2.2.3 literature on Chinese/Western cross-cultural comparative research. I conclude with a description of apparent areas of differences between Chinese and Western cultures.

2.2.2.1 Culture

Etymologically *culture* means cultivation, which is associated with the word *agriculture*. A culture is not fixed; it grows. It is stable but also open to evolution (Communal, 1999).

There have been many definitions of *culture*. Kroeber and Kluckhohn (1952: 181, cited by Communal, 1999), synthesised more than 160 different definitions and suggested an anthropological definition of *culture* as:

> 'Culture consists of patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievement in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be

> considered as products of action, on the other, as conditioning elements for future action.'

Hofstede (1984: 21) defined *culture* as:

> 'the collective programming of the mind which distinguishes the members of one human group from another.'

By a human group Hofstede means a society (a nation) or an ethnic or regional group. He used *subculture* for 'other human collectivities or categories: an organisation, a profession, or a family.'

Trompenaars and Hampden-Turner (1997) emphasised that:

> 'Culture is a shared system of meanings. It dictates what we pay attention to, how we act and what we value' (p.13), and '...the essence of culture is not what is visible on the surface. It is the shared ways groups of people understand and interpret the world' (p.3).

As the main purpose of reviewing cross-cultural literature is to tell how Chinese and Western cultures differ, and how these differences may impact on project managers' conceptions of their work, I take a combination of the above three descriptions of culture for this research. Central to all of these descriptions is the notion that culture consists essentially of people's collective deep-held values and beliefs.

2.2.2.2 Cross-cultural comparative research

Early comparative literature has been mainly in the area of cross-cultural psychology, which is 'an interdisciplinary subject acting between and synthesizing mostly collective-level, phenomenological, naturalistic analyses (such as anthropological study) and mostly individual-level, positivistic, experimental analyses (such as psychology)' (Gatley, Lessom, & Altman, 1996: 92). The subsequent cross-cultural comparative literature is dominated by a variety of models of comparative dimensions derived from anthropological and psychological studies by authors such as Kluckhohn and Strodtbeck (1961), Hofstede (1980, 1993), Trompenaars (1993), and Schwartz (1994). These models have informed and enabled national cross-cultural comparative studies in relation to the workplace. The important cultural dimensions identified from these models have been widely quoted and used in current cross-cultural comparative management studies (see, for example, Brett & Okumura, 1998; Jackson, 2001; Peterson, Dibrell, & Pett, 2002). I review four such models in detail in Section 2.2.2.3 in order to identify apparent areas of dimensional differences between Chinese and Western cultures.

Cross-cultural comparative management studies have been on various topics across different countries. The majority of them have compared and

contrasted management theories and practices supported by different national cultural values and beliefs between: (a) USA and other Western countries (see, for example, Dowling & Nagel, 1986; Hunt, 1981; Pennings, 1993); (b) USA, Western and Eastern European countries (see, for example, Elenkov, 1997; Michailova, 2000; Mueller & Clarke, 1998; Pavlica & Thorpe, 1998); and most notably (c) Western and Asian countries, such as Japan (see, for example, Brett & Okumura, 1998; England, 1983; Howard, Shudo, & Umeshima, 1983; Radford, Mann, Ohta, & Nakane, 1993), Indian (see, for example, Amba-Rao, 1994; Budhwar & Sparrow, 1998; Combs & Nadkarni, 2005; Tayeb, 1987), and China (see, for example, Adler, Brahm, & Graham, 1992; Chen, 1995; Earley, 1993; Egri & Ralston, 2004; Hui, Triandis, & Yee, 1991; Smith, Peterson, & Wang, 1996; Tse, Francis, & Walls, 1994; Wang & Heller, 1993; Yang, Chen, Choi, & Zou, 2000). I will identify and summarise the gaps in current literature on Chinese/Western cross-cultural comparative management studies particularly in Section 2.4.

2.2.2.3 Apparent differences between Chinese and Western cultures

In the sections that follow I outline four models of comparative dimensions, which have informed and enabled national cross-cultural comparisons that are relevant to the workplace (Gatley, Lessom, & Altman, 1996; Schwartz, 1999). I then identify the apparent areas of difference between Chinese and Western cultures and list them in Table 2.4. For the sake of comparison the UK and USA are taken to represent the West in this discussion, because first, the project management profession has been mainly developed in the UK and USA, and second, the UK and USA are in the same cultural cluster – Anglo – and have been classified as typical developed Western nations by a number of authors (Ashkanasy, Trevor-Roberts, & Earnshaw, 2002; Gupta, Hanges, & Dorfman, 2002; Ronen & Shenkar, 1985).

Kluckhohn & Strodtbeck's Model

Kluckhohn and Strodtbeck (1961) discovered from their anthropological study of individuals from separate communities within rural south-eastern USA that all cultures face six variables: *relationship to nature, time orientation, nature of people, activity orientation, focus on responsibility,* and *orientation to space*. The specific dimensions of these are shown in Table 2.3.

Kluckhohn and Strodtbeck recognised that there would be significant differences within as well as between cultures but argued that despite this any culture would be characterised by dominant value orientations.

Although the study is considered limited due to its sample being within a region of a single nation state, it is argued to be one of the foundation models (Triandis, 1982).

Hofstede's model

Hofstede (1980) first identified four dimensions of culture, labelled *power distance (PD), individualism vs. collectivism (ID), masculinity vs. femininity (MA)* and *uncertainty avoidance (UA)*. These four dimensions were initially detected through a comparison of the values of matched samples (employees and managers similar in all respects except nationality) working in 53 national subsidiaries of the IBM Corporation. A fifth dimension, *long-term vs. short-term orientation (LT)* was added based on a study of students in 23 countries using a questionnaire prepared by the Chinese Value Survey in Hong Kong (Hofstede & Bond, 1988; The Chinese Culture Connection, 1987).

The configuration of these dimensions allows countries to be plotted on charts and compared with each other. Table 2.2 below lists the scores on all five dimensions for the UK, the USA, and China. Mainland China was not included in Hofstede's (1980) IBM studies. Scores of the first four dimensions for China have been estimated based on 'imperfect replications or personal impressions' (Hofstede, 1993: 90).

Table 2.2 Scores on five dimensions for UK, USA and China*

	PD	ID	MA	UA	LT
UK	35	89	66	35	25
USA	40	91	62	46	29
China	80	20	50	60	118

*Based on: Hofstede (1993), Hofstede and Bond (1988).

The data suggest that China is somewhat different from the UK and the USA on dimensions MA and UA, and more distinctly different on dimensions PD, ID and LT. This implies that Chinese culture is fundamentally different from that of the UK and USA, especially in that China is *collectivist* with large *power distance* and *long-term orientation*, while the UK and the USA are *individualist* with small *power distance* and *short-term orientation.*

Trompenaars' model

Trompenaars' (1993) study involved 30 companies in 50 different countries. Seven dimensions of culture were identified. The first five come under the broad heading of *relationships with people*, which includes: *universalism vs. particularism, individualism vs. communitarianism, neutral vs. emotional, specific vs. diffuse,* and *achievement vs. ascription*. The sixth dimension

concerns *attitudes to time (linear & sequential time vs. circular & synchronic time)* and the seventh *attitudes to the environment (inner-directed vs. outer-directed)*.

Trompenaars' seven dimensions have been described as 'conceptually related' to some of Hofstede's dimensions and as such 'can be interpreted as supportive of Hofstede's model' (Gatley, Lessom, & Altman, 1996: 109). For example, Trompenaars' dimension *attitudes to time* is related to Hofstede's dimensions of *ID* and *LT* in that individualist cultures such as the UK and the USA, with a sequential view of time, usually have short-term orientation, whereas collectivist cultures such as China, with a synchronous view of time, typically have long-term orientation (Trompenaars & Hampden-Turner, 1997).

Schwartz's model

Drawing on findings from his individual-level study of the content and structure of values Schwartz (1994) proposed a continuum of cultural values representing the relationship between personality and cultural factors. His model was based partly upon Hofstede's (1980) and Kluckhohn and Strodtbeck's (1961) work and was tested using data collected between 1988 and 1992 from respondents in 38 nations. The two basic dimensions in Schwartz's model are *conservatism vs. autonomy (affective and intellectual)* and *self-enhancement (hierarchy and mastery) vs. self-transcendence (egalitarian commitment and harmony)*.

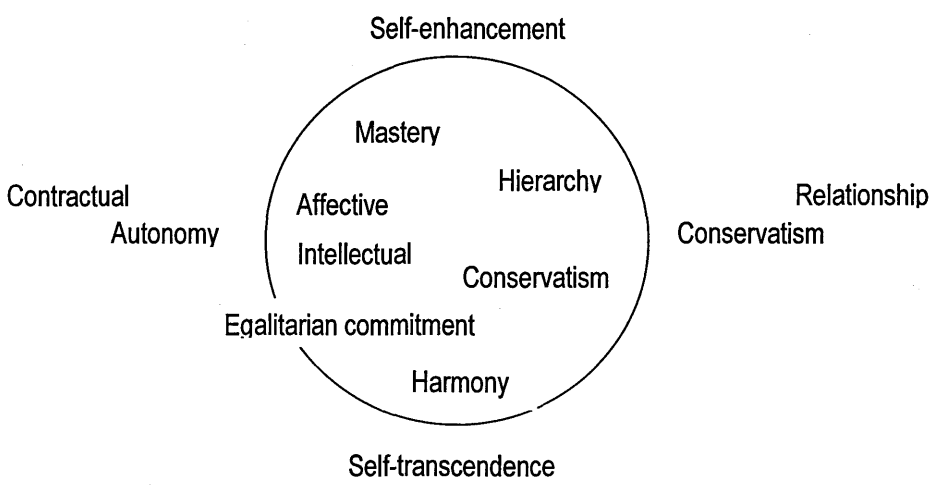
Because it arranges value types and broad dimensions into a continuum, Schwartz's model is regarded as a refinement of Hofstede's work (Gatley, Lessom, & Altman, 1996). According to the model, the two broad cultural archetypes of societies with different assumptions about life and work can be categorised as *contractual cultures* and *relationship cultures*. The former, like the USA (UK data were not included), adopt autonomous values along with value tensions between mastery (in terms of self-enhancement) and egalitarian commitment/harmony (in terms of self-transcendence). The latter, like China, mainly adopt conservative values and accommodate value tensions between hierarchy and harmony.

Apparent dimensional differences between Chinese and Western cultures

Thus far, I have briefly described one foundational model and three current dominant models of comparative dimensions. Table 2.3 below presents a summary of all the dimensions identified in these four models.

Table 2.3 A summary of common cultural dimensions*

Kluckhohn and Strodtbeck (1961):		
Subjugation to nature	Harmony	Mastery
Past-time orientation	Present	Future
Evil human nature	Mixed	Good
Being (activity orientation)	Controlling	Doing
Hierarchical relationships	Group	Individualistic
Private space	Mixed	Public
Hofstede (1980, 1993)		
Small power distance		Large power distance
Individualism		Collectivism
Masculinity		Femininity
Weak uncertainty avoidance		Strong uncertainty avoidance
Short-term orientation		Long-term orientation
Trompenaars (1993)		
Universalism		Particularism
Individualism		Communitarianism
Neutral		Emotional
Specific		Diffuse
Achievement		Ascription
Linear & sequential Time		Circular & synchronic Time
Inner-directed		Outer-directed
Schwartz (1994)		



*Modified from Osland and Bird (2000).

Although these dimensional studies carry the danger of stereotyping entire cultures, they have nevertheless provided useful tools for cross-cultural comparisons (Osland & Bird, 2000) and have helped greater cultural understanding, in particular of the meanings that people of different cultures attribute to work (Schwartz, 1999).

The results in the three current dominant models present a list of contrasting dimensions that demonstrate the fundamental differences between Chinese and Western cultures, such as that of the UK and the USA, who are the main authors and arbiters of current project management theories and processes. Taking into account conceptual overlap among the three dominant models, a summary of important dimensional differences between the two cultures is shown in Table 2.4.

Table 2.4 Apparent dimensional differences between Chinese and Western cultures*

Chinese Culture	Western Culture (UK and USA)
Collectivism	Individualism
Large power distance	Small power distance
Strong uncertainty avoidance	Weak uncertainty avoidance
Long-term orientation	Short-term orientation
Synchronic time	Sequential time
Outer-directed	Inner-directed
Relationship	Contractual
Conservatism, tension between hierarchy and harmony	Autonomy, tension between mastery and egalitarian commitment/harmony

*Based on: Hofstede (1980, 1993); Trompenaars (1993); and Schwartz (1994).

2.3 Potential implications of cultural differences for conceptions of project management work

Thus far I have listed the core elements of Western-originated project management work (Table 2.1) and identified some apparent dimensional differences between Chinese and Western cultures (Table 2.4). In the following Section 2.3.1 through 2.3.8, I draw together these two sets of elements in order to examine the potential implications of cultural differences for Chinese and Western project managers' attitudes and approaches to the same work activity. Where appropriate, I link my interpretations to other research on Chinese and Western management, business and culture.

It should be mentioned that the list of core contents of Western project management work is not exhaustive, nor is the list of dimensional differences

between the two cultures. Rather the attempt is to provide theoretical examples that support the argument that fundamental culturally derived differences of conception of project management work in the two cultures might exist, highlighting the need for empirical research comparing such different conceptions.

2.3.1 Cost management

Western *mastery* culture emphasises active mastery over nature and promotes efforts to control nature. In contrast, Chinese *harmony* culture emphasises harmony with nature and concern for values such as peace.

The potential implication for project managers' attitudes and approaches to cost management is that Westerners may consider project budgeting practice as 'factual, essential and fruitful', enabling the active control of project cost. On the other hand Chinese may consider that budgeting is 'an elegant practice' preparing projects for the future, but that it is only actual costs that count (Milosevic, 1999: 31).

Further, Chinese *relationship* culture may result in extra costs for building and maintaining relationships within and outside the project. For Western *contractual* culture, such costs may be considered unnecessary or even bribery.

2.3.2 Time management

Western *sequential* culture focuses more on rational efficiency. Chinese *synchronic* culture focuses more on effectiveness than efficiency. It allows parallel activities and is less punctual.

These differences in attitude to time may affect project time management (Schneider, 1995). Western project managers may require a precise schedule in more detail so that individuals may work and take responsibility independently. For them, time is measurable. They stress everything must be done to preserve deadlines because time is money. Contrary to this, Chinese would not pay so much attention to a detailed schedule. They prefer general and flexible appointments so that priority can always be given to those considered more significant. For them, deadlines are likely to be treated as tentative (Xing, 1995).

2.3.3 Quality management

Western *individualism* culture, with its *sequential* view of time, encourages a *short-term* view of strategy. Chinese *collectivism* culture, with a *synchronous* view of time, typically takes a *long-term* strategic view.

The implication for project managers' attitudes and approaches to project quality management is that Chinese might adopt a continuous improvement approach and focus on prevention, whilst Westerners might tend to adopt a policy of correcting problems when they appear (Milosevic, 1999).

Quality problems often surface at future times when the individual project manager and the temporary project team are no longer present be held accountable. However, in Chinese *collectivism* and *relationship* culture, organisations and project teams are relatively stable. A project manager's career would be more likely to be affected if any quality problem surfaces in the future. This may also imply that Chinese and Western project managers' approaches to quality management would be different.

2.3.4 Organisational structure preference

Power distance (PD) indicates the extent to which people accept the unequal distribution of power. *Uncertainty avoidance (UA)* refers to people's discomfort with uncertain or unstructured situations, and preference for predictability and stability. The two together may affect people's preference for form of organisational structure.

In Chinese culture larger PD and stronger UA are associated with greater centralisation and formalisation. Organisations are usually taller, more hierarchical pyramid structures. In contrast, Western organisational structures are usually flatter with a less distinctive hierarchy.

The Western approach to project management often involves a matrix of two competing hierarchies – a functional hierarchy and a project hierarchy, which requires tolerance for ambiguity. This may not fit the Chinese type of organisation where the hierarchical structure is held together by rules and unity of command. Chinese project managers might prefer a one-way hierarchy of the line-and-staff type of project organisation. When a matrix project organisation is used in China both project managers and functional managers might require more written and unwritten rules and regulations from the company so as to avoid ambiguity, and conflict may be unavoidable.

2.3.5 Risk management

Uncertainty avoidance also serves to tell about the tolerance of ambiguity and the need for structured situations with written or unwritten rules and regulations. This may affect project managers' attitudes to risk and approaches to decision-making processes in risk management.

Chinese stronger UA culture tends to fear unfamiliar risks and ambiguous situations. Emotionally they seek and rely more upon rules and regulations

even they already know that the rules and regulations may not be effective. Thus when making decisions in risk management, Chinese project managers may always seek to be backed by rules and regulations from head office. In contrast, the Western weaker UA culture tends to be more comfortable with unfamiliar risks and ambiguous situations. Meanwhile, the stress on group harmony and relationships may cause Chinese project managers' decision-making processes to be more complicated and slower than those of Westerners.

Smith, Peterson, and Wang (1996) asked middle managers from a wide range of commercial and industrial organisations in China, the UK and USA to describe how they handle specific uncertain events. They found that managers from the UK and USA rely most heavily on their own experience and skills, whilst Chinese managers rely more upon rules and procedures, even though they evaluate events more positively when they have relied on their own experience.

2.3.6 Leadership and employment relationship

Both dimensions of *power distance* and *individualism vs. collectivism* have a bearing on leadership style and the relationship between superiors and subordinates.

The ideal leader in a Western small PD culture would be a resourceful democrat. In a Chinese large PD culture the ideal leader would be a benevolent autocrat (Hofstede, 1991). In *collectivist* China, employees' group solidarity, sharing, duties and obligations are encouraged, and individuals within a collective are bound by affection and loyalty to one another (Hui & Triandis, 1985). The employment relationship is more morally based and the management of personal relationships is more important than the work. In the *individualist* West, people can be moved around as individuals. Emphasis is placed on individual freedom and preferences, and the employment relationship is more contractually based. Meanwhile, in *collectivist* China, individual interests and goals are subordinate to the interests and goals of the collective. Because their self-identity derives from and is enhanced by their group membership (Newman & Nollen, 1996), employees' concern for the consequences of their actions for the organisation arguably leads to greater emotional dependence on the organisation. Whereas in the *individualist* West individual and collective interests and goals are distinguished, priority is usually given to self-interests over those of the collective. Individual self-identity derives from and is enhanced by self-sufficiency and self-pursuit of goals. This implies that Chinese and Western project managers may have different attitudes and approaches to their role of a leader, and may have contrasting conceptions of their relationships with both their superiors (such as their employer company) and subordinates (such as their project team, to be discussed further in Section 2.3.7).

Some empirical studies support this view. For example, Ralston, Gustafson, Cheung, and Terpstra (1993: 264) took four Western-developed measures and four Eastern-developed measures for their cross-cultural study of management values. Their findings demonstrated that managers from the USA and China are significantly different in seven of the eight measures, and confirmed that Chinese managers 'tend to rely more heavily upon informal means of influence than formal authority channels, placing more emphasis on personal relationships and trust and less on legal contracts'. Another survey by Neelankavil, Mathur, and Zhang (2000) also showed that Chinese and American have quite different beliefs as to what makes better leadership.

2.3.7 Teamwork

As noted in Section 2.3.6 the *individualism vs. collectivism* dimension has relevance to Chinese and Western different conceptions of project teamwork. In addition, Chinese emphasis on *relationships* implies different approaches to teamwork in the two cultures.

In the *individualist* West, individuals act on their own interest and work should be organised to make self-interest and project interest coincide. Project managers tend to treat teams as instruments, with teamwork more informal and temporary. In *collectivist* China, where individual interest comes after that of the group, collective teamwork is likely be more valued than individual initiative. Thus teamwork tends to be a normal condition and a routine activity.

On the other hand, with its origins in Western individualist cultures, project management is strongly task-oriented. A project team is usually a temporary set-up for achieving a specific project task. Therefore, for Western project managers the task comes before the relationship. In contrast, Chinese project managers may prefer existing and stable groups, paying greater attention to building and maintaining relationships both within and outside the project team. For them, tasks could be achieved only if the moral and close relationships within the team are achieved.

Empirically, Earley (1989, 1993) used Chinese and American students as samples to examine individuals' performance both alone and in groups. Earley's results showed that Chinese performance is higher when operating with a group goal and anonymously, whilst American performance is higher when working alone. Wagner's (1995) work supports this in that collectivists cooperate more than individualists.

2.3.8 Negotiation, communication and conflict management

In contrast to the West, Chinese *collectivism*, *harmony*, *outer-directed* and *relationship* culture may have implications for Chinese project managers' approaches to negotiation, communication and conflict resolution.

As Hosftede (1984:151) claims, 'in the collectivistic Chinese society, the individual is not 'inner-directed' at all but controlled by a need for not losing face'. For Chinese project managers, direct debate or confrontation is likely to be avoided in order to maintain harmony and face. Priority is given to building and maintaining lasting relationships (Hoon-Halbauer, 1999; Li, 1994). Whereas Western project managers may encourage open discussion on disagreements and conflicts in order to get problems solved quickly, Chinese project managers would try to get through conflicts quietly to preserve group harmony.

There is much empirical evidence of the above view. Some examples include those studies on Chinese and Western contrasting approaches to: (1) negotiation by Graham, Mintu, and Rodgers (1994); Li, Lam, and Qian (2001); (2) communication by Gao (1998); Gao and Liu (2000); and (3) conflict resolution by Goodall and Warner (2002); Pheng and Leong (2000); Ting-Toomey et al. (1991).

2.4 Conclusion – a need for an interpretive comparison of Chinese and Western project managers' conceptions of their work

Management practices are supported and shaped by cultural values and beliefs (Earley & Erez, 1997). Many cross-cultural studies have illustrated that different cultures support different sets of management beliefs and practices, particularly when those cultures reflect fundamentally different conceptions of reality. For example, Dowling and Nagel (1986) found that American business majors placed greater emphasis on self-fulfilment, responsibility, and other intrinsic rewards, while their Australian counterparts attended more to extrinsic factors. Laurent (1983) revealed significant cultural diversity among managers from ten European countries in relation to their conceptions of the function of management, where, for example, Swedish managers expressed little reluctance in bypassing the hierarchical line, while Italian managers considered that bypassing the hierarchical line to be a serious breach of protocol warranting either reprimanding the employee or redesigning the hierarchical structure. England (1983) examined the reason why Theory Z management (Ouchi, 1981) – successful in Japan – is not likely to be the norm in the USA and claimed that Japan's culturally value orientations grounded in trust and interpersonal intimacy internally support the Theory Z management norm. A study by Howard, Shudo, and Umeshima (1983) demonstrated that American managers valued individuality, while Japanese managers valued socially oriented qualities. Pant, Allinson, and Hayes (1996) found that matrix organisational structures do not work as well

in Nepal as they do in the West, due to the greater bureaucratic orientation of Nepalese managers. A study by Easterby-Smith, Malina, and Lu (1995) concluded that Chinese concerns for relationships, group harmony and 'face' limit the adoption in China of established aspects of Western human resource management practice.

Therefore, in theory, because of certain apparent areas of difference between the two cultures, the basic conceptions of project management developed under Western culture are not likely to be supported by Chinese culture. This has been further illustrated in Sections 2.3.1 through 2.3.8, which present an examination of the various cultural dimensions (described in Section 2.2) in the light of certain core contents of the Western originated project management work addressed in the three popular Western project management standards (described in Section 2.1).

However, despite such potential implications of culturally based differences between Chinese and Western project managers' conceptions of their work there has been little empirical research to address this issue in the context of project management. The examples of relevant empirical evidence cited above are all from general management studies. Although there have been many China-related studies and there have been increasing numbers of cross-cultural comparative studies addressing the cultural implications for transferring management theories and practices across borders, little has been done to question the recent vigorous attempts to transpose Western originated project management into the Chinese cultural context. The literature reviewed in the above sections revealed no empirical studies of the cultural differences between Chinese and Western frontline practicing project managers' conceptions of their work, a gap addressed in this thesis.

Apart from its substantive content, current literature on Chinese/Western cross-cultural comparative research has suffered from certain methodological limitations, discussed below. These highlight a need for an interpretive approach to this cross-cultural comparison of Chinese and Western practicing project managers' conceptions of their work.

First, most China-related cross-cultural comparative studies before the 1990s used samples from Hong Kong, Singapore or Taiwan as proxies of Chinese (see, for example, Hui, Triandis, & Yee, 1991; Leung & Bond, 1989; Redding & Ng, 1982). This approach, which partly arose because of the difficulties of gaining access to samples in the People's Republic of China before the country's economic reform and 'open-door' policy, was justified by the argument that Chinese people in these areas share similar cultural values and beliefs with those in the mainland China due to their same roots in traditional Chinese philosophies, primarily Confucianism (Shenkar & Ronen, 1987). However, this argument has been questioned because it neglects the potential differences caused by different social and economic developments between these areas and the mainland China after the Second World War (Ralston, Gustafson, Cheung, & Terpstra, 1993). Further,

the tremendous changes in social and economic lives in contemporary mainland China call for rigorous comparative research on Chinese and Western cultural differences in management conceptions and approaches. In this research Chinese samples were selected from project managers working in the Beijing area of the People's Republic of China.

Second, university students of business and management have been frequently used as samples in current Chinese/Western cross-cultural management studies (see, for example, Bu & McKeen, 2001; Harris & Nibler, 1998; Ting-Toomey et al., 1991; Yang, Chen, Choi, & Zou, 2000). Such student samples are often not representative of the population of interest in comparative management studies (Bigoness & Blakely, 1996). This suggests the need for more empirical comparisons of matched samples of practicing managers rather than university students. The data in this research came from matched samples of practicing Chinese and UK project managers working in their usual environment in their own country.

Third, current literature on Chinese/Western cross-cultural management studies has been dominated by quantitative approaches based on questionnaire surveys. All the China-related comparative studies cited above used quantitative surveys (except for Easterby-Smith, Malina, & Lu, 1995, which took a case study approach). One possible explanation for the dominance of the survey approach could be the time and language constraints in accessing adequately individuals face to face in different countries as required in qualitative studies (Adler, 1984). There is a clear opportunity for more rigorous qualitative comparative management studies. In particular, for this research to explore meanings and conceptions that individual project managers attach to their work, the interpretive tradition of management research is considered to be more appropriate (Pavlica & Thorpe, 1998). Further, my bilingual ability and wide contacts with practitioners in the two countries make it possible for me to get access to individual practicing project managers working in the two cultures and facilitate in-depth interviews with them using their respective mother tongues.

It can be concluded that there is a need for interpretive exploration and comparison of meanings and conceptions matched Chinese and Western practicing project managers attach to their work. In this research the final sample consisted of 30 Chinese and 30 UK project managers working in their usual environment in China and the UK respectively. The samples were matched as far as possible in terms of their experiences and the nature and content of their work, described in detail in Chapter 3 of the thesis.

2.5 Methodological orientation

So far I have argued that although project management theories and practices based on Western conceptions of project management are being transferred into the Chinese context, there are theoretical grounds for supposing that conceptions of project management work held by Chinese and Western project managers are likely to be substantially different. In this section I suggest that an interpretive approach, phenomenography, promises to be a better match for the purpose of this research to identify and compare Chinese and Western project managers' conceptions of their work. Further, the phenomenographic approach to conceptions provides a new way of understanding project management competence in both cultures.

In Section 2.5.1 I present an overview of phenomenography as an interpretive approach to studying people's conceptions of their world. Then in Section 2.5.2 I introduce the application of the phenomenographic approach for understanding competence at work, and discuss its implications for this research. Finally in Section 2.5.3 I summarise the main reasons for choosing phenomenography for this research.

2.5.1 Phenomenography as an interpretive approach to studying conceptions

In the sections below I first introduce the development of phenomenography as an interpretive approach to studying conceptions. Then I describe the fundamentals of the phenomenographic approach and the relevant data collection and analysis methods.

2.5.1.1 Development of phenomenography

Etymologically, the term 'phenomenography' derives from the Greek words 'phainomenon' and 'graphein', which mean appearance and description. Thus phenomenography is concerned with the description of things as they appear to us (Marton & Pang, 1999). Philosophically, its roots can be traced to the programme of phenomenology as formulated by the founder of modern phenomenology, the German mathematician and philosopher, Edmund Husserl (Spiegelberg, 1982). Although phenomenography as a research approach was first developed by an educational research group at the University of Göteborg in Sweden in the 1970s, the term did not appear in mainstream literature in the English language until 1981 when Marton (1981) proposed that the study of variation in conceptions of phenomena be a research specialisation in its own right (Hasselgren & Beach, 1997). Marton (1986: 31) later defined the term '*phenomenography*' as a research approach for 'mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and

phenomena in, the world around them'. This definition has since possibly been the source of the most quoted words in phenomenographic literature.

Originally, the Göteborg team were interested in researching how students deal with various specific learning tasks in different subject areas. Their pedagogical interest was in how students' conceptions can be changed by teachers and how better understandings can be arrived at by students (Marton, 1986). The point of departure of the team's earlier empirical studies was to investigate two questions: 'What does it mean that some students are better at learning than others?' and 'Why are some students better at learning than others?' (see, for example, Dahlgren, 1975; Säljö, 1975; Svensson, 1976). The researchers identified limitations of the dominant quantitative research methods in education and elaborated phenomenography to be a distinct qualitative research approach for the purpose of exploring the qualitatively different ways students experience and understand a phenomenon, namely, students' conceptions of the phenomenon.

In exploring the first question, the Göteborg team's phenomenographic studies revealed that when a group of students learned the same material, such as a concept or principle, they understood it in a limited number of different ways, which could be clearly arranged by researchers into categories of description (Marton, 1986). In answering the second question it was found from the studies that there was a strong relationship between students' different ways of understanding a phenomenon and their approaches to learning. As the main outcome of such phenomenographic studies, these categories of description were typically presented in the form of a hierarchy of conceptions, reflecting increasing levels of understanding and displaying the relation between the conceptions. In the phenomenographic approach, the term '*conception*' means 'a specific aspect of people's ways of experiencing, or making sense of, their world' (Sandberg, 1994: 47). In the presentation of phenomenographic studies, terms such as conceptions, ways of experiencing, ways of understanding, and ways of comprehending have been used interchangeably. These concepts represent the unit of phenomenographic analysis, to be discussed later.

A large number of studies has now been conducted in accordance with this research direction. Some have dealt with the content and act of learning and have studied students' conceptions in various domains (see, for example, Boulton-Lewis, Marton, Lewis, & Wilss, 2000; Prosser & Millar, 1989). A parallel series of phenomenographic studies investigated teachers' conceptions of teaching that were related to students' act of learning (see, for example, Dall'Alba, 1991; Samuelowicz & Bain, 1992). In Table 2.5, I list typical examples of such studies and the identified categories of conceptions that were usually linked in a hierarchical relationship. As a consequence of these research in educational learning and teaching, it was proposed that if students had a finite number of qualitatively different conceptions of learning, then it was reasonable to expect that people hold finite numbers of

qualitatively different conceptions of all kinds of phenomena (Marton, 1986; Marton & Booth, 1997).

Subsequent phenomenographic research studies outside the educational context have demonstrated that this hypothesis was correct. For example, Barnard's (1998) study in health care found that nurses held eight qualitatively different conceptions of technology in contemporary surgical nursing (see Table 2.6 for details). The eight conceptions were integrated in a conceptual order depicted as a hierarchy of four incremental levels of understanding, ranging from the most basic level (Level 1) to the most complex level (Level 4). Similarly, as listed in Table 2.6, McMahon and Bruce (2002) identified five hierarchically ordered conceptions of information literacy needs, whilst Akerlind and Kayrooz's (2003) study showed five conceptions of academic freedom held by social scientists in universities. Most notable is Sandberg's (1994) study of competence at work that revealed three hierarchical conceptions of engine optimisation work. I will discuss the implications of Sandberg's work for this research further in Section 2.5.2.

Table 2.5 Examples of phenomenographic studies of educational learning and teaching

Study	Phenomenon (Reality)	Categories of description of conceptions	Hierarchical relations
Prosser & Millar (1989)	Learning physics Tasks involving reducing velocity	Students' conceptions of such motion include: C1: an external friction force opposite to the direction of motion; C2: an inherent force in the direction of motion less than the external frictional force opposite to the direction of motion; C3: an inherent force in the direction of motion greater than the external frictional force opposite to the direction of motion.	In Newtonian terms, these conceptions form a hierarchy with C1 being correct, C2 being partially correct, including some aspects of both a Newtonian and a non-Newtonian view of equilibrium, and C3 being incorrect, including only a non-Newtonian view of equilibrium.
Renström, Andersson & Marton (1990)	Learning chemistry The nature of matter	Students' conceptions of matter include: C1: homogeneous substance; C2: substance units; C3: substance unit with 'small atoms'; C4: aggregate of particles; C5: particle units; C6: systems of particles.	The six conceptions form a hierarchy. C1 to C6 are ordered in terms of their defining features, which give them increasingly greater explanatory power and which represent additional components of a more full-fledged understanding of matter.
Dall'Alba et al. (1993)	Learning physics Acceleration	Students' conceptions of the acceleration problem include: C1: caused by gravity - rate of change of vertical velocity; C2: rate of change of velocity;	The six conceptions form a hierarchy. They are ordered based primarily on two principal aspects of the ways in which acceleration is understood: (1) the relations between acceleration and velocity; and (2) the relation

		C3: gravity is closely linked but not causally; C4: acts as force; C5: differences in velocity; C6: forces – acceleration due to gravity and acceleration of the ball.	between acceleration and force(s). C1 is regarded as describing the highest level identified, with the level of understanding decreasing through C2, C3, C4, C5 and C6.
Marton, Dall'Alba, & Beaty (1993)	Learning	Students' conceptions of learning (ways of experiencing learning) include: C1: increasing one's knowledge; C2: memorizing and reproducing; C3: applying; C4: understanding; C5: seeing something in a different way; C6: changing as a person.	The six conceptions form a hierarchy, moving from reproduction of material reflecting a surface approach to transforming content as is evident in a deep approach. The first three focus on quantitative dimensions of learning while the latter three are characteristically qualitative and focus on the role of meaning in learning.
Boulton-Lewis, Marton, Lewis, & Wilss (2000)	Formal learning	Students expressed three main conceptions of formal learning: C1: acquiring knowledge; C2: understanding; C3: personal growth.	The three conceptions form a hierarchy with C1 was explained in quantitative terms as accumulation of information or knowledge which may or may not result in its use, while C2 and C3 focusing more on practical and future sense.
Dall'Alba (1991)	Teaching in higher education	Teachers' conceptions (ways of experiencing) of teaching in four subject areas include: C1: presenting information; C2: transmitting information from teacher to student; C3: illustrating the application of theory to practice; C4: developing concepts/principles and their interrelations; C5: developing the capacity to be expert;	The seven conceptions form a hierarchy moving from focusing on what the teacher does (as in the lowest C1) to incorporating the content and focusing on students' understanding of the content. Finally, the most complete conception focuses on the relationships between teacher, student and content.

		C6: exploring ways of understanding from particular perspectives; C7: bringing about conceptual change	
Samuelowicz & Bain (1992)	Teaching in higher education	Teachers' conceptions of their teaching in science and social sciences include: C1: imparting information; C2: transmission of knowledge and attitudes to knowledge within the framework of an academic discipline; C3: facilitating understanding; C4: activity aimed at changing students' conceptions or understanding of the world; C5: supporting student learning.	The five levels of conceptions are ordered in a hierarchy similar to the above study, ranging from teacher centred activities to genuine collaboration with students to foster their understanding.
Prosser, Trigwell, & Taylor (1994)	(Learning and) Teaching in higher education	Conceptions of teaching held by teachers of first year university chemistry and physics courses include: C1: transmitting concepts of the syllabus; C2: transmitting the teachers' knowledge; C3: helping students acquire concepts of the syllabus; C4: helping students acquire teacher knowledge; C5: helping students develop conceptions; C6: helping students change conceptions.	There is a clear hierarchical relation within the six conceptions. The lower level conceptions focus on transmitting facts and skills without attending to students' engagement in the teaching-learning process. The higher level conceptions focus on students and their learning to help students further develop or change conception they already hold. These lecturers understands that they cannot transmit a new conception to the students, but rather, the students have to re-construct their knowledge to produce a new world view or conception.

Boulton-Lewis, Smith, McCrindle, Burnett, & Campbell (2001)	Teaching (and learning) of secondary school teachers	Conceptions of teaching held by secondary school teachers include: C1: transmission of content/skills; C2: Development of skills/understanding; C3: facilitation of understanding in student as learner; C4: Transformation of students	The hierarchical relation between the four conceptions is similar to those proposed for university teachers, moving from a focus on transmitting content, then developing basic skills and understanding, to interaction between student and teacher to further develop personal meanings and understanding, to the student changing as a person.

Table 2.6 Examples of phenomenographic studies outside the educational domain

Study	Phenomenon (Reality)	Categories of description of conceptions	Hierarchical relations
Barnard (1998)	Technology in contemporary surgical nursing	Surgical nurses described 8 conceptions in 4 levels: Level 1: C1: machinery and equipment; Level 2: C2: change to skills; C3: increasing knowledge; Level 3: C4: respect and autonomy; C5: control of clinical practice; C6: clinical resources of the practice environment must meet the needs of technology; C7: including the patients' experience and clinical presentation; Level 4: C8: alteration to the free will of nurses.	The eight conceptions are integrated in a conceptual order depicted as a hierarchy of four incremental levels of understanding, ranging from the most rudimentary or basic level (Level 1) to the most complex level (Level 4).
Sandberg (1994, 2000)	Competence at engine optimisation work	Three qualitatively different conceptions of engine optimisation emerged from the study: C1: engine optimisation as optimising separate qualities; C2: engine optimisation as optimising interacting qualities; C3: engine optimisation as optimising from	The three conceptions are linked in a hierarchical relationship in terms of an increasing comprehensiveness of conceptions: the first conception C1 is the least comprehensive, the second C2 is more comprehensive than the first, and the third C3 is the most comprehensive. Such relationship

		customers' perspective.	represents a hierarchy of competence in engine optimisation.
McMahon & Bruce (2002)	Information literacy needs	Five conceptions within the developmental context were established: C1: basic literacy skills; C2: understanding workplace systems; C3: communication skills; C4: accessing information sources; C5: understanding the dominant society.	The five conceptions are ordered hierarchically in terms of an increasing degree of complexity of focal awareness elements. Each level builds on the last one.
Akerlind & Kayrooz (2003)	Academic freedom	Five conceptions of academic freedom held by social scientists in universities were identified: C1: an absence of constraints on academics' activities; C2: an absence of constraints, within certain self-regulated limits; C3: an absence of constraints, within certain externally-regulated limits; C4: an absence of constraints, combined with active institutional support; C5: an absence of constraints, combined with responsibilities on the part of academics.	The five categories of conceptions are linked in a hierarchical relationship based on inclusivity – the understanding of academic freedom represented by categories higher in the hierarchy includes awareness of the aspects of academic freedom represented by categories lower in the hierarchy, but not vice versa.

2.5.1.2 Fundamentals of phenomenography

In the sections that follow I describe some fundamentals of the phenomenographic approach to studying conceptions, including its philosophical base and relationship with phenomenology, the outcome of phenomenographic studies, and its level of analysis and unit of analysis.

Philosophical base of phenomenography and its relationship with phenomenology

Marton (1992) claims that the ontology on which phenomenography is based is a non-dualistic view and that knowledge is neither subjective nor objective but both, namely, the subject and the object are internally related. The phenomenographic view of knowledge implies that learning is a question of perceiving, conceptualising, experiencing, or understanding something in a different way. When people experience something, they do it on a social, intellectual and emotional level simultaneously. Knowledge has therefore a social character and can also be regarded as context dependent. Experience of the surrounding world is a base for understanding; people are consequently involved at all times in an interaction with their world. Learning occurs when people understand and experience something in a way different from their previous understanding and experience. In this sense, in phenomenography, where conception means 'a specific aspect of people's ways of experiencing, or making sense of, their world' (Sandberg, 1994: 47), learning represents a qualitative change from one conception to another.

Fundamental to the phenomenographc approach is the idea that people experience and understand various aspects of, and the phenomena in, the world around them in qualitatively different ways. Instead of focusing separately on the phenomenon being investigated and the people who are experiencing the phenomenon, phenomenography is concerned with the relation between the two, that is, the ways in which people experience or conceptualise the phenomenon, namely their conceptions. For example, in a phenomenographic study of students' learning of acceleration in physics, the focus is not solely on acceleration or features of students, but on the relation between the students and acceleration, that is, on the ways in which acceleration is understood or experienced by the students. As Marton (1986: 33) stated, 'we try to describe an aspect of the world as it appears to the individual.' The emphasis is on 'how things appear to people in their world and the way in which people explain to themselves and others what goes on around them and how these explanations change' (Barnard, McCosker, & Gerber, 1999: 214). More specifically, *how* people go about experiencing and understanding their world is inseparable from *what* they experience and understand, that is, people's experience and understanding is of something and is thus relational. The phenomena, concepts, and principles etc., which are the focus of their experiencing, can be understood in qualitatively

different ways. In other words, people's conceptions of the same phenomenon can be qualitatively different.

With the development of the phenomenographic research approach and its increasing application for research both within and outside of the educational context, it is necessary to make it clear that the distinct research approach *phenomenography* should not be confused with *phenomenology*. As concluded by Marton and Booth (1997), phenomenography and phenomenology both aim to reveal the nature of human experience and awareness as the object of research, but they differ in the ways they go about that enterprise. To the extent that phenomenology is defined through its object of research and is grounded in a set of particular theories and methods, phenomenography could legitimately be seen as a child of the phenomenology family and shares only partly the phenomenological theories and methods. The relationship between phenomenography and phenomenology, described by Barnard, McCosker and Gerber (1999) and Marton and Booth (1997), is summarised and illustrated in Table 2.7 below.

Outcome of phenomenographic research

The outcome of a phenomenographic study is a set of categories of conceptions that describe an aspect of the world. The primary interest is in the variation between people's conceptions of a certain phenomenon. These conceptions are drawn from the analysis of empirical data and based on the most distinctive features that differentiate one conception from another. They are presented in the form of a hierarchy that reflects increasing levels of understanding and provides a basis for decisions about teaching and assessment.

Unit of phenomenographic research

The unit of phenomenographic research is a way of experiencing something, which represents the internal relationship between the experiencer and the experienced (Marton & Booth, 1997). An internal relationship between person and world implies that neither the person nor the world would be the same without the relationship between them. The world is present to the person and is experienced by the person. The person could not be the same person without the world she is experiencing, and similarly the world could not possibly be exactly the same world without the person experiencing it. As described by Marton and Booth (1997: 114), 'in phenomeongraphy individuals are seen as the bearers of different ways of experiencing a phenomenon, and as the bearers of fragments of differing ways of experiencing that phenomenon. The description we reach is a description of variation, a description of the collective level, and in that sense individual voices are not heard. Moreover, it is a stripped description in which the structure and essential meaning of the differing ways of experiencing the

phenomenon are retained, while the specific flavors, the scents, and the colors of the worlds of the individuals have been abandoned'.

In phenomenographic studies, terms such as *conceptions*, *ways of understanding*, *ways of comprehending* have been used interchangeably with *ways of experiencing*. They are all interpreted in the experiential sense, representing the unit of analysis in phenomenographic research (Bowden, 2000; Marton & Booth, 1997). Methodologically, data are usually collected through interviews with individuals, whilst the analysis of the interview transcripts moves from the individuals interviewed to their ways of experiencing, namely, their conceptions. Importantly, the level of phenomenographic studies is individual, whilst the unit of analysis is collective conceptions.

Table 2.7 Relationship between phenomenology and phenomenography*

Phenomenology	Phenomenography
Phenomenology has the programme of developing a single theory of experience by using a particular method, which is a philosophical method. Philosophers engage in investigating their own experience.	In contrast, phenomenographers adopt an empirical orientation: they study the experience of others.
In phenomenology an important division is claimed between prereflective experience and conceptual thought.	In phenomenography the structure and meaning of a phenomenon as experienced can be found both in prereflective and conceptual thought.
Phenomenology is seen as logically preceding the empirical sciences, aimed at clarifying their experiential foundations in the form of a singular essence.	Phenomenography is focused on the ways of experiencing different phenomena. The aim is not to find the singular essence, but the variation and the architecture of this variation in terms of the different aspects that define the phenomena. The set of qualitatively different ways of experiencing a phenomenon is finite but not closed.
Phenomenologists wish to capture the richness of experience, the fullness of all the ways in which a person experiences and describes the phenomenon of interest. In order to describe the person's life world, they might ask 'how does the person experience her world?'	Phenomenographers seek to capture the qualitatively different ways of experience. In order to identify categories of description and the logical hierarchy of the outcome space, they might ask 'what are the critical aspects of ways of experiencing the world that make people able to handle it in more or less efficient ways?'
A noumenal first-order perspective that engages in the psychological reduction of experience, with an emphasis on individual experience.	A second-order perspective in which experience remains at the descriptive level of participants' understanding, and research is presented in a distinctive, empirical manner, with emphasis on collective meaning.

* Based on: Barnard, McCosker and Gerber (1999); Marton and Booth (1997).

2.5.1.3 Phenomenographic methods

Building on the fundamentals of phenomenography, the methods of phenomenographic data collection and data analysis are developed and established below.

Within the phenomenographic approach, data are usually collected by semi-structured interviews. The interview questions are 'as open-ended as possible in order to let the respondents choose the dimensions of the question they want to answer' (Marton, 1986: 42). This non-directive style of the phenomenographic interview has one exception, which occurs when the interviewer uses some pre-determined leading prompts to focus the interview appropriately for the aims of the study in question (Bowden et al., 1992; Walsh, 2000). In other words, the interview should be focused on the way in which respondents understand and experience the phenomenon under investigation, whilst at the same time within the questions there is room for the respondents to choose a perspective and to express it in their own ways. Throughout the interview process, respondents are encouraged to describe and explain their experience and ideas as fully as possible. One of the key features of the phenomenographic interview is the use by the interviewer of follow-up questions such as 'Could you explain that further?', 'What do you mean by that?', and 'Could you give me an example of that?' (Bowden, 2000; Sandberg, 1994). Such questions are posed in order to 'get the interviewees to reflect on what they have expressed, to explain their understandings more fully and to reveal their way of understanding the phenomenon' (Bowden, 2000: 10).

Following the principles of the phenomenographic interview outlined above and Sandberg's (1994, 2000) work, I developed an interview guide, both in English and Chinese, for this research. This will be described together with the whole interview process in detail in Chapter 3.

Phenomenographic interviews are typically tape-recorded and transcribed verbatim, making the transcripts the focus of the analysis. The process of phenomenographic analysis is often described as a 'discovery' (Hasselgren & Beach, 1997). The set of categories of general conceptions and concrete meanings must emerge from the empirical data. There should be no attempt to analyse or fit the data into predetermined categories (Francis, 1996). In Chapter 3, I will describe in detail the relevant credibility issue of this research.

Despite the claim that there can be no algorithms for a process of discovery, there are clear guiding principles that lead to a certain commonality in approach (Marton, 1986). By reviewing past descriptions of the process of phenomenographic analysis (see, for example, Bowden, 2000; Dall'Alba, 2000; Francis, 1996; Marton, 1986; Marton & Booth, 1997; Prosser, 2000),

Akerlind (2002b: 2, italics in original) summarised the following common principles of the phenomenographic analysis:

> 'Paramount is the importance of attempting, as far as possible, to maintain an open mind during the analysis, minimising any predetermined views or too rapid foreclosure in views about the nature of the categories of description, and being willing to constantly adjust one's thinking in the light of reflection, discussion and new perspectives. Maintaining a focus on the transcripts and the categories of description *as a set*, rather than on individual transcripts and individual categories of description is also essential. That is, reading of individual transcripts and defining of individual categories should occur within the context of identifying similarities and differences amongst transcripts and relationships between categories, *as a group*.
>
> The analysis usually starts with a search for meaning, or variation in meaning, across interview transcripts, and is then supplemented by a search for structural relationships between meanings. ... In the early stages, reading through transcripts is characterised by a high degree of openness to possible meanings, subsequent readings becoming more focused on particular aspects or criteria, but still within a framework of openness to new interpretations, and the ultimate aim of illuminating the whole by focusing on different perspectives at different times.
>
> The whole process is a strongly iterative and comparative one, involving the continual sorting and resorting of data, plus ongoing comparisons between the data and the developing categories of description, as well as between the categories themselves. A primary feature of the constitution of categories of description is the search for key qualitative similarities within and differences between the categories. In practical terms, transcripts or selected quotes are grouped and regrouped according to perceived similarities and differences along varying criteria. ...'

Sandberg (1997: 210) also concluded the following interpretive guidelines:

- 'an orientation towards the phenomenon and how it appears throughout the research process;
- seeking to describe the experience under investigation, rather than trying to explain it;
- horizontalizing the material being analysed - treating everything which is said as being of equal importance;
- seeking structural features in the experience under investigation;
- using intentionality as a correlational rule (looking at what is focused on and how it is represented).'

The same focus on the way in which respondents understand and experience the phenomenon under investigation, which is maintained throughout the interview, should also guide the analysis of the transcripts. Meanwhile, the emphasis on an iterative process involving looking at the data from different perspectives or foci at different times is the most common

method. The various foci can include focusing on the 'how' and 'what' aspects of the phenomenon under investigation and similarities and differences within and between categories and transcripts associated with particular categories, and so on. As Marton (1986: 43) pointed out:

> 'An important difference between this way of proceeding and traditional content analysis is that, in the latter case, the categories into which the utterances are sorted are determined in advance. ... The process [of phenomenographic analysis] is tedious, time-consuming, labor-intensive, and interactive. It entails the continual sorting and re-sorting of data. Definitions for categories are tested against the data, adjusted, retested, and adjusted again. There is, however, a decreasing rate of change, and eventually the whole system of meanings is stabilized.'

In accordance with these principles, some authors have tried to describe the whole process of phenomenographic analysis as a series of steps (see, for example, Marton, 1986; Patrick, 2000; Sandberg, 1994). This practice has made it easier for new phenomenographers to grasp and follow the method. Sandberg (1994, 2005) also demonstrated how the data collection and analysis process in his study guaranteed its validity and reliability. In particular he stressed that the researcher needs to make their interpretive steps and procedures for achieving faithful descriptions of the data clear to readers by fully detailing the steps and presenting examples that illustrate them. In this research I follow the principles discussed above and broadly apply Sandberg's interpretive steps. I describe the whole analysis process and the credibility issue of this research in detail in Chapter 3 of the thesis.

2.5.2 Application of phenomenography for studying competence

As introduced in the previous section, phenomenography was developed from an educational interest, and offers a way of describing intended or actual outcomes of learning. It aims at depicting not only how students experience learning but also why some learn better than others, namely, students' different hierarchies of capabilities of experiencing learning (Marton & Booth, 1997).

Accordingly, within phenomenography, competence is less a question of grasping and applying knowledge and procedures to phenomena, than of conceiving and experiencing phenomena in particular ways (Marton, 1992). Both within and outside of the educational context, by describing people's ways of experiencing various phenomena in their world, namely, people's conceptions of their world, phenomenography provides the potential to describe competence more directly and capture the whole range of competence within a group of people, from least to most comprehensive (Sandberg, 1994). Inspired by Sandberg's application of phenomenography for studying competence at work, in this section, I describe a brief review of approaches to competence in both general literature and project management literature, highlighting the opportunity to develop an interpretive

understanding of project management competence in the two cultures while exploring and comparing Chinese and Western conceptions of project management work in this research.

2.5.2.1 Competence

The concept of *competence* has been applied at both the organisational level (see, for example, Prahalad & Hamel, 1990) and the individual level (see, for example, Boyatzis, 1982; Sandberg, 1994). The latter is the concern of this research. There has been a large volume of literature on individual competence at work that uses different approaches and leads to different concepts.

The word *competence* comes from the Latin *competens*. The verb form of *competens* is *competere*, which consists of two parts: *com* that means 'together', and *petere* that means 'to strive'. So literally *competere* means 'to strive together' (Frame, 1999). Though it has the same Latin origin as the word *competition*, competence was once a simple term, defined as 'power, ability or capacity (to do, for a task etc.)' (Brown, 1993: 459).

Since the late 1980s the terms *competence* and *competency* have become increasingly fashionable (Iles, 1993) and have acquired new layers of meaning, mainly in general and human resource management (Crawford, 2000). Yet 'the concept of competence... remains one of the most diffuse terms in the organisational and occupational literature' (Robotham & Jubb, 1996: 35).

The use of the terms *competence* and *competency* has increased the confusion. The popularity of *competency* derives from the work of Boyatzis (1982) and Spencer and Spencer (1993) based on 'behavioural event interview' research by the McBer consultancy in the late 1970s in the USA, where a *competency* is defined broadly as an underlying personal characteristic (Iles, 1993; Woodruffe, 1992).

In the late 1980s in the UK, the formation and development of the Management Charter Initiative (MCI), the National Council for Vocational Qualifications and the Scottish Council for Vocational Qualifications led to the association of the term *competence* with 'standards of performance in specific functions' rather than underlying characteristics (Iles, 1993: 63).

These two streams of initiatives have inspired the rise of interest and the wealth of debate around the concept of competence (Collin, 1989). They also represent different approaches to competence at work, categorised by different authors as 'person-focused' vs. 'job-focused' (Holmes & Joyce, 1993), 'person-oriented' vs. 'task-oriented' (Iles, 1993), and 'worker-oriented' vs. 'work-oriented' (Sandberg, 1994). However, as discussed later these approaches all derive from a research tradition based on rationalism.

Since this research follows Sandberg's (1994, 2000) study and intends to understand project management competence at work, in the interests of consistency the term *competence* will be used, with the exception of direct citations that use the term *competency* in the original.

2.5.2.2 Two fundamental approaches to competence at work

In this section I examine two fundamentally different approaches to competence, namely, *rationalistic* and *interpretive* approaches. The latter includes Sandberg's (1994, 2000) phenomenographic study of human competence at work.

Rationalistic approaches to competence at work

Taylor (1911) was one of the first to address the question of what constitutes competence at work, and his well-known 'time and motion studies' were based on scientific principles. Although later authors (see, for example, Armstrong, 1991; Ferris, Rowland, & Buckley, 1990) used 'job analysis' instead of 'time and motion studies' to identify competence at work, the dominant approach is essentially based on the same scientific, rationalistic tradition. Three principal rationalistic approaches to competence at work can be distinguished: *worker-oriented*, *work-oriented* and *multimethod-oriented* (Sandberg, 1994; Veres, Locklear, & Sims, 1990).

The *worker-oriented* approach to studying competence at work takes the worker as the point of departure, and emphasises workers' attributes such as knowledge, skills and abilities (KSAs) and personal traits (Veres, Locklear, & Sims, 1990). Since different work requires different competences the worker-oriented approach has been criticised as being generic and context-independent (Iles, 1993).

The *work-oriented* approach takes work as the point of departure, and treats work as existing independently of the worker, definable in terms of the technical requirements of work tasks (Holmes & Joyce, 1993). The MCI model is an example of this approach, which uses functional analysis of work activities to define performance standards. As described by Sandberg (2000), advocates of this approach argue that by identifying work activities that are central for accomplishing specific work and then transforming those activities into personal attributes, more concrete and detailed descriptions of competence can be generated, and thus, the problem of using the worker-oriented approach can be largely overcome. However, the work-oriented approach has been criticised for two reasons. First, it is difficult to transform descriptions of work activities into attributes, and second, it is questionable whether a list of work activities can be sufficient for indicating all the attributes required (Raven, 1984).

In an attempt to avoid the criticisms against the above worker- and work-oriented approach, the *multimethod-oriented* approach is more comprehensive, obtaining both worker- and work-oriented information. For example, Veres, Locklear, and Sims (1990) adopted a multimethod-oriented approach to identify competence of police lieutenants in a large metropolitan police department. Both the work performed and the attributes of the workers performing that work were identified. The final outcome consisted of 23 police work activities and 46 worker attributes expressed in the form of KSAs. Nevertheless, the multimethod-oriented approach still regards competence as constituted by a specific set of attributes, and the lists of context-independent KSAs are questionable.

In all of these rationalistic approaches competence is seen as an attribute-based phenomenon, constituted by a specific set of attributes. The underlying philosophical assumptions are a dualist ontology, which considers the person and the world as distinct entities, and an objectivist epistemology, which considers an objective reality as being independent of and beyond the human mind. As a result, descriptions are indirect, viewing competence 'as consisting of two independent entities - prerequisite worker attributes and work activities', which 'do not illuminate what constitutes competence in accomplishing work' (Sandberg, 2000: 11).

Interpretive approaches to competence at work and Sandberg's phenomenographic study

Being fundamentally different from rationalistic approaches, the main feature of interpretive approaches to human competence is their basis in phenomenology, which assumes that 'person and world are inextricably related through people's lived experiences of the world' (Sandberg, 2000: 11). Accordingly worker and work are considered as one entity formed through the lived experience of work, and workers' lived experience of work is taken as the point of departure. Competence is seen as 'constituted by the meaning the work takes on for the worker in his or her experience of it' (Sandberg, 2000: 11).

An interpretive approach that stressed the context-dependent nature of competence and the emphasis on workers' ways of experiencing their work was used by Dreyfus and Dreyfus (1986) in their study of competence acquisition among airplane pilots, chess players, automobile drivers and adult learners of a second language. Further interpretive studies include Benner's (1984) identification of 31 essential, context-dependent aspects of competence in nursing, in which she concluded that nurses experience and accomplish the same nursing situation differently. Fielding's (1988) ethnographic research into policing showed that those KSAs identified by Veres, Locklear, and Sims (1990) such as 'observation' or 'negotiation' have

different meanings in different contexts and are understood differently by different officers.

Different from previous interpretive studies, Sandberg (1994) developed an interpretive approach to studying competence at work based on phenomenography. In his phenomenographic study of competence at work, Sandberg (1994, 2000) found that:

(1) a worker's way of understanding work maintains certain attributes as essential and organises them into a particular form of competence in accomplishing that work, and hence has an integrative function in constituting competence;
(2) ways of understanding work may demonstrate variation in competence in that work, and these variations may form a hierarchy of competence in terms of increasing advanced forms of understanding that work. This provides insights into the understanding of how competence is developed.

Sandberg's most central methodological premise is that '...competence is not primarily a specific set of attributes. Instead, workers' knowledge, skills, and other attributes used in accomplishing work are preceded by and based upon their conceptions of work'. More specifically, his findings suggest that 'the basic meaning structure of workers' conceptions of their work constitutes human competence' (Sandberg, 2000: 20). The term conception here is 'used to refer to people's ways of experiencing or making sense of their world' (Sandberg, 2000: 12).

Table 2.8 below illustrates the main differences between rationalistic approaches and the phenomenographic approach to studying competence at work.

Table 2.8 A summary of rationalistic approaches vs. phenomenographic approach to competence at work*

	Rationalistic approaches			Phenomenographic approach
	Worker-oriented	**Work-oriented**	**Multimethod-oriented**	
Point of departure	The worker	The work	The worker and also the work	One entity = worker+work, i.e. workers' conceptions of their work
Competence	Attribute-based phenomenon; Context-independent			Worker's conceptions of work, i.e. the meaning the work takes on for the worker in his/her experience of it; Context-dependent
Philosophical assumptions	Dualistic ontology - person and world are distinct entities; Objectivistic epistemology - an objective reality exists independent of and beyond the human mind			Phenomenological base - person and world are inextricably related through persons' lived experience of the world
Descriptions	Indirect, viewing human competence as consisting of two independent entities - prerequisite worker attributes and work activities, thus do not illuminate what constitutes competence in accomplishing work			Direct, viewing worker and work as one entity forming through the lived experience of work. Workers' ways of conceiving work make up, form, and organise their knowledge and skills into distinctive competence in performing their work
Competence development	To transfer important attributes to workers who do not possess them			To change workers' conceptions of their work

*Based on: Sandberg (1994, 2000).

2.5.2.3 Project management competence

Existing studies of project management competence follow two strands. The first takes a work-oriented approach to competence, and focuses mainly on the development of project management standards (Partington & Young, 2002). The three most popular project management standards described in Section 2.1 all take project activities as the point of departure, and all have been developed primarily based on experts' opinions or consultation with employers and practitioners (Crawford, 2000; Morris, 2001).

The second strand, which takes a worker-oriented approach, seeks to define sets of generic personal characteristics of competent project managers, reflecting the argument that being a competent project manager requires more than having the 'hard' project management knowledge and skills as described in the project management standards (see, for example, Frame, 1999; Kliem & Ludin, 1992). The fashion for lists of 'soft' personal characteristics required by competent project managers is revealed in a variety of texts and research-based reports. For example, Pettersen (1991) drew up a list of predictors for selecting competent project managers. The list combines specialised knowledge, effective actions and personal qualities such as loyalty, self-confidence and the desire for achievement. Verma (1996) suggests various characteristics that project managers should have, including being high achievers, being able to co-ordinate and integrate across multi-functional lines, and having strong communications and interpersonal skills. Turner (1993) listed six traits for effective project managers: problem-solving ability and results orientation, energy and initiative, self-assured personality, sense of perspective, good communications skills, and negotiating skills. Frame's (1999) conceptualisation of project management competence contained both 'hard' and 'soft' competences. In addition to a list of hard skills based on the *PMBOK® Guide*, he included a list of 'people management' skills, including interpersonal and intra-personal intelligence competences such as empathy, and specific social competences such as political skills.

In addition to these theoretically-based models there are a number of empirically-based frameworks. For example, based on previous studies (see, for example, Thamhain & Gemmill, 1974) and interviews with 220 project managers, Thamhain (1991) maintained that three areas of skills - leadership and interpersonal, technical, and administrative - are required by project managers. Strohmeier's (1992) survey identified four areas of skills: influence and motivation, conflict, communications, and teamwork and co-operation. Wateridge (1998) interviewed 27 project managers in IS/IT projects and concluded that organisational, interpersonal and communication skills are important. Gadeken (1994) used a critical incident interview method to study 75 project managers consisting of a group of outstanding performers and a group of average performers. His findings from interviews were then validated with a survey of 239 project managers. He identified

eighteen competence elements and considered that six of these elements differentiated the outstanding project managers from their less competent peers. The six elements are: sense of ownership/mission, political awareness, relationship development, strategic influence, interpersonal assessment and action orientation. He (Gadeken, 2000) later reduced the differentiators to just two, namely strong commitment to a clear mission and thriving on relationships and influence.

Therefore, it can be concluded that existing studies of project management competence accord with the rationalistic approaches to understanding competence at work, whereby project management competence is described as a specific set of attributes, either 'hard' components of a standard or 'soft' characteristics hidden in personal qualities. By separating project managers from their work activities, the indirect description of context-free attributes specifies the prerequisites for what competent project managers should know and do rather than whether and how they will use these attributes in the workplace. In particular, the tacit dimension of competence that is apparent only in the workplace is overlooked (Polanyi, 1966). Since project management is above all a practical rather than a theoretical discipline, project managers' tacit competence and their capability to integrate effectively both their tacit and explicit knowledge into their work should not be neglected. It is therefore necessary to have a new understanding of project management competence. In the next section, I summarise the opportunity for applying phenomenography in this research to both explore project managers' conceptions of their work and have an interpretive understanding of their competence in accomplishing work, both in China and the UK.

2.5.3 Conclusion – an opportunity to take the phenomenographic approach in this research

As concluded in Section 2.4, this research seeks to gain an interpretive understanding of Chinese managers' conceptions of Western-originated project management theories and practices, and to compare them with those held by matched Western project managers. A review of phenomenography as an interpretive research approach to exploring conceptions in Section 2.5.1 demonstrates an opportunity to adopt the phenomenographic approach for this research. Also, as introduced in Section 2.5.2, the application of phenomenography for studying competence provides an opportunity to have a new understanding of project management competence, both in China and the UK, when exploring and comparing Chinese and Western project managers' conceptions of their work. More specifically, I have chosen phenomenography for the purpose of this research for six main reasons, summarised below:

First, as an interpretive approach, phenomenography focuses on the internal relation between person and the world rather than focusing on either the

person or their world separately. This has the potential to provide a direct and full description of project managers' conceptions of their work.

Second, within phenomenography, the term *conception* means 'people's ways of experiencing or making sense of their world' (Sandberg, 2000:12). Having a clear definition for any term or concept in a cross-cultural study is particularly necessary in order to avoid confusion. Moreover, this phenomenographic definition of the term conception also reflects exactly what this research intends to explore, namely, what are Chinese project managers' understandings of the Western originated project management theories and how do they use and experience these theories in their practical work. As concluded in Section 2.4, few previous cross-cultural studies of people's conceptions of a reality have taken an interpretivist stance nor have defined what it is meant by *conception*.

The third reason for preferring phenomenography lies in its focus on variations. It provides the potential to identify not only variation of conceptions of one cultural group but also variation of conceptions of the same phenomenon in the two cultures. As Marton (1986) suggests, a careful account of people's conception of a reality may help uncover conditions that facilitate the transition from one conception to a qualitatively different or 'better' conception of the reality. Such research would better serve the purpose of understanding why certain conceptions are more prevalent in one culture than in another. In the meantime a comparison of the similarities and differences of conception across cultures may provide insights for good management practice and effective cross-cultural cooperation.

Fourthly, compared to other interpretive approaches, the established phenomenographic approaches to data collection and analysis, described in previous sections, such as asking follow-up interview questions and staging the iterative analysis process into steps, are easier for a new researcher to grasp and follow. This is particularly important to ensure the completion of such a time-constrained cross-cultural PhD research project, which involves interviews in different languages with very busy frontline project managers working in the two countries.

Fifthly, although it is based on conceptions at the individual level, the phenomenographic approach does not ultimately focus on the individual, but rather on the collective ways of understanding and experiencing – namely, conceptions. Phenomenography is different from other interpretive approaches because it involves a 'second-level' analysis which seeks to develop categories of description, grouping together people's similar conceptions of a particular phenomenon. This makes it possible to go further than the individual case and to recognise common ground in different project managers' conceptions of their work, both within one culture and across the two cultures, which matches the purpose of this research.

Lastly, Sandberg's (1994, 2000) phenomenographic study of competence at work gives rise to a fundamental premise that practicing project managers' conceptions of their work constitute project management competence in accomplishing work, which provides an opportunity to have a new understanding of project management competence, both in China and the UK, when exploring and comparing Chinese and Western project managers' conceptions of their work. Hence, the phenomenographic approach unites Chinese/Western differences of conception with project management competence in a way which has the potential to contribute to knowledge in both domains.

2.6 Conceptual framework and research question

Thus far I have presented an analysis of the literature in relation to core contents of Western originated project management work, Chinese/Western cultural differences and their potential implications for Chinese and Western different conceptions of project management work, project management competence, and the phenomenographic approach to both conceptions and competence. The knowledge gaps identified from the analysis inform both the substantive and methodological orientations of the research, as concluded in Sections 2.4 and 2.5.3 above. Two principal and related strands are apparent.

First, cross-cultural literature provides ample evidence that Chinese and Western cultures are based on fundamentally different norms and conceptions of social reality that shape management beliefs in important ways. Although there have been many China-related studies and increasing numbers of cross-cultural comparisons addressing the cultural implications for transferring management theories and practices across borders, little has been done to question the recent moves to transpose Western project management theories and practices into the Chinese cultural context. Methodologically most current Chinese and Western comparative studies are based on questionnaire surveys. Moreover, university students and Hong Kong or Taiwan managers (particularly when the mainland China was still closed to the outside world before the 1990s) have been frequently used as proxies of Chinese samples. To date, empirical China-related cross-cultural comparisons of practicing managers' norms and conceptions of their reality, particularly in the context of project management work, remains limited. There is a need for an interpretive exploration and comparison of Chinese and Western practicing project managers' conceptions of their work.

Second, a review of an established interpretive approach to understanding conceptions, namely, phenomenography, illustrates its potential for this research. Meanwhile, its recent application for understanding management competence provides an opportunity for a new understanding of project management competence while exploring and comparing project management conceptions in the two cultures. Current studies of

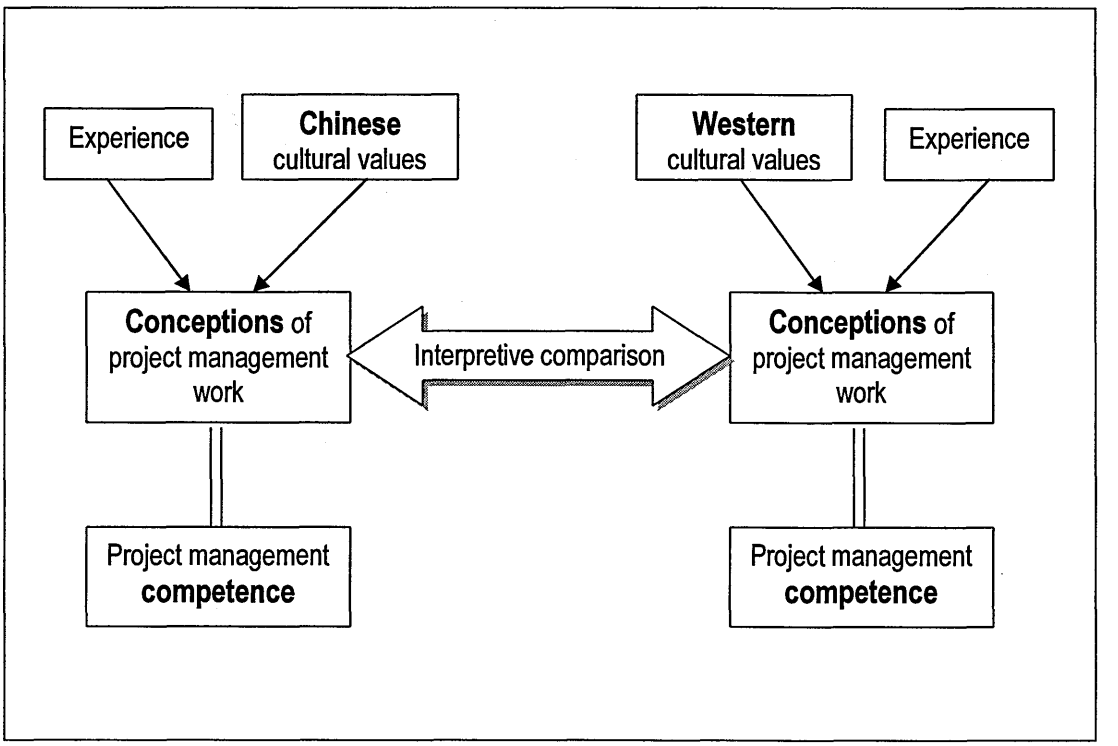
management competence have been dominated by rationalistic approaches, whereby competence is described as a specific set of pre-defined context-free attributes such as knowledge, skills and abilities. In project management literature these lists of attributes are acquired mainly by surveying experts' opinions. Sandberg's (1994, 2000) phenomenographic study of competence at work suggests that the basic meaning structure of people's conceptions of their work constitutes competence.

In summary, there is a clear opportunity to conduct an interpretive study of the meanings attached to their work by practicing project managers in the two cultures in order to (1) understand and (2) compare their conceptions of their work. The interpretive approach, phenomenography, founded for identifying and describing people's ways of experiencing their world, namely, their conceptions of the world, matches the purpose of the research, offering an opportunity to develop simultaneously a new and comparative understanding of project management competence in both cultures.

I summarise this analysis of literature in the conceptual framework shown in Figure 2.1, and formulate the research question, which is:

What are the similarities and differences between Chinese and Western project managers' conceptions of their work?

Figure 2.1 The conceptual framework



2.7 A summary of five key terms used in this research

In order to help readers follow the thesis I summarise the meanings of five key terms used in this research in Table 2.9 below:

Table 2.9 Meanings of the five key terms used in this research

Term	Meanings taken in this research
Culture	A combination of the three descriptions of culture by Kroeber & Kluckhohn (1952), Hofstede (1984), and Trompenaars & Hampden-Turner (1997). Central to all of these descriptions is the notion that *culture* consists essentially of people's collective deeply-held values and beliefs.
Conception	'People's ways of experiencing or making sense of their world' (Sandberg, 2000:12).
Phenomenography	A research approach 'for mapping the qualitatively different ways in which people experience, conceptualize, perceive, and understand various aspects of, and phenomena in, the world around them' (Marton, 1986:31).
Competence	In rationalistic approaches, competence is seen as an attribute-based phenomenon, constituted by a specific set of context-free attributes. In the phenomenographic approach, attributes used in accomplishing work are context-dependent, and are preceded by and based upon workers' conceptions of work. The basic meaning structure of workers' conceptions of their work constitutes their competence (Sandberg, 1994, 2000).
Attribute	Typically knowledge, skills, abilities (KSAs) and personal traits people possess and use in accomplishing their work.

CHAPTER 3 RESEARCH DESIGN AND METHODS

In this Chapter I describe the research design and methods. In Section 3.1 I define the sampling decision and outline the final sample. In Section 3.2 I describe the preparative interview exercise and present the interview guide both in English and Chinese. In Section 3.3 I describe the interview process and the two stages of the fieldwork conducted in the research. In Section 3.4 I describe the analysis of data. Finally in Section 3.5 I address the research credibility issue.

3.1 Sampling decision

In this section, I first explain rationale for choosing the construction sector to be the research context in Section 3.1.1. Then I present the criteria for selecting samples in the two nations in Section 3.1.2. In Section 3.1.3 I outline my access to samples. And in Section 3.1.4 I summarise the final sample of the research.

3.1.1 The research Context

The construction sector was chosen as the context for this research primarily for two reasons. First, the construction sector is one of the origins of the project management discipline, and construction projects have relatively well-defined goals and methods for achieving them (Turner & Cochrane, 1993). This offers to provide a more stable and homogeneous context for capturing project managers' conceptions of their work and for comparing conceptions in the two cultures.

Second, the construction sector in China is vast and important. It employed about thirty five million people and contributed seven per cent to GDP in 2003 (MoC, 2004). It performed quite poorly under China's pre-reform central-planning socialist system. Since the 1980s it has undergone major reforms towards adopting a commercial approach, including the introduction of project management concepts and practices and the establishment of the system for project manager certification and administration. In 1995 the Ministry of Construction (MoC) promulgated the 'Measures for Administration of the Qualifications of Project Managers of Construction Enterprises', which stipulates, among other things, the procedure for obtaining the different level of qualifications of project managers. However, since the qualification is certified and administrated by the construction firms themselves, it is more likely a process following the governmental administrative command rather than obtaining professional certification (Chen, 2001). Not surprisingly the recent launch of the Western project management professional certification programme in China (as introduced in Chapter 1) has attracted more and

more construction companies and has put pressure on the MoC to update its project manager certification and administration system. It is my hope that this research will interest and benefit the MoC, and the results will also provide some insights to the Western project management professional associations, such as PMI and IPMA helping their efforts to introduce professional project management training and certification into China.

A further practical reason for choosing the construction sector was that my past experience working in a Chinese international construction company would help me get access to Chinese samples. At the same time my background knowledge and understanding of construction projects would enable me to facilitate the interview questions and analysis (Walsh, 2000), and therefore enhance the communicative validity discussed in Section 3.5.

3.1.2 Sample selection criteria

The selection of samples was driven by the major intention of the research – a cross-cultural comparison of Chinese and Western project managers' conceptions of their work. In order to highlight the cultural influences on project managers' conceptions of their work, the samples of Chinese and Western informants were to be matched as far as possible in terms of their experiences and the nature and content of their work.

At first it seemed that joint venture projects would be perfect for providing matched working settings. However, a project can have only one project manager, even a joint venture project. There might be a person in charge from both the Chinese and Western parties within a joint venture project, but their roles on the particular project could not be equally the project manager. Thus this was ruled out as infeasible early in the research process.

I then decided to select samples from Chinese and UK construction firms respectively. In order to recruit appropriate and matched samples, I set out the following criteria based on my own knowledge of the construction sector and project management in the two countries. I had also considered the comment by Adler (1983) and (Peng, Peterson, & Shyi, 1991) that matched samples in comparative management research should be functionally, rather than literally, equivalent. For example, Chinese and UK respondents in this research might not all be called 'project manager' in their work (for example, in some UK firms, they were called 'construction manager'), their functional equivalence was pursued by defining the content and responsibility of their work. The criteria for selecting informants included:

- They were from construction firms in China and the UK that were usually main contractors. Firms that had been, or were seeking to become, involved in cross-cultural projects, particularly those UK firms who already set up business in Mainland China and/or Hong Kong, were preferred. These firms were considered more likely to be interested in

this research and therefore more likely to provide access. The practical implications of the research would be more obvious to them.

- They were responsible for delivering the current project according to the main contract conditions signed between their firm and the client/owner of the project under construction.

- They were working on the construction site together with a project team, with subcontractors and suppliers usually employed for accomplishing the project.

- The projects they were working on were of medium size (not too small or too large), and not too complex or novel or involving high technology. Building, road and bridge projects were preferred.

- Ideally, they had been educated and trained in engineering or construction and had received some training in project management fundamentals.

- They were of middle age (30s-40s).

These criteria were considered in selecting all samples both in China and the UK. In practice, of course, some adjustments and compromises had to be made in accessing samples, as described in the next section.

3.1.3 Access to samples

Access to Chinese firms was obtained mainly through my previous work contacts and friends, and my husband's colleagues and friends. Access to UK samples was gained mainly through my previous contacts at UMIST, my supervisor's contacts and Cranfield University's Estate Department. Accordingly the Chinese samples were recruited in the Beijing area where I am from, and the UK samples were recruited from the Midlands in England where Cranfield University and UMIST are located. To some extent this geographical concentration served to minimise the domestic (within each nation) cultural variations, but it has at the same time limited the applied implications of the research findings, to be discussed further in Chapter 7.

Efforts were made to contact senior managers in construction firms who could then offer access to the firm's project managers. For example, one senior manager in the Chinese firm I used to work with (an international trading/contracting firm whose business/projects are all outside China, but has some local associates) helped me get in touch with directors in two major construction firms in Beijing. The two directors then each offered me three names and contact numbers of their project managers. I finally got to interview five of them during the pilot study. One director also kindly introduced me to a senior person in another firm where I got access to

another four respondents during the main study. Another major source of help for getting access to Chinese samples was my husband, whose company was investing in a notable new residential area in Beijing. The overall project was organised into three phases (luckily covering my PhD period) involving many organisations who were happy to offer me access to their project managers.

The case for getting access to UK samples was similar. For example, during the pilot study, a friend of my supervisor put us in touch with senior managers in two major construction firms. One of them then arranged for me to interview four managers working in the London area. Another offered access through the personnel manager in the company's Manchester Office to their four project managers in the region. During the main study Cranfield University's Estate Department provided much help, introducing me to several local firms. My former MSc supervisor at UMIST also provided contacts with one major firm where I got access to three respondents.

In approaching each potential sample, the criteria outlined in Section 3.1.2 were explained in detail to the person in contact with so that they could help ensure that the right respondents would be accessed in the first place. In conclusion, the criteria in terms of the content and nature of project managers' work and their corresponding tasks and responsibilities have been followed strictly, whilst some compromises in terms of other criteria such as the respondents' age, education, and size of the projects under construction were inevitable. Such compromises were first made considering the time constraints and difficulties in getting access. I later realised that such compromises were acceptable since most respondents have worked on various projects of different size and types. When they responded to my questions during interviews they talked about and gave examples not only from their current project but also from other projects they had experienced.

In most cases I was offered the names and contact numbers of potential respondents. One common difficulty encountered afterwards in both China and the UK was to fix a time with these busy frontline managers. Even though I made myself available at any time on any day, one Chinese and two British could not make it at last. At the beginning I always told them that I only needed about one hour; later I realised that one hour might have been considered too long for them to spare. So I changed it to about 45 minutes, avoiding the word *hour*. I always tried to arrive early so as to take the opportunity to start the interview earlier and make it longer. Actually all the respondents were very helpful and kindly offered adequate time whenever possible. One interview in the UK was interrupted after twenty minutes, so it was dropped. All the interviews taken for the final sample of the research lasted for more than one hour.

3.1.4 The final sample

The final sample consisted of 30 Chinese and 30 UK project managers, selected from 32 Chinese and 33 UK interviewees. The interview process and all interviews conducted for this research are described later in Section 3.3, and summarised in Table 3.6. The sample size was determined by the achievement of theoretical saturation (Glaser & Strauss, 1967), whereby the emergent consistency of conception among respondents led to no significant new conceptual attributes being discovered. Further, previous phenomenographic studies have shown that the variation of a phenomenon usually reached saturation at around 20 interviewees (Alexandersson, 1994, cited by Sandberg, 2000). Some phenomenographic researchers (see, for example, Trigwell, 2000) have also recommended reasonable sample size being a data management strategy.

I list some demographic information in Table 3.2 on the Chinese sample and in Table 3.3 on the UK sample, based on which I make a summary of all the samples' demographic information in Table 3.1. The relations between respondents' demographics and their variation in conceptions of project management work are discussed in Chapters 4 and 5.

Table 3.1 A summary of samples' demographic information*

		Chinese sample (n=30, from 10 firms)	**UK sample** (n=30, from 12 firms)
Age	20s	1	1
	30s	19	9
	40s	10	13
	50s	0	7
Types of projects	Building	23	24
	Road/bridge	3	0
	Utilities/facilities	4	6
Education	Degree	18	17
	No-degree	12	13

*For details, please see Tables 3.2 and 3.3.

Table 3.2 List of Chinese samples' demographics

S/N	Name	Sex	Age	Highest qualification	Formal education degree	No. of years in CI	No. of years as PM	Type of project under construction	Value (approx.) (£million)
1.	WAP	Male	33	BEng in Building	Yes	11	4	Residential building	4
2.	ZXL	Male	38	Junior college in Building	No	18	7	Office building	11
3.	WKL	Male	39	Junior college in Building	No	17	6	Complex building	3
4.	ZZL	Male	36	BEng in Road & bridge engineering	Yes	15	6	Highway	11
5.	CLY	Male	44	BEng in Building	Yes	21	10	Theatre complex building	17
6.	JCY	Male	37	Junior college in Building	No	15	6	Office building	8
7.	CMF	Male	39	BEng in Building	Yes	16	8	Complex building	10
8.	LLJ	Male	40	BEng in Building	Yes	15	10	Residential building	9
9.	ZBH	Male	34	Junior college in Building	No	11	4	Office building	5
10.	WSL	Male	42	BEng in Road & bridge engineering	Yes	20	14	Highway interchange	18
11.	SWH	Male	35	BEng in Building	Yes	12	8	Residential building	10
12.	LCH	Male	30	BEng in Building	Yes	8	3	Office building	2
13.	XSG	Male	45	BEng in Building	Yes	24	12	Residential building	8
14.	ZLQ	Male	42	BEng in Building	Yes	20	11	Residential building	7
15.	LWE	Male	28	Junior college in Road & bridge engineering	No	8	1	Water supply	1

16.	GDF	Male	45	BEng in Road & bridge engineering	Yes	23	10	Highway	8
17.	WSJ	Male	38	Technician	No	20	5	Residential building	2
18.	FFZ	Male	43	Junior college in Building	No	22	10	Residential building	3
19.	SZY	Male	35	Technician	No	17	3	Complex building	3
20.	LYL	Male	37	Technician	No	14	5	Residential building	2
21.	XYJ	Male	42	Junior college in Building	No	19	8	Residential building	2
22.	JGJ	Male	35	BEng in Building	Yes	13	8	Residential building	5
23.	MZS	Male	43	Technician	No	22	9	Residential building	2
24.	ZTO	Male	33	BEng in Building	Yes	11	7	Complex building	10
25.	WYP	Male	30	BEng in Building	Yes	8	4	Complex building	7
26.	LJL	Male	34	BEng in Mechanical Engineering	Yes	11	6	Residential building	13
27.	ZLE	Male	30	MSc in Construction management	Yes	6	2	Office building	8
28.	LJJ	Male	41	Junior college in Mechanics	No	20	7	Utilities maintenance	5
29.	CDF	Male	37	MSc in Civil Engineering	Yes	15	8	Utilities maintenance	10
30.	HCR	Male	39	MSc in Tele. Engineering	Yes	18	9	Utilities maintenance	9

Table 3.3 List of UK samples' demographics

S/N	Name	Sex	Age	Highest qualification	Formal education degree	No. of years in CI	No. of years as PM	Type of project under construction	Value (approx.) (£million)
1.	MIH	Male	29	BEng in Civil engineering	Yes	6	1	Residential building	15
2.	JOA	Male	42	3 'A' levels	No	23	9	Residential building	15
3.	TRG	Male	51	Technician	No	35	16	Residential building	85
4.	CHL	Male	54	MCIOB	No	38	21	Residential building	20
5.	ROW	Male	47	Technician	No	28	9	Complex building	5.3
6.	ASR	Male	30	BSc, Quantity Surveyor	Yes	6	3	Building refurbishment	0.4
7.	STR	Male	42	HND in Building	No	23	7	Building interiors	0.5
8.	PAS	Male	39	BSc in Civil engineering	Yes	14	8	Complex building	17.4
9.	ADR	Male	38	HND in Mechanical engineering, ACIOB	No	9	4	Car Park building	8
10.	DAB	Male	36	BSc in Civil engineering MCIOB	Yes	13	7	Residential building	10
11.	CHH	Male	49	PART, RICS	No	30	8	Building refurbishment	0.15
12.	RIW	Male	36	BEng in Civil engineering	Yes	13	9	Complex building	1
13.	ANM	Male	55	BEng in Civil engineering	Yes	34	24	Office building	3
14.	JOD	Male	52	BEng in Building, MBA	Yes	30	18	Complex building	500

15.	MAK	Male	42	Structural Engineering, Post Grad Diploma in Utilities management	Yes	15	15	Utilities maintenance	30
16.	DAT	Male	33	Civil Engineering, Diploma in Building management	Yes	13	8	Utilities maintenance	30
17.	SIP	Male	46	O.N.C. Electrical Engineering	No	25	18	Utilities maintenance	22
18.	PAD	Male	42	MBA, MCMI, IEng	Yes	17	15	Facilities maintenance	20
19.	RAC	Male	55	Technician	No	35	20	Facilities maintenance	30
20.	MIF	Male	47	MBIFM	No	31	15	Facilities maintenance	3.5
21.	TOH	Male	39	BSc in Building	Yes	17	1	Warehouse building	6.5
22.	JOM	Male	40	BSc in Building	Yes	15	10	Complex building	700
23.	BIK	Male	47	MCIOB	No	29	22	Complex building	16
24.	BOG	Male	43	BSc in Building	Yes	21	11	Building refurbishment	3.7
25.	ANT	Male	36	BSc in Building, MCIOB	Yes	13	2	Office building	8
26.	STM	Male	53	Technician	No	30	17	Office building	9.2
27.	MIJ	Male	50	Technician	No	32	15	Office building	5
28.	SIB	Male	35	BSc Quantity Surveyor	Yes	16	4	Car park building	4
29.	BOS	Male	41	BSc in Building	Yes	19	7	Complex building	7
30.	RIC	Male	38	BSc in Building	Yes	16	9	Complex building	22

3.2 Preparatory interview exercise and the interview guide

In order to develop my interview techniques and test the interview guide, I interviewed two Chinese and two British before commencing the pilot study described in Section 3.3.2. These four interviewees were not project managers at the time of interview but they all had experience of working on projects. One Chinese was the site manager for a building project in the Beijing area, whilst another was just back to Beijing from an overseas highway project where he had been the assistant project manager. The two British were both commercial managers in construction firms and were doing the executive MBA at Cranfield School of Management. These interview exercises proved to be very necessary in improving and developing the interview guide and interview process, both in English and Chinese. For example, after encountering one of the UK MBA students who spent up to twenty minutes describing his education and career to date year by year, the second part of the first 'start with' question in the interview guide in Table 3.4 – '*briefly, but highlighting those relevant to project management*' was added. Meanwhile, since interviews with Chinese respondents were to be conducted in Chinese, the two interview exercises in China helped greatly in selecting equivalent Chinese terms in the Chinese interview guide. As for interview skills, the preparatory exercises showed that pieces of textbook wisdom and advice (see, for example, Kvale, 1996; Lofland & Lofland, 1995; Wolcott, 1995), such as listening rather than talking, learning rather than telling, understanding rather than convincing, were more difficult to put into practice than I had thought. Most importantly, the practice interviews offered the chance to have my 'bad habits' exposed so that I could try to overcome and avoid them in the later interviews. As I began to write up this section after all the interviews had been completed, it was rather tempting to present the success of the fieldwork. However, the bits and pieces of field notes (described in the following sections) taken throughout the whole process of the fieldwork reminded me of the problems and mistakes I made and the important role these exercises had played on my way towards an ultimately successful piece of fieldwork. Looking back, the fieldwork has been a learning process in which I learned most and best from the preparatory interview exercises when I had made more mistakes.

Following the principles of the phenomenographic approach, as described in Section 2.5.1 in Chapter 2 of the thesis, and drawing on insights from the preparatory interviews, I developed the interview guide both in English (Table 3.4) and in Chinese (Table 3.5). The two guides are not literally identical, but rather they are equivalent in meanings and approaches which enabled me to cover equivalent ground with every respondent in the two nations within the limited time they could spare (Adler, 1984; Teagarden et al., 1995).

Table 3.4 English interview guide

Warm-up questions: • Could you please talk me through your career to date – briefly but highlighting those relevant to project management? • Could you tell me a little further about your work on this project?
Principal questions: • What does project management work mean to you? • What is a competent (good) project manager to you?
Follow-up questions: • Could you give me an example? • What do you mean by that? • Could you explain that further? • How did you deal with that?
Alternative questions: • What are the most important aspects of project management work? (How do you deal with the contradiction among them?) • What is the most important task of a project manager? • Could you describe to me a good project manager you know? (What makes him better than others?) • If you are now involved in recruiting a new project manager for your company, what are the most important criteria you will look at? • What aspects of the project have been successful? What made them successful?
End questions: • What do you enjoy most about your work? Why? Example? • What do you enjoy least about your work? Why? Example? • Is there anything else you would like to say about your work? • Any supplements and/or questions?

Table 3.5 Chinese interview guide

首先: • 您能先介绍一下您自己的简历吗？（年龄、学历、参加工作时间、做项目经理时间、项目管理培训及资质等） • 请您进一步介绍一下这个项目的有关情况？
主要问题: • 结合您自己的实践经验，谈一下您对 '项目管理' 的认识？ • 您认为一名优秀的项目经理应具备什么样的条件？
进一步追问: • 能否举个例子？ • 能说明一下是什么意思吗？ • 能更具体谈一下吗？ • 您如何处理 (应对) 呢？
辅助问题: • 您认为项目管理有哪些重要方面？(如何处理各个方面的矛盾呢？) • 您认为项目经理最首要的任务是什么？ • 请向我描述一位您认识的优秀项目经理？(那么是什么使他比其他人优秀呢？) • 如您现负责为公司招聘一名项目经理，您如何挑选？（主要考虑哪些条件和因素？) • 此项目哪些方面比较成功？是什么原因带来的成功？
结束: • 您最高兴的事儿是什么？为什么？例子？ • 您最不高兴的事儿是什么？为什么？ 例子？ • 哪些补充或问题 – 体会深但我们没有谈到的？

3.3 Data collection

Following the phenomenographic approach, data were collected by in-depth open-ended interviews, as described in Section 2.5.1 in Chapter 2 of the thesis. In Section 3.3.1 I first describe how questions itemised in the above interview guides were asked and posed, then summarise the interview process. In Section 3.3.2 I describe the two stages of the fieldwork in this research. I summarise all the interviews conducted and their respective contribution to the overall research in Table 3.6.

3.3.1 Interview process

The protocol of principal questions and follow-up questions

As introduced in Section 2.5.1.3 and shown in Tables 3.4 and 3.5, the main feature of the phenomenographic interview with respondents in understanding their ways of experiencing their work, is to use the protocol of principal questions and follow-up questions. The aim of asking the generic principal questions and the follow-up questions is to 'get interviewees to reflect on what they have expressed, to explain their understanding more fully and to reveal their way of understanding the phenomenon' (Bowden, 2000: 10). Hence, the phenomenographic interview focuses on revealing respondents' ways of understanding and experiencing a given phenomenon rather than limiting their answers to aspects of the phenomenon pre-defined by the researcher. In many cases, the follow-up questions are more important in encouraging the respondents to express themselves as fully as possible (Akerlind, 2002a). They are constantly used throughout the interview process. They follow up not only the principal or alternative questions posed, but essentially also various statements or descriptions given by respondents. In this way the constant questioning of the respondents' descriptions serves to elicit the underlying meanings and partly check the validity of their statements in ongoing communication, thus the 'follow-up questions helped to clarify the statement further, some seeming inconsistency could be resolved' (Sandberg, 1994: 81).

In this research, the principal questions were asked in order to understand *what* the respondents conceived as project management work, and the follow-up questions were then posed so that the respondents were required to elaborate and demonstrate what their statements meant in practical situations, namely *how* they conceived of it. The alternative questions were used when the respondents provided little in response to the principal questions or found it difficult to give examples and further explanations. For example, in several cases the respondents felt puzzled when I posed the principal question 'what does project management work mean to you?' and they turned to ask me what did that question mean. Although the principal

questions represent the focus of the research that has been maintained throughout all interviews (Bowden, 2000; Prosser, 2000), it seems that the alternative questions in this study were more easily accepted and responded to. The end questions were asked to allow the respondents to reflect once again on their ways of experiencing their work, again followed by the follow-up questions.

This dialectical process started with my brief introduction to the research and the two 'warm-up' questions, and continued until no further progress was made. The respondents varied a lot in how they spoke. Most were open and chatty, whilst others were less verbal or even hesitant. In order to make them feel comfortable and to keep the conversation going, I tried to match their style and follow the interview guide flexibly. For example, the respondent might provide answers to the principal questions when introducing the current project, in which case I would pursue his response with the follow-up questions then rather than return to the principal question again later. As Lofland and Lofland (1995: 85, italics in the original) suggest, 'interviews might more accurately be termed *guided conversations*'. In order to serve the purpose of the research and to collect richer data, efforts were put not only into developing a good interview guide, both in English and Chinese, but also into continuously improving my own interview skills.

The interview process

All the interviews were arranged at the respondents' work place, most on the job site of their current project, namely in various locations in Beijing and England. Chinese mandarin was the language used in interviews with Chinese respondents and English was used with the UK respondents. This was important since respondents could reflect best on their ways of experiencing their work when in their usual working environment and using their mother tongue. Each interview lasted between one and two hours. All interviews were audio-taped and notes were made during and after each interview. When permitted photographs of the sites or work places were taken as a visual record of work in progress and of artefacts such as signs and notices.

I outline the process followed in arranging and conducting each interview below:

Before going for each interview:

- Explaining the purpose of the research and the requirement for the interviewee, assuring the confidentiality and anonymousness. This was done usually in exchanging emails and telephone calls with the respondents (see Appendix A as typical formats sent off to respondents prior to the interviews).

- Visiting the website of the company the interviewee was working for so as to get familiar with the background knowledge of the firm and the project, if possible, and the terminology they were using.

- Making good travel arrangements so to give myself flexible time to get around the area and leave extra time for any unexpected delay.

- Double-checking the recording machine and battery, always having a set of spare batteries with me. As I used a new digital recorder I always had the brochure with me as well.

- Taking a personal alarm especially when travelling to remote areas or having to travel in the dark alone.

- Preparing my business card and small gifts, particularly when in China.

- Preparing a demographic form for the respondent to fill out (See Appendix B).

During the interview:

- Asking for permission to audio-tape the conversation.

- Taking notes when the respondent was talking. This could first allow the respondent feel free to take time to reflect and structure their answers, and secondly help me keep close account of what was going on in the interview so as to formulate further probes and questions. Meanwhile the sparse notes of key sentences, key words, key names and so forth greatly aided the later transcribing and analysing.

- Maintaining the focus of the study (reflected in the principal questions) whilst following the interview guide flexibly.

- Probing carefully and systematically to encourage the respondents to talk.

- Observing the respondents' interaction with others, their offices and the sites.

- Inviting the respondents to fill out the demographic form.

- Taking photographs of the sites and workplaces when permitted.

Immediately after each interview:

- Uploading the recorded interview to computer and saving it to another computer and the university account as backups.

- Writing field notes following Richardson's (2000) format, to record: (1) the detailed background information of the interview including how access was gained, appointment was fixed, travel was arranged, my obvious errors and so forth (labelled as Personal Notes (PN)); (2) observation of the setting and the respondent (Observation Notes (ON)); and (3) the preliminary theoretical developments and insights/reflections (Theoretical Notes (TN)).

Mead (1973) commented that the field worker's (researcher's) work begins immediately on arrival in the field, and those first impressions that will not be repeated should be recorded. It seemed to me that my work began even at my first interaction with the respondent through email or telephone call. The regularly recorded notes throughout this on-going process have formed a diary documenting the whole course of the fieldwork including procedures, provisional analysis and interpretations, successes and mistakes, and my own feelings during and about each interview. Like the sparse notes taken during each interview, the field notes proved to be very helpful in transcribing and analysing the interview data. In particular, the observation notes provided certain information in support of some of the interpretations and therefore formed a portion of the data log.

Although it might look trivial, this process has provided a useful structure to follow throughout the whole course of the fieldwork, which has therefore assured that all the interviews were conducted smoothly and has enhanced the rigorousness and credibility of the study as demonstrated in Section 3.5.

3.3.2 Two stages of the fieldwork

The fieldwork in this research was organised into two stages: the pilot study and the main study. The pilot interviews took place between August and November 2002, followed by the School's second year PhD review, and the main interviews were conducted between May and December 2003.

The aim of the pilot study was to test the methodology and refine the research question, based on outcomes from which to have the School's second year PhD review. I had originally intended to interview 5 Chinese and 5 UK project managers for the pilot study. However, having been warned too much on difficulties in getting access to samples and delays the process of accessing to individual interviewees could cause, I started to seek help very hard from the very beginning, even before my trip back to China. Thus eventually within the one month of my first stay in China, I interviewed 10 Chinese project managers, apart from the two preparatory interviews described in Section 3.2. I then returned to the UK. With the help of my supervisor I got access to and finally interviewed 11 UK project managers. One of them was dropped as the interview was interrupted and lasted only about twenty minutes.

Following the principles of the phenomenographic approach (see, for example, Marton, 1986; Sandberg, 1994, 2000, Walsh, 2000), an initial analysis of the 10 Chinese and 10 UK interviews (1) suggested the existence of different levels of conceptions, though not very clear and robust considering the relatively small sample size, within both Chinese and UK samples, and (2) demonstrated certain cultural contrasts between the two groups of samples. Compared with the former, the apparent cultural differences between Chinese and UK conceptions of certain aspects of their work, particularly in relation to relationships, were rather prominent. Based on these outcomes of the pilot study, a paper co-authored with my supervisor was presented at the Academy of Management annual meeting in Seattle in August 2003 (Chen & Partington, 2003) and a journal paper published in the International Journal of Project Management (Chen & Partington, 2004).

Though cautious at the beginning, the pilot study proved to be good and actually there were no big changes in the main study to the interview guide and process. But of course, having rehearsed the whole data collection and analysis process following the principles of the phenomenographic approach, and having presented a conference paper and got a journal paper accepted, I became more confident in the main study. Meanwhile, I found it unavoidable to compare the new interviews in the main study with the preliminary findings from the pilot one. Curiously throughout the main study, I was searching for new themes. However, after about 10 interviews in the main study, namely, around a total of 20 Chinese and 20 UK interviews, there were hardly any new themes appearing, which, to some extent, represented saturation of the variation in conceptions (Glaser & Strauss, 1967).

In total another 20 Chinese and another 20 UK project managers were interviewed in the main study. Together with the 10 Chinese and 10 UK respondents from the pilot study, the final sample of the research consisted of 30 Chinese and 30 UK project managers interviewed. In Table 3.6 I present a summary of the different stages of interviews conducted throughout the process of this research and their respective contribution to the research.

Table 3.6 A summary of the interviews conducted in this research

Stages	Interviewees	Contribution to the research
Preparatory	2 Chinese managers, 2 UK EMBA students	To test and improve the interview guide both in English and Chinese; To exercise and improve the interview process and my interview skills.
Pilot	10 Chinese and 11 UK project managers (one was dropped)	10 Chinese and 10 UK interviews constitute part of the data.
Main	20 Chinese and 20 UK project managers	20 Chinese and 20 UK interviews constitute part of the data.
	Total: 32 Chinese managers 33 UK managers	**The final sample of this study:** 30 Chinese and 30 UK project managers

3.4 Data analysis

In the following sections I first outline the transcription of the interview data in Section 3.4.1, and the use of coding in this research in Section 3.4.2. In Section 3.4.3 I describe the data analysis approach adopted in this research. In Section 3.4.4 I explain why software for qualitative data analysis was not considered suitable for this study.

3.4.1 Transcription of interview data

I transcribed all the 30 Chinese and 30 UK interviews myself. Despite the fact that one interview transcription could hardly be completed, or even started sometimes, before going out for the next interview due to various constraints in accessing samples, I always made efforts to do the transcribing as soon as possible after each interview. Thus, in the very slow process of listening to the tape and typing the respondents' spoken words, their behaviour during the interview and my observation and ideas about the interview could be fully recalled. This has also offered prompt opportunity for me to realise any existing problems and/or mistakes so as to improve my interview skills in later interviews. As such, the sparse notes taken during each interview and the field notes written immediately after interview proved to be a very good reminder of each interview process, particularly for the several cases when the transcribing took place long after the interview. While transcribing I always had the notes taken during interviews and written

immediately after interviews open in front of me, and inserted my understandings, reflections, questions and preliminary interpretations as memos into the transcripts (marked with square brackets and different colours). At the end, the very time-consuming transcribing process resulted in not only pages of interview transcripts but also my familiarity with the transcripts, and preliminary analysis of the data. Therefore, personally I think transcribing interviews by the researcher him/herself is both necessary and beneficial.

3.4.2 Coding

In the pilot study presented in Section 3.3.2, I transcribed the 10 Chinese and 10 UK pilot interviews. I then coded this batch of transcripts using an inductively-developed coding scheme based on the interview notes and basic knowledge of the data gained during the transcription process (see Appendix C). This coding was very much a trial and rather coarse. How such coding would contribute to analysing data was also vague at that stage. Having the first batch of data on hand after the exciting but tiring process of interviewing and transcribing, it seemed that I was just eager to mark down certain themes that had already emerged. However, Sandberg's (1994, 2000) approach to understanding human competence followed in this research has encompassed an iterative interpretation process which was developed based on the guidelines underlying contextual and intentional analysis. Within this approach formal coding is not encouraged due to its potential risk of attaching the researcher's own understandings and danger in separating the respondent's descriptions from their embedded context, although marks, highlights, notes and memos and so on remain necessary in helping digesting and analysing the interview transcripts. After consulting Sandberg by email, I decided not to refine the coding further and declined to use it in the main study. Nevertheless, what I had already done helped me in digesting and getting familiar with the data, and the coding scheme provided useful insights for identifying the conceived important aspects of construction project management work, both in China and the UK. Below are two examples of coded data:

> [a good project manager to me is] somebody with enough knowledge of the construction work, not necessarily academic knowledge but enough experience and practical knowledge [K1+E1, MEMO PRACTICAL EXPERIENCE MORE IMPORTANT THAN ACADEMIC KNOWLEDGE], to be able to manage the whole process, and with enough confidence to be able to make decisions based on facts [Ao1, MANAGE WHOLE PROCESS, MAKE DECISION]. One example would be when subcontractors submit their programme and methods [MEMO ONE ASPECT OF HIS WORK: MANAGE SUBCONTRACTORS' PROGRAMME AND METHODS], I feel that I would have enough experience and knowledge to be able to check and approve them [K1+E1, USE K1+E1 TO CHECK AND APPROVE SUBCONTRACTORS' PROGRAMME AND METHODS]. In fact, the

subcontractors generally try to use the minimum labour resources or safety measures, they are always quite positive about what they can achieve in the given time [Aw1+Aw4, MEMO SUBCONTRACTORS' WORK NEEDS TO BE CHECKED AND IMPROVED: RESOURCES PLAN + SAFETY MEASURES]. So you have to help educate the guys to plan their work, demonstrate that they probably need more resources, longer time [Aw1, HELP TO PLAN SUBCONTRACTORS' WORK; Ar2, RELATIONSHIP WITH SUBCONTRACTORS: EDUCATE+HELP ON PLANNING THEIR WORK]. (UK respondent MIH with conception U1)

我认为应首先看他是否有相关的施工工程方面的知识[K1, KNOWLEDGE OF CONSTRUCTION WORK]，是否有施工现场的工作经验[E1, EXPERIENCE OF WORKING ON CONSTRUCTION SITE]。象我刚才讲到的，项目经理要有能力对整个项目全盘计划，并有能力组织起现场的工作 [Aw1+Ao1, ABILITY TO PLAN THE OVERALL WORK AND ORGANISE SITE]，所以他必须懂技术 [MEMO NEED TECHNICAL KNOWLEDGE OF CONSTRCTION WORK TO PLAN AND ORGANISE SITE WORK]。他还需要有坚强的性格，要有能把人管起来的那种良好的个人素质 [P2+Ap1+Ap2, NEED STRONG CHARACTER+PERSONAL TRAITS TO MANAGE PEOPLE]。人是最重要的。过去毛泽东时代，我们经常讲"团结起来，人可以胜天地泣鬼神"，现在不喊这些口号了，跟着西方讲"团队"了[MEMO PEOPLE MOST IMPORTANT, TEAMWORK MOST IMPORTANT]，但我觉得，它们差不多，都讲要团结一致地为了一个共同目标一起努力工作。所以作为项目经理，你得能够把大家凝聚起来成为一个团结的队伍 [Ap1, GET PEOPLE UNITED AND WORK AS A CLOSE TEAM]。这个团队在现场就如同一个大家庭，项目经理多少就如同是父亲[MEMO TEAM AS A BIG FAMILY ON SITE, PROJECT MANAGER LIKE THE FATHER]。(Chinese respondent ZXL with conception C1)

3.4.3 Data analysis process

The subsequent initial analysis of the coded pilot interview transcripts in the two cultures and the final analysis of the two sets of Chinese and UK transcripts after the main study followed the principles of the phenomenographic approach (see Section 2.5.1.3 in Chapter 2 for details), in particular those of Sandberg's (1994) advanced approach to understanding competence at work, which involved an ongoing iterative process alternating between *what* the project managers conceived of their work and *how* they conceived of that work, described below:

First, I read each transcript several times, to get familiar with the transcript and try to grasp each project manager's general conception. Then I grouped initially the project managers according to their general conceptions. For example, in my interpretation of the Chinese transcripts in this phase, two general conceptions emerged: one focusing on dealing with resources on

site in experiencing the project management work, another focusing on relationships with parties and people involved in their work.

Second, I read all the transcripts again, to systematically search for *what* each project manager conceived of their work focusing not only on picking up the statements concerning essential aspects of their work but also on the meaning of a particular statement in relation to its embedded context. After I had analysed each transcript, I shifted the analysis from single project managers and compared conceptions across project managers, first within and then between groups from the first phase of the analysis. This process led to some regrouping. For example, the comparison within the Chinese group focusing on relationships with parties and people involved in their work led to its division into two new groups: one focusing on coordinating relationships, another focusing on both coordinating and developing new relationships, as described in Chapter 4.

Third, I analysed all the transcripts again, but in terms of *how* each project manager conceived of their work. The primary focus now was on how the project managers delimited and organised what they conceived as their work. After I had analysed each transcript, I compared the project managers with each other, first within and then between groups. Again, this process resulted in some project managers being moved from one group to another. This was more evident in the Chinese groups, where, apart from other attributes, all Chinese respondents stated the importance of relationships. The individuals were grouped and regrouped by progressively identifying their main focus and how they utilised what they conceived as important in accomplishing their work, such as in planning or resolving conflicts. For example, one Chinese respondent who was initially in the group of coordinating relationships was moved to the group of planning and controlling site work, as it became more evident that his main focus was on work details and the construction process on site. For example, although he stated that keeping a good relationship with the client is important, in his further explanations concerning *how* this be achieved, he emphasised that his task was to control the site work and to fulfil the project according to the client's requirements, and the company's head office would deal with relationships with the client.

Finally, I analysed all the transcripts once again, focusing simultaneously on *what* each project manager conceived of and *how* they conceived of their work. This was for cross-checking and further stabilising the identified conception.

The above process of analysis was carried out first for Chinese then for UK transcripts, which resulted in three qualitatively different Chinese and three qualitatively different UK conceptions of project management work, described in detail in Chapters 4 and 5. I plotted all the Chinese and UK conceptions, including their essential attributes, on charts and tables in order to identify and compare the similarities and differences between the two. The

comparison was made first between each corresponding level of conceptions in the two cultures, and then across levels between the two cultural sets of conceptions, described in detail in Chapter 6. The identified apparent aspects of cultural differences between the two sets of conceptions were further explored in terms of various essential aspects in project management work in the two nations, the results of which were described in Section 6.3 and illustrated in Table 6.7.

This process of comparison involved some repetition of the second and third phases of the above analysis process but specifically focusing on the meanings Chinese and UK respondents attached to their statements. Contextual analysis was used to guide the identification of the meaning of a particular statement in relation to its context. In contrast to the style of content analysis that focuses on the particular statements themselves, Svensson (1989: 9, cited by Sandberg, 1994: 84) suggests that the basic principle in contextual analysis is the 'construction of internal relations' between the statements and the context in which they are embedded. For example, 'maintaining a good relationship with the project team' emerged as an important attribute in both Chinese and UK conceptions. But when I interpreted this statement of *what* they conceived of their work in relation to their descriptions of *how* they conceived of it, as expressed in their further explanations and examples, I identified the contrasting central meaning underlying the same statement between Chinese and UK respondents, described in Section 6.3. This process of comparing Chinese and UK conceptions also served to further explore and stabilise the meaning structure of each identified conception in the two cultures.

3.4.4 Software for data analysis

Since every time of translation imposes certain risks of data losing its original meaning, in the early stage of the research I decided not to translate Chinese interview data into English until the final presentation of the results. Another issue I had to consider was whether to use software for qualitative data analysis, such as, for example, NUD*IST (or referred to as QSR) which is gaining popularity among researchers in management (Richards & Richards, 1998). The answer was initially 'no' simply because no Chinese version of the software is available. In order to guarantee the functional and conceptual equivalence to serve the purpose of this cross-cultural comparison of Chinese and UK findings (Adler, 1983; Peng, Peterson, & Shyi, 1991), it is unacceptable to employ software for the UK data analysis but not the Chinese. More importantly, although the software can assist in data analysis particularly in data reduction and management, it cannot do itself either analysis or interpretation. Especially for this research into the respondents' ways of experiencing their work, which focused on capturing the meaning of the statements in relation to their embedded context and involved an on-going iterative process alternating between the statements

and the context, and across transcripts, the software was not considered to be very helpful anyway.

3.5 Credibility of this research

The credibility of qualitative research studies rests on the reliability of their data and methods and the validity of their findings (Silverman, 2001). 'Perfect validity entails perfect reliability but not the converse; perfect validity is theoretically impossible' (Kirk & Miller, 1986: 71). Nonetheless, measures can be taken to maximise both the reliability and validity, and therefore credibility of a piece of research.

In Section 3.5.1 I describe the reliability and validity criteria used in this study and how these criteria were established throughout the whole process of the research. In Section 3.5.2 I discuss three other commonly suggested methods for addressing the credibility issue in qualitative research and their relation to this research.

3.5.1 Reliability and validity criteria

Different criteria for assessing the reliability and validity of a research have been suggested, stemming from their authors' epistemological positions. Given the interpretivist stance and the phenomenographic approach adopted in this study, following Silverman's (2001) argument and Sandberg's (1994, 1997, 2000) work, I used *low-inference descriptors* and *reliability as interpretive awareness* to address the reliability issue, and *communicative validity* and *pragmatic validity* to address the validity issue in this study.

Low-inference descriptors was described by Seale (1999: 148) as involving 'recording observations in terms that are as concrete as possible, including verbatim accounts of what people say, for example, rather than researchers' reconstructions of the general sense of what a person said, which would allow researchers' personal perspectives to influence the reporting'. Satisfying the criterion of using 'low-inference descriptors' throughout the entire research process is a basic means to achieve high reliability in qualitative research. In the process of this research the criterion was established by:

In preparing for interviews:

- Carefully preparing and refining the Chinese and English interview guide, making sure every respondent (both in China and the UK) understood the interview questions equivalently in the same way (Adler, 1984; Teagarden et al., 1995).

- Pre-testing both the Chinese and English interview guide (Flick, 2002).
- Preparing a standard demographic form for all the interviewees to fill out.

In conducting interview:

- Audio-recording all interviews.
- Taking photographs of the sites/work places when being permitted.
- Writing field notes immediately after each interview using standardised format (following Richardson, 2000).

In analysing data:

- Transcribing all the interview recordings carefully by myself.
- Focusing primarily on the meaning of a statement in relation to its embedded context and the whole transcript.

In reporting the study:

- Presenting long extracts of data in research findings, including the questions provoked and the practical examples given by the respondents.
- Using appropriate tabulations to increase accuracy of the interpretations and simplify the researcher's words for it.

Reliability as interpretive awareness means 'acknowledging that researchers cannot escape from their interpretations but must explicitly deal with them throughout the research process' (Sandberg, 2000: 14). Instead of overlooking it, researchers should be more aware of how their own interpretations influence the research process so that their subjectivity would become a strength rather than threat to reliable results (Sandberg, 1997; Walsh, 2000). In this study the criterion was established by:

In conducting interviews:

- Asking main questions combining *what* and *how* to encourage the interviewees to focus on describing what their work meant for them (as showed in the interview guide).
- Asking extensive follow-up questions to require the interviewees to elaborate on and be more specific about what they meant by their statements.
- Treating all the interviewees' statements as equally important.

In analysing data:

- Trying to hold back my own pre-understandings of project management work and continuously checking if my interpretations were grounded in the interviewees' descriptions of their work.

- Striving to treat all the statements made by the interviewees as equally important in the interpretations.

In reporting the study:

- Striving to document the entire research process transparently, particularly by fully detailing the interpretive steps.

- Identifying the limitations of the study.

Communicative validity means 'testing the validity of knowledge claims in a dialogue' (Kvale, 1996: 244). Establishing a high level of communicative validity involves an on-going dialogue with the respondents, the 'text' and other professionals relevant to the issue being studied (Sandberg, 1994). In this study the criterion was established by:

In sampling and preparing for interviews:

- Sampling from the construction sector and construction projects, of which I have basic knowledge and understanding, thus enabling an efficient dialogue with the respondents of the study.

- Outlining the research background and purpose by email or telephone in the process of getting access to the organisations and arranging meetings with individual respondents.

In conducting interviews:

- Conducting interviews in the respondents' mother tongue, namely using Chinese with managers in China, and using English with managers in the UK.

- Beginning each interview with a reminder of my research purpose, then asking the interviewee to talk me through their career to date and their work on the current project.

- Asking the principal questions to encourage the interviewees to describe to me what they conceived of their work, then asking follow-up questions to further ensure that I understood their ways of conceiving of their work.

In analysing data:

- Making interpretations of the interviewees' statements that were grounded in both the immediately embedded context and the whole transcript, following Flick's (2002: 221) note '...to check the reliability of an interpretation by testing it concretely against other passages in the same text or against other texts'.

- Constantly comparing interpretations within one transcript and with other transcripts as a whole.

Pragmatic validity rests on the notion that 'actions speak louder than words'. Kvale (1996: 249) suggests two types of pragmatic validity, namely 'whether a knowledge statement is accompanied by action, or whether it instigates changes of action'. In the first case, realising pragmatic validity represents that knowledge is captured in supportive actions accompanying the verbal statements, thus eliminates the so-called 'espoused theories' (Sandberg, 2000). In the second case, striving for pragmatic validity guides the sampling for the study, encourages the collaboration between the researcher and the researched, and provides implications for both practice and future research.

In sampling:

- Trying to sample from those organisations that had already been involved or were planning to get involved in cross-cultural works.

- Sampling from frontline practitioners, namely practicing managers working on project sites.

In conducting interviews:

- Trying to interview the managers on their current project site, observing their site, office and their interaction with other people at work.

- Asking follow-up questions such as 'what do you mean by that', 'can you give me an example', 'can you explain it further' to request the interviewees to demonstrate what their statements meant in practice.

In analysing data:

- Striving to capture what the interviewees have actually done in accomplishing their work rather than their espoused theories of what they should do.

In reporting the study:

- Offering useable knowledge in the section of 'implications for practice' in Chapter 7 of the thesis.

- Addressing recommendations for future research in Chapter 7 of the thesis.

- Making the research findings available to both researchers and practitioners through presentations at conference and publications in journal (see Chen & Partington, 2003, 2004).

- Sending the findings to the accessed organisations and/or individuals, and/or presenting the findings in the organisations when being invited.

3.5.2 Triangulation, respondent validation, and replication

Triangulation, respondent validation, and replication are three commonly suggested methods for addressing the credibility issue in qualitative research. In the following sections I review them briefly and indicate their relation to this research.

Triangulation

The term *triangulation* used in social research most commonly refers to the combination of multiple methods in a study of the same phenomenon so that a single fixed reality can be known objectively (Blaikie, 1993; Denzin, 1970). Derived from discussions of measurement validity by quantitative methodologists, the idea of triangulation was first advocated in qualitative research by Denzin (1970, 1989), which outlined four types of triangulation, namely, data source, investigator, theory, and methodological triangulation. To these Miles and Huberman (1994) added a fifth, data type triangulation. I summarise the meanings of these five types of triangulation in Table 3.7.

Among these five types, the central concept and the most widely understood and applied approach is methodological triangulation (Flick, 1992; Seale, 1999). However, despite its popularisation, using the concept of methodological triangulation as a strategy of validation has been claimed to be problematic due to its neglect of theoretical differences between the multiple methods used and the way each of them constitutes the research object (Flick, 1992). As Fielding and Fielding (1986: 33) pointed out, 'theoretical triangulation does not necessarily reduce bias, nor does methodological triangulation necessarily increase validity. Theories are generally the product of quite different traditions so when they are combined, one might get a fuller picture, but not a more 'objective' one. Similarly, different methods have emerged as a product of different theoretical

traditions, and therefore combining them can add range and depth, but not accuracy'. They further suggest that theories and methods should be combined carefully and purposefully in terms of individual studies.

Table 3.7 A summary of the five types of triangulation*

Types	Meaning
Data source triangulation	Use different *data sources* studying the phenomena at different dates (*time*) and places (*space*) and from different (*persons).*
Investigator triangulation	Employ different observers or interviewers to detect or minimise biases resulting from the researcher as a person.
Theory triangulation	Approach data with multiple perspectives and hypotheses in mind.
Methodological triangulation	Two subtypes: Within-method: e.g. use different measures in one questionnaire. Between-method: e.g. use questionnaire and interview, and observation.
Data type triangulation	Check among qualitative text, recordings, and quantitative data.

*Based on: Denzin (1989); Miles and Huberman (1994).

For this interpretive exploration of people's ways of experiencing their work, none of the above mentioned types of triangulation is considered to be a suitable strategy for achieving credibility of the research. This is, of course, not to say that there is not a case for triangulation in this study. I agree with Miles and Huberman (1994: 267, italics in original) that 'in some senses we are *always* faced with triangulating data, whether we attend to it or not', and I would argue that the entire process of this phenomenographic research has always involved the kind of corroborative testing with a built-in concept of triangulation. For example, the sampling process brought in certain aspects of data source triangulation. Further, asking principal questions and follow-up questions in data collection is in line with the concept of within-method triangulation, and has enabled a phenomenon to be described from many different angles and the researcher to get multiple sources and modes of evidence before reaching a conclusion.

Respondent validation

Respondent validation is a method which involves sending the research findings back to the respondents to see whether they agree with the findings (Silverman, 2001). Despite the claim that it can provide further insights and generate additional data, respondent validation has been criticised as inappropriate to validate field research (see, for example, Fielding & Fielding, 1986; Silverman, 2001). The arguments centre around: (1) whether respondents could follow the academic reports; (2) whether they will be interested in it and send you their feedback; and (3) whether it is reasonable to assume that the respondents can be commentators on their own actions. As Abrams (1984: 8) put, 'overt respondent validation is only possible if the results of the analysis are compatible with the self-image of the respondents.'

More specifically, it is not considered as an appropriate validity check for this phenomenographic study because: (1) the unit of analysis in phenomenographic research is people's different ways of experiencing a phenomenon, namely, people's conceptions, rather than individual respondents, therefore (2) the main outcomes in a phenomenographic study, namely, categories of description of conceptions, are based on the set of interview transcripts as a whole rather than a series of individual interviews (Akerlind, 2002b; Marton, 1986), moreover (3) the ontological assumptions underlying the phenomenographic approach indicate that people's ways of experiencing a phenomenon are context sensitive, which means that people's conceptions might change over time and context (Marton & Booth, 1997). It is therefore hardly to be expected that respondents would necessarily be experiencing the same understanding of a phenomenon at the time they are consulted over an interpretation as they were during the interview (Akerlind, 2002b).

Replication

The replicability of a study, namely, the extent to which other researchers studying the same or similar settings would generate the same findings, is concerned with the issue of external reliability (Seale, 1999: 140). Similar to those involving internal reliability, replication exercises can help readers perceive social settings or problems from a variety of different points of view. However, 'the expectation of complete replication is a somewhat unrealistic demand' (Seale, 1999: 42). This is more often the case in qualitative research (Johnson & Harris, 2002).

In particular for this study, because the phenomenographic approach is primarily considered as a process of discovery (Francis, 1996; Hasselgren & Beach, 1997), it is hardly to be expected that another researcher would re-discover the same results, either from the interviews or from the transcripts, but rather, given the original researcher's procedures in reaching the

conclusions, whether others can confirm and accept the same results (Trigwell, 1997). Hence, a common alternative to the replicability check in a phenomenographic study is to make the whole research process, including sampling, interview, and the interpretive steps, *transparent* to readers (Akerlind, 2002b; Johnson & Harris, 2002; Miles & Huberman, 1994). This has been followed in this research as demonstrated in previous sections of this chapter. In the meantime I strived to document how I have dealt with my own interpretations in order to achieve faithful descriptions of the data as shown in early description of the criterion *reliability as interpretive awareness* (Sandberg, 1997), thus it can be clearly seen where and how the interpretation has come from, and, supported by the data, that this is the most faithful interpretation.

CHAPTER 4 CHINESE CONCEPTIONS OF PROJECT MANAGEMENT WORK

In this Chapter, I present the first part of the research findings, namely Chinese conceptions of project management work. First in Section 4.1 I describe the three identified categories of Chinese conceptions of project management work, including each conception's main focus and the meaning of its key attributes. In Section 4.2 I discuss a hierarchical relation within the three Chinese conceptions of project management work at both the general conception level and the attribute level. In Section 4.3 I indicate possible sources of the variation in Chinese project management competence.

4.1 Three Chinese conceptions of project management work

In my interpretation of the Chinese interview transcripts, three qualitatively different conceptions of project management work in China (represented by C) emerged:

C1. Project management as planning and controlling;
C2. Project management as coordinating relationships;
C3. Project management as developing relationships.

The Chinese project managers expressing each conception differed from each other through their ways of experiencing and managing their work. They delimited and organised project management work in terms of certain essential attributes with different focus, forming different characteristic features of each conception. The essential attributes of project management conceptions expressed by Chinese respondents (represented by CA) included:

CA1. Ability to plan;
CA2. Knowledge of construction work;
CA3. Knowledge of commercial management;
CA4. Ability to communicate;
CA5. Ability to manage team;
CA6. Ability to coordinate;
CA7. Ability to build new relationships.

Figure 4.1 Chinese conceptions and their key attributes

Chinese conceptions	Key attributes of Chinese conceptions						
	CA1	CA2	CA3	CA4	CA5	CA6	CA7
C1	■	■	■	■	■		
C2		■	■	■	■	■	
C3		■	■	■	■	■	■

As indicated in Figure 4.1, some of the seven attributes might be considered essential in more than one of the three Chinese conceptions. However, within different conceptions, attributes represented different meanings and approaches. Further, not all of the seven attributes were key in every conception. For example, the attributes *knowledge of construction work (CA2)*, *knowledge of commercial management (CA3)*, *ability to communicate (CA4)* and *ability to manage team (CA5)* were considered essential to all of the three Chinese conceptions and *ability to coordinate (CA6)* was essential to both C2 and C3, but with different meanings. The *ability to plan (CA1)* was considered to be a key attribute only by project managers with Conception C1, whereas the *ability to build new relationships (CA7)* was considered to be key only to C3.

In the following sections, I describe each conception, its main focus, and the meaning of its key attributes respectively. The way each Chinese conception and its key attributes formed a distinctive structure of competence in project management in China is summarised in Table 4.1.

4.1.1 Conception C1: project management as planning and controlling

Figure 4.2 Chinese conception C1 and its key attributes

Chinese conceptions	Key attributes of Chinese conceptions						
	CA1	CA2	CA3	CA4	CA5	CA6	CA7
C1	■	■	■	■	■		
C2		See Section 4.1.2					
C3		See Section 4.1.3					

The most characteristic feature of this conception was that individuals expressing it delimited and organised project management work in terms of essential attributes focusing on the construction work process. This focus implied that all C1 project managers' key attributes were centred around the construction work details on site, such as the work programme, construction methods and the delivery of resources to site.

As indicated in Figure 4.2, the key attributes constituting this conception included: *ability to plan (CA1)*; *knowledge of construction work (CA2)*;

knowledge of commercial management (CA3); *ability to communicate (CA4)*; and *ability to manage team (CA5)*. Their specific meanings in Conception C1 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 4.1.

Ability to plan

Within Conception C1, this attribute meant the ability to plan the construction work sequence, including the procurement and delivery of resources to site, such as labour, materials and equipments, so that the progress and the cost of the project could be controlled. This was one of the most fundamental attributes of this conception. As the following example illustrated (from my interview with ZXL):

> Q: Then, what are the most important aspects of your work as a project manager?
>
> A: By my experience, I think the most important thing is to plan and then to ensure the implementation of the plan on site. Without a good plan, the project manager would be like a blind person, and it is of course impossible for him to manage the project successfully. (ZXL)
>
> Q: Could you explain that a little further?
>
> A: Well, for example, as the project manager here, the first thing I did was to produce an overall plan, which must be done as early as possible. Since you need to know the kinds of people and other resources needed, and the technical requirements for the construction work, then you can plan the procurement of these resources and the subcontracting of certain tasks. For example, how many tower cranes are needed? One or two? For how long? And from when? These things may look trivial, but you must understand the fact that if they are not planned and organised properly, any of these small things could cause big delay to the progress of the job and could cost a lot more money at the end. You see this is the master plan [hanging on the wall in his office] showing the work sequence and all the important milestones, and I have also monthly and weekly plans showing all the details. As project manager, you need to plan for all these details then you can control the whole project based on the plan. (ZXL)

Knowledge of construction work

In order to plan the construction work and control the whole process well, C1 project managers considered it essential for them to have good knowledge of the construction work. By this they meant being familiar with the construction work process and being aware of the technical requirements of

every project work task on site. These project managers considered that possession of good technical knowledge was crucial to their work.

> Q: What is a good project manager to you?
>
> A: I think a good project manager must first of all have knowledge of all aspects of the construction work on site, being aware of the construction process and the technical requirements of every work task. Actually a project manager's management competence depends very much on his technical knowledge of the construction work. (ZBH)
>
> Q: Can you give me an example about this?
>
> A: For instance, on concreting, it is not enough to just know whether and when there is a concreting job on site. First, you need to be aware of the relevant technical specifications, and at the same time you need to consider the transportation distance, the concreting speed, the slump, and so on. With all these knowledge, you can negotiate and sign a proper contract with the concrete supplier, and can be there to control the concreting process on site. So without technical knowledge, it is meaningless to talk about project management. (ZBH)
>
> Q: How about other technical personnel in your team? What are their roles for such a concreting job on site?
>
> A: Well, we have laboratory guys who do all the testing and checking jobs when concreting. Their jobs are absolutely important for controlling the quality. But that is only one of the control procedures on site. Project manager needs to know and control the whole construction process, so he cannot expect anyone else to do his job. (ZBH)

Knowledge of commercial management

Project managers expressing Conception C1 also needed to have knowledge of commercial management. By this they meant understanding the fundamental business rules and practices in contract negotiation and signature, so that they were able to procure the necessary resources at a lower price and get them delivered to the construction site as scheduled.

> A: ... another important thing that the project manager must control is the procurement of resources, particularly the procurement of major materials such as steel and concrete. This is very important, failure to control it could cause work delay and more money significantly. (WKL)

Q: Could you explain further about how do you control the procurement of resources?

A: Well, it is all about getting the right things at the right time and at a lower price. So first you have to plan very carefully, plan the whole work and plan how to procure and when to deliver the required resources to the construction site. Thus you must also have good knowledge about how to negotiate and sign a contract, you need to understand the fundamental rules and practice in business administration. So I always say project manager should have both technical knowledge and commercial knowledge. (WKL)

Ability to communicate

C1 project managers considered the ability to communicate to be another key attribute. They communicated with people working on site by holding regular meetings so that they could check and control the planned work tasks to be accomplished without delay. These project managers also stressed having personal communication with people, so that they could work closely as a team family.

Q: What do you enjoy least about your work?

A: Least? Let me think. I am not sure whether this is the *least*, but really I don't like to see the planned work cannot be completed. Yeah, I think I enjoy least when I am informed that one job task is delayed, and have to think about the negative consequences that delay may cause. (LYL)

Q: Have you ever encountered any such kind of delay?

A: Well, some bad experience, but not exactly delay. There have always been some problems and difficulties, but I don't allow delay happen. (LYL)

Q: How do you prevent delay then?

A: By checking and controlling the whole process, step by step from the very beginning. It is a hard job. But project manager is not a decoration to the office. You need to go out to communicate with your people, with subcontractors, and work together with them. This is my style. And I think my people are glad to see me on site as well. Whenever I have time I would like to go out to have a look at the job site, to check the progress and say hello to people, not always going with a clear purpose, but always coming back with valuable information. We also hold regular meetings to check the progress, and to discuss and find solutions to problems. (LYL)

Another respondent said:

> ... It is important to keep the door to your office open so that people can come to talk to you about their thoughts and problems. You should also go to communicate with people. They are working very hard on site, and some of them are far away from their families. They are now your team family and it is the project manager's duty to care about them and make them happy to work together as a team. (ZXL)

Ability to manage team

For C1 project managers, the attribute of *ability to manage team* meant to manage the relationships within the team on site, so that they could get the team united and integrated as a big family. They considered themselves very much like a father of this family. They stressed caring about people's lives and trying to keep communicating with their team members as described in the above section.

> Q: If you are now involved in recruiting a new project manager for your company, what are the most important criteria you will look at?
>
> A: I think I will first look at whether he has a good knowledge of construction work and relevant experience of working on the job site. As I said just now, a project manager needs to be able to plan the job and organise the site work, so he must have technical awareness. And he should also have strong character and good personal traits so that he can manage people ... (ZXL)
>
> Q: What do you mean by 'manage people' then?
>
> A: Well, people are the most important. In the past, in the 'Maoist era', we always said 'if united, people can overturn heaven and earth'. Now we do not say such slogans, we follow the West and use the term 'teamwork', but to me, they mean more or less the same, that is to unite and work together towards a goal everyone desires. So as project manager, you need to be able to get people united and integrated as a team. The team is like a big family on site, and you are like the father of the family. So you need the kind of personal traits to integrate people. You need to care about their worries and thoughts, and be able to manage the relationships between people within the team. (ZXL)

4.1.2 Conception C2: Project management as coordinating relationships

Figure 4.3 Chinese conception C2 and its key attributes

Chinese conceptions	Key attributes of Chinese conceptions						
	CA1	CA2	CA3	CA4	CA5	CA6	CA7
C1	See Section 4.1.1						
C2							
C3		See Section 4.1.3					

This conception saw project management work as coordinating relationships. Its main focus was not only on the construction work process but also on the relationships of all people relevant to the project, particularly those who were carrying out different types and parts of the work on site.

As indicated in Figure 4.3, compared with C1, these project managers expressed another new attribute: *ability to coordinate*. Meanwhile, although these project managers still agreed with the importance of planning for good project management, they did not consider it to be a key attribute, a point which will be discussed further in Section 4.2.2. Thus, the key attributes constituting this conception included: *knowledge of construction work (CA2)*; *knowledge of commercial management (CA3)*; *ability to communicate (CA4)*; *ability to manage team (CA5)*; and *ability to coordinate (CA6)*. Their specific meanings in Conception C2 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 4.1.

Knowledge of construction work

Knowledge of construction work for C2 project managers meant to understand not only the construction work process and the technical requirements of every aspect of project work as in Conception C1, but also how all the different types and parts of the work interfaced and how every subcontractor's work task related to each other technically. Thus, they could see the big picture and coordinate the relationships between people carrying out the different tasks without interfering with the technical requirements and the progress of the overall project.

> Q: What do you think makes a good project manager?
>
> A: I think a good project manager should be multi-functional with good attitude to and passion for project management work. He should have certain experience of working on construction site. New graduates could hardly be a good project manager, but a good project manager needs to have technical knowledge of the

construction work. As far as I know, most project managers nowadays have got formal education from universities or colleges, then they may start from working as site engineer, engineer and assistant project manager... So they understand every aspects of the construction work, and how different types and parts of the work interface and relate to each other. They also need business administration ability... Thus, they can see the big picture, organise the work on site and coordinate relationships of all parties involved. (ZTO)

Knowledge of commercial management

C2 project managers also considered knowledge of commercial management to be important in their work. By this they meant understanding not only the fundamentals of business administration as in C1, but also the commercial side of the project and the relevant commercial constraints in the contract. In particular, they should understand the commercial implications of their coordinating actions for each party involved and for the whole project, so that the project cost could be controlled and the company could finish the project in profit.

Q: Apart from talking about relationships with relevant parties, you also mentioned just now that cost control is important. Could you explain further about how do you control the project cost?

A: Yes. Cost control is paramount. We usually have financial people in the team to do budgeting and cost analysing. This is important particularly at the beginning, since we have to make some decisions based on the cash flow budget, such as decisions about the procurement strategy. Now we have monthly meetings for cost analysis and control. After all, we want to earn not only fame but also profit for the company. (ZLQ)

Q: What's the impact of this on your work? And how do you deal with contradictions between fame and profit?

A: Well, quality, time, and cost are the three aspects that project manager needs to control. So you must know both the technical requirements and the commercial constraints. And most importantly, you need to be able to coordinate relationships of people involved in the project, so that cash flows efficiently among the client, the company and the subcontractors without delay, and every party works well without delay. It is not an easy job, so you need to study the contract, being fully aware of the commercial side of the project. It is true that you always need more money if you want to achieve better quality within shorter time and gain good fame for the company. But I don't think they are always contradicting. It depends much on project manager's knowledge of and experience in business administration, and his social skills in coordination. (ZLQ)

Q: What do you mean by 'social skills' here?

A: Well, for example in coordinating among different parties, you need the ability to convince people that good relationships and sincere cooperation will lead to a 'win-win' solution. I always try to encourage the subcontractors to share their resources on site. If they can reduce their cost, they win, and we also win. At the end, the project benefits. (ZLQ)

Ability to communicate

The ability to communicate was another essential attribute expressed by C2 project managers. Compared with C1, these project managers communicated with people by all possible approaches. They stressed more about mutual understanding and gaining trust with each other, so that they could manage and coordinate relationships among people.

A: The construction work itself is not difficult, as the construction industry does not involve a lot of high technology... The difficult thing is still to manage the relationships between people, to get all people work together. (WAP)

Q: How do you deal with this aspect of difficulty then?

A: Communicating with people and understanding people. In most cases, all people on site work under pressure, such as time constraints. As a consequence, misunderstandings and conflicts are unavoidable. So project manager needs to take all possible opportunities to communicate with people, to build trust with each other, and to coordinate relationships. Very often, you are misunderstood, but you cannot complain, although everyone can come and complain to you. Now, it is popular to say 'long live understanding'. I would say 'long live understanding our project managers'... (WAP)

Ability to manage team

C2 project managers considered teamwork as essential to their project management work. They must be able to build a team and create a team spirit on site. For them, teamwork was not only about getting people work together as a close family as that in Conception C1, but also creating a spirit of mutual support, trust and openness, so that new members could join and unite into the team quickly.

Q: You said several times 'my own people', any specific meaning here?

A: Yeah, we are a team, and we have been working together for many projects. To me, we are like a big family and they are my people, my own family members. (CLY)

Q: So the team is stable, and you always work together with the same team members.

A: Yeah, it is relatively fixed. The company may make some adjustments when organising team for a new project. For example for this project, the company assigned a new structural engineer who was with another team before, and an accountant who worked in the head office before. So as project manager, you need to create a kind of spirit of mutual support, trust and openness in your team, so that the new members can join and unite into the team quickly. (CLY)

Ability to coordinate

Within Conception C2, this attribute meant the ability to coordinate relationships of all people relevant to the project. These project managers needed to understand people and be able to communicate with different people. They tried to manage and coordinate relationships so that the project could progress without delay and be accomplished in a good environment.

Q: Could you tell me a little further about your work on this project?

A: Basically most of my time is spent on coordinating relationships, both internal and external relationships. The control of construction work on site depends mainly on my team ...There must be a good team so that the project manager can be freed from the details and be more focused on coordinating. Team members all have their own tasks and the project manager's role is to see the overall picture. (ZZL)

Q: What do you mean by 'internal' and 'external' here?

A: 'Internal' usually refers to our own company and site team, and 'external' may refer to the client, subcontractors, suppliers, as well as the relevant local authorities. So, I mean all those involved in the project. The project manager must understand all those people, and be able to communicate with them, so that you can manage and coordinate relationships with them, and can maintain a good environment for the project to be accomplished without delay. (ZZL)

4.1.3 Conception C3: Project management as developing relationships

Figure 4.4 Chinese conception C3 and its key attributes

Chinese conceptions	Key attributes of Chinese conceptions						
	CA1	CA2	CA3	CA4	CA5	CA6	CA7
C1	See Section 4.1.1						
C2		See Section 4.1.2					
C3							

This conception saw project management as developing relationships. As with Conception C2, the main focus of this conception was also on relationships, but in a way that was more future-oriented in that project managers expressing it paid much attention to building new relationships. The most essential aspect of these project managers' work was being able to build and develop new relationships, reflected by a new attribute in this conception, the *ability to build new relationships*.

Thus, as indicated in Figure 4.4, the key attributes constituting this conception included: *knowledge of construction work (CA2)*; *knowledge of commercial management (CA3)*; *ability to communicate (CA4)*; *ability to manage team (CA5)*; *ability to coordinate (CA6)*; and *ability to build new relationships (CA7)*. Their specific meanings in Conception C3 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 4.1.

Knowledge of construction work

In Conception C3, this attribute meant having knowledge of not only the construction process on site but also the development of the construction industry, in particular the availability of new technology and materials. These project managers should be open-minded and well informed. They could give good suggestions to the client, and utilise new technology and methods in the construction work, so as to build good relationships with the client to get more projects afterwards.

> A: ...for about 20 years after graduating from university, I have been working in the construction industry, experiencing all its changes and rapid developments in recent years. (XSG)
>
> Q: You are very experienced then. Do you think your experiences are helpful in your project management work?
>
> A: Yeah, of course. As a project manager, you must be more experienced than others. And you need to be open-minded and well-

informed. Since you have to decide the strategy on how to construct or say manage the project successfully, you must be aware of the development of the industry such as the availability of any new technology and more advanced methods. Thus you are also able to give the client good suggestions. The client would appreciate very much if they get good suggestions from the contractor, and they would come back to you for new projects. That's what we hope to gain from this project. (XSG)

Knowledge of commercial management

Project managers with Conception C3 also considered knowledge of commercial management to be essential for their work. Apart from those expressed by C1 and C2 project managers, C3 project managers had a broad vision and better knowledge of the market. They attended not only to gaining profit from current project, but also to the future development of the company.

A: ...The competition for new projects is very fierce... In most cases, the final contract price is lower than the reasonable one. So project managers usually work under great tension to accomplish the work as required in the contract and to make profit for the company. (SWH)

Q: How do you deal with this then? How about this project?

A: I expend a lot of energy and time on the commercial management of the project. From planning, subcontracting, to detailed technical methods, I have to control the financial aspect of the project and coordinate among different parties trying to achieve more with less cost and making sure it is within the budget... So we always say now that project manager needs to be multi-functional. He needs to be flexible, and should have a broad vision and better knowledge of the market. And within the company, we have close contacts and cooperation among different projects. So at last, this project may show loss, but the company's general interest will be guaranteed. (SWH)

Ability to communicate

Apart from those mentioned by C1 and C2 project managers, C3 project managers emphasised the ability to communicate with all kinds and levels of people, particularly with those they didn't know before. In order to maintain good relationships and take opportunities to build new relationships, they tried their best to communicate with others. As the following respondent expressed:

Q: What aspects of this project have been successful?

A: For this project, the most successful aspect up to now is the good relationships we have built with the client. Although this is the first project we work together and I didn't know anyone in the client's company before this project, we got a way to communicate with each other and build trust with each other. So I think it is very important for the project manager to be able to try all his best and take all opportunities to communicate with people, particularly with those you don't know before... You need to possess the kinds of personalities and skills to talk with people, to convince them and to build good relationships. (CMF)

Ability to manage team

In addition to the attributes mentioned by C1 and C2 project managers, C3 project managers attended also to team development. They motivated team members to work on their own initiative, and encouraged them to keep studying and improving themselves. Whenever possible, they created opportunities for their team to learn. As the following respondent said:

... another task of the project manager is to keep the team motivated, to ensure people to work on their own initiative. There must be such a team spirit that every one cares about not only his role and himself, but also the whole project and the collective, the team. Nowadays, there are so many temptations outside the project site, so you cannot simply tell people what they should or should not do, particularly the young generation. But you can influence them. For example, I organise regular meetings and studying meetings. All the team members sit down together to learn about new technologies and management concepts. We also discuss the problems and solutions so that people learn from each other's work experiences. I also encourage my team to attend training courses organised by the company... Now in the company, we are famous for teamwork and team development. So every year, new graduates all want to join my team... (XSG)

Ability to coordinate

C3 project managers also considered the ability to coordinate relationships of all people relevant to the project to be essential to their work. Compared with C2, these project managers were more future-oriented in that they tried to coordinate relationships before problems and conflicts occurred.

Q: What does project management work mean to you?

A: To me, it is to administer all aspects of a project, such as cost, quality, safety, people, and to coordinate relationships of people on

the project. You need to organise the site work, to control the project cost and a lot of other things. But I think most importantly you need to be able to coordinate relationships of all parties involved in and relevant to the project. (CMF)

Q: Can you give me an example about this?

A: For example for this project, I spent a lot of time and put a lot of efforts to coordinate relationships with local residents... If they were against you and this project, the site work could hardly proceed peacefully as scheduled. So you need to understand and foresee problems and be able to coordinate relationships to avoid problems and conflicts occur. It is actually the client's responsibility to deal with any problems with local residents, but you cannot simply wait and go to the client when conflicts occur. That would be too late to get the problems sorted out... The client appreciated very much our efforts and we are building a very good relationship with our client as well. (CMF)

Ability to build new relationships

Project managers with Conception C3 expressed a new attribute of the ability to build new relationships. They considered being able to build and maintain good relationships to be essential for accomplishing the current project and at the same time for gaining resources and advantages for the company to win more projects in the future.

A: ...I have experienced the whole process of importing the project management concepts and methods into the industry. At beginning it was called '*xiang mu fa*' ... personally I think project management provides some very good ideas and methods. (FFZ)

Q: How have you acquired knowledge on project management then?

A: I went to some training courses and got the certificate for project manager. My certificate is Class I. We have to go to those courses in order to get the certificate. This is the regulation by the ministry. But the fact is you can learn from those courses the techniques and methods of how to manage a project, but you cannot learn how to be a good project manager. Because being a good project manager, you need the kind of skills and ability to build and maintain good relationships with the client, the local authorities and so forth. (FFZ)

Another respondent stated:

... one important factor of a successful project is to be able to build new relationships through this project. These new relationships will be added to the company's assets for being more competitive in getting new jobs in the future. (WSL)

4.1.4 Summary

Thus far, I have described the three identified Chinese conceptions of project management work including each conception's main focus and key attributes that appeared when project managers experienced and accomplished their work. As noted in Chapter 3, the internal relation between an attribute identified from a respondent's statements and its embedded contexts showed the specific meanings attached to this attribute. In the above sections, the examples quoted from my interviews with Chinese respondents illustrate the meanings of each attribute in each conception respectively, and demonstrate that the same attribute meant different things to the project managers expressing different conceptions. Such different meanings of one attribute in different conceptions were usually cumulative and hierarchical, to be discussed further in Section 4.2.2. Meanwhile, within each conception, the meanings of all its key attributes were internally related to each other, which formed a specific structure of competence in project management with these key attributes being the essential aspects of competence. The way each conception and its key attributes formed a distinctive structure of competence in project management in China is listed in Table 4.1 and summarised below.

Conception C1 was characterised by its main focus on the construction process and work details on site. Project managers expressing this conception planned the work sequence and produced a master plan showing all the important milestones. They then prepared detailed monthly and weekly plans, according to which they organised the work on site and controlled the progress and cost of the project. This was the fundamental aspect that also required and depended on the other aspects of conception C1. In order to plan the work and ensure the implementation of the work without delay, they needed to understand the construction process and to be aware of the technical requirements for each work task. They also understood the fundamental business rules and practice, so that they could arrange the procurement of resources and get the required resources delivered to site as planned. In order to check and control the work progress, they communicated with relevant people by regular meetings on site. Meanwhile, they cared about people working together with them on site, and tried to keep up personal communication to get people united and work closely as a team. They considered themselves like a father in the team family. Therefore, it can been seen that the meanings of the five key attributes within this conception were internally related to each other and centred around planning and controlling the construction work on site forming a distinctive structure of competence in project management work in China.

Conception C2 was characterised by its main focus on the relationships of all people involved in the project. The central aspect of competence expressed

by these project managers was to coordinate both internal and external relationships, particularly of those who were carrying out the different types and parts of the work on site, so that the project work could progress properly according to the contract conditions and in a good environment, and the company could gain both fame and profit from the project. This required these project managers to understand the construction work process and be aware of how different types and parts of the work interfaced and how each subcontractor's work related to each other. They were also aware of the relevant commercial constraints in the contract and understood the commercial implications of their coordination for each party involved and for the project as a whole. In order to manage and coordinate relationships, they communicated with people by all possible means to gain mutual understanding and trust with each other. When focusing their role on coordinating relationships, these project managers put effort into building a team and creating a spirit so that the team could work like a close family and new team members could join and unite into the family quickly. Thus, it was obvious that the meanings of the five key attributes within this conception were internally related to each other and centred around coordinating the relationships of all relevant people, forming another distinctive structure of competence in project management work in China.

Conception C3 was characterised by its main focus on developing relationships through implementing the current project. Compared with C2, C3 project managers were more future-oriented. The central aspect expressed by these project managers was to think forward to be able to make new friends and build new relationships, and to be able to contribute to the future development of the company. The other five key aspects of these project managers' work were centred around this one and they together formed the third distinctive structure of Chinese project management competence. The C3 project managers understood the construction process and had good knowledge of the whole construction industry such as its history and future development. They were also fully aware of the market and the potential opportunities for the future development of the company. They kept coordinating relationships so that the possible problems and conflicts could be avoided. Meanwhile, they motivated their team to learn and improve themselves so to be more competitive in the future. In order to build new relationships and maintain the good relationships, they tried to communicate with all kinds and levels of people, including those they did not know before.

Table 4.1 The way each conception and its key attributes formed a distinctive structure of project management competence in China

Conception	Main focus	Key attributes of conception and aspects of competence						
		CA1: Ability to plan	**CA2: Knowledge of construction work**	**CA3: Knowledge of commercial management**	**CA4: Ability to communicate**	**CA5: Ability to manage team**	**CA6: Ability to coordinate**	**CA7: Ability to build new relationships**
C1: Project management as planning and controlling	Construction process and work details	Plan the work; Control the work process and cost of the project.	Understand the construction process and technical requirements for the work task.	Understand the fundamental rules and practice in business negotiation and administration.	By regular meetings; Have personal talks with people and care about people.	Maintain good relationships within team; Get the team united and work closely like a family.		
C2: Project management as coordinating relationships	Relationships		C1+ Understand the work interfaces; Be aware of people's relationships.	C1+ Be aware of the contract; Understand the commercial implications of coordination.	C1+ By all possible approaches; Gain mutual understanding and trust.	C1+ Create a team spirit; Coordinate relationships between new and old team members.	Coordinate relationships of all people; Ensure work progress well.	
C3: Project management as developing relationships	New relationships Future-oriented		C2+ Know the construction industry; Be aware of the history and future development of the industry.	C2+ Be aware of the market and the potential opportunities for the future development of the company.	C2+ Communicate with all kinds and levels of people, with people unknown before.	C2+ Motivate the team to learn and to improve themselves; Be more competitive.	C2+ Coordinate before problems and conflicts occur.	Think forward; Build new relationships; Contribute to the future development of the company.

4.2A hierarchy of project management competence in China

The above three categories of conceptions (C1, C2, C3) identified in this study reflected three forms of competence in project management in China. From Conception C1 to C2 and C3, a variation in meaning was evident. This variation could be hierarchically organised, forming a hierarchy of competence in terms of increasingly advanced forms of conception. In the following sections, I discuss the way such a hierarchy of competence in project management appeared at both the general conception level and the attribute level.

4.2.1 At the general conception level

In the first conception C1, the project management work was seen as planning and controlling, with the main focus on the construction process and work details on site. In Conception C2 the work was expanded so that it included not only planning and controlling the work on site but also coordinating work interfaces and relationships of people relevant to the project, the main focus of which also shifted onto work interfaces and people's relationships. Planning the work and controlling the implementation of the plan, which were in focus in C1, formed a background for coordinating work interfaces and people's relationships, which were in focus in C2. In Conception C3 the work was expanded further so that it consisted of not only planning and controlling the construction work on site, and coordinating the relationships, but also developing new relationships for the company. The main focus was still on relationships, as in Conception C2, but in a more future-oriented way. In C1 and C2, the focus was mainly on the current project with the purpose of ensuring the construction work to progress well as required and the company to gain fame and profit as expected. Building on this, Conception C3 moved further towards building new relationships with the aim of future development of the company in the construction market.

Thus, as indicated in Figure 4.1 and demonstrated in Table 4.1, a cumulative hierarchy of Chinese competence was formed as: the first conception C1 was the least comprehensive, the second C2 was more comprehensive than C1, and the third C3 was the most comprehensive, which suggested that individuals holding the third conception C3 were the most competent and that those holding the first Conception C1 were the least competent with regard to project management work in China. This suggestion was supported by the data in that project managers who expressed more comprehensive conceptions were also able to express less comprehensive conceptions, while the reverse did not seem to be the case. This was more evident at the attribute level, to be discussed in the following section.

4.2.2 At the attribute level

The above hierarchy of project management competence in China was also evident through the key attributes of each conception, i.e. the essential aspects of each form of competence. As demonstrated in Section 4.1, each conception consisted of different attributes and the same attribute could mean different things to the project managers expressing different conceptions. A variation of meanings of attributes in different conceptions demonstrated a hierarchy within the three forms of competence.

For instance, the attribute *knowledge of construction work* was considered essential to their work by all Chinese respondents, but with a variation in meanings in the three conceptions. Those project managers with Conception C1 emphasised their technical knowledge of the construction process and work details, since the central aspect of their work was to plan the work sequence and control the construction work on site. Conception C2 also included an understanding of the construction work process, which however was inadequate for C2 project managers who conceived their work to be centred around coordinating the relationships of all relevant to the project. For them, the meaning of *knowledge of construction work* was expanded to understanding the work interfaces and the relationships of those carrying out the different work tasks on site, so that they could coordinate the relationships of these people. Thus, the meaning of this attribute in Conception C1 formed a background for its expanded meaning in Conception C2. Similarly, in Conception C3 understanding the construction work process and interfaces of project tasks were important but insufficient for building new relationships and developing the company further in the market. In order to build and maintain a good relationship with the client, C3 project managers needed to be able to give good suggestions to the client and utilise new technologies and methods in their work, so they should have knowledge of the whole construction industry including the future development of the industry. Using the attribute of *knowledge of construction work* as an example, it can be seen that the meaning of this attribute at a lower level competence formed part of the meaning of the attribute at a higher level.

Knowledge of commercial management also appeared as a key attribute in all of the three Chinese conceptions, but the meanings of the attribute in the three conceptions varied. C1 project managers needed to know the fundamentals in business negotiation and administration so that they could arrange the procurement of resources. Conception C2 also included an understanding of the fundamental business rules and practice, which however was inadequate for C2 project managers who conceived their work to be centred around coordinating the relationships of all relevant to the project. For them, the meaning of *knowledge of commercial management* was expanded to being aware of the commercial constraints in the project contract and understanding the implications of any coordinating actions for the relevant party's benefit and for the project cost. Thus, the meaning of this

attribute in Conception C1 formed a background for its expanded meaning in Conception C2. In Conception C3, its meaning was further expanded to being knowledgeable about the market and the potential opportunities for the future development of the company. Therefore, similar to that in the attribute of *knowledge of construction work*, the meaning of this attribute at a lower level competence formed part of the meaning of the attribute at a higher level.

The attribute of *ability to communicate* was also expressed by all of the Chinese respondents as essential to their work. For project managers with Conception C1, the approach to communication was to have regular meetings with relevant parties. Since their focus was on construction work details on site, communication for these project managers was a measure to check and control the implementation of the planned work. But when focusing on coordinating relationships as that in Conception C2, having regular meetings was not sufficient. C2 project managers took all possible approaches to communicate with people, particularly with those working on site. They placed more emphasis on personal contacts and mutual understanding. For them communication was not only a measure for planning and controlling the work on site but also for socialising and building trust so that their coordination could be effective. Thus, the meaning of this attribute in Conception C1 formed a background for its expanded meaning in Conception C2. In Conception C3, this attribute's meaning was further expanded to being able to communicate with all kinds and levels of people, including those they did not know before, so that they could build new relationships through the implementation of the current project and gain assets for the future development of the company. This meant that the meaning of this attribute at a lower level competence was included in the meaning of the attribute at a higher level.

Ability to manage team was another attribute expressed by all of the Chinese respondents as essential to project management work. For project managers with Conception C1, the meaning of this attribute was to maintain a good relationship within the team and to get the team members united and work like a close family, so that the team could help them in planning and controlling the work on site. This however was inadequate for C2 project managers. With their focus on coordinating relationships, C2 project managers attended also to the relationships between newcomers and the old team members. They put efforts to create a team spirit that could not only integrate the team but also help the new members to join and unite to the team quickly. Thus, the meaning of this attribute in Conception C1 formed a background for its expanded meaning in Conception C2. In Conception C3, its meaning was further expanded to motivating the team to learn and improve themselves to be more competitive in the future, and therefore to be able to contribute more to the future development of the company. Thus, it was evident that within this attribute, there also existed a cumulative relation between project managers' different ways of experiencing team management in the three forms of competence.

Ability to coordinate appeared as a key attribute in both Conception C2 and Conception C3, but represented different meanings in the two conceptions. There was no evidence in this study that this attribute was also of importance for project managers with Conception C1. Being in line with their main focus on relationships, project managers with Conception C2 tried to manage and coordinate relationships of all relevant to the project, so that the work could progress without delay and be accomplished in a pleasant environment. C3 project managers could be distinguished from those with C2 in that the former had a broad vision and could think forward and they expanded the meaning of this attribute to being able to coordinate relationships before problems and conflicts occurred.

The attribute *ability to plan* was expressed as central to their work only by C1 project managers. This however did not mean that this aspect was not necessary in Conceptions C2 and C3. C2 and C3 project managers also considered planning the work well to be important and both regarded 'having a plan in place' to be one of the fundamentals in managing a project, but this was not considered to be their key task. As discussed in Section 4.2.1, the meaning of this attribute in Conception C1 was subsumed in the attribute of the *ability to coordinate* in Conceptions C2 and C3. Meanwhile, the *ability to build new relationships* was expressed as a key attribute only by C3 project managers. This again illustrated a cumulative hierarchy in the three forms of project management competence in China.

4.3 Possible sources of variation in project management competence in China

Having described the hierarchy of project management competence in China in Section 4.2, another question of interest is how such variations in competence are related to the respondents' demographic information such as age, education, work experience and so on. The Chinese samples' demographic information against the three conceptions are summarised in Table 4.2 and shown in detail in Table 4.3.

Although not very strong, the age, the length of work experience in the construction industry and the length of being a project manager seem to have some effects on the respondents' different conceptions of their work. As can be seen from Table 4.2, the average age of the respondents increased from 34.8 years in Conception C1 to 38 in C2 and 40.2 in C3. The average length of the respondents' work experience in the industry increased from 13.3 years in C1 to 16.1 years in C2 and 18.2 years in C3. Similarly, the average time of being a project manager also increased from 5 years in C1 to 7.1 years in C2 and 10 years in C3. One possible explanation is that the longer a project manager had been in the industry and had worked as a project manager, the more competent he became. However, this explanation is weakened by the fact that the longest work experience in

the industry for C1 respondents was 20 years, whilst the shortest for C2 respondents was only 6 years. Nevertheless, all the Chinese respondents had at least 6 years work experience in the construction industry. This is in line with the fact that all the respondents expressed it necessary for a good project manager to have experience in the industry.

Whether project managers held a formal educational degree seems to show some relationship to their different levels of conceptions of the project management work. As demonstrated in Table 4.2, a minority of 33% of the respondents with Conception C1 held formal educational degree, whilst a majority of the respondents with Conception C2 (67%) and C3 (83%) had formal education and held a university degree. Formal education also bears some relationship to the career path of all the respondents since they joined the construction industry. As can be seen from Table 4.3, it took a range of 4-13 years (with an average of 7.1 years) for the 18 respondents with degree to be promoted to the role of project manager after they joined the construction industry, whereas it took a range of 7-15 years (with an average of 11 years) for the 12 respondents without a degree to be promoted to project manager after they joined the industry. Yet there is no strong evidence of any direct links between formal education and the different forms of competence in project management in China.

Table 4.2 A summary of the Chinese conceptions against samples' demographics*

		Conception C1	**Conception C2**	**Conception C3**
No. of project managers		9	15	6
Age	Range	28-39	30-45	35-45
	Mean	34.8	38	40.2
No. of years in CI	Range	8-20	6-23	12-24
	Mean	13.3	16.1	18.2
No. of years as PM	Range	1-8	2-11	8-14
	Mean	5	7.1	10
Education	With degree	3 (33%)	10 (67%)	5 (83%)
	Without degree	6 (67%)	5 (33%)	1 (17%)

*For details, please see Table 4.3.

Table 4.3 The three Chinese conceptions against samples' demographics*

	S/N	Name	Age	Formal education degree	No. of years in CI (a)	No. of years as PM (b)	(a)-(b)	Value (approx.) (£million)
Conception C1	1.	ZXL	38	No	18	7	11	11
	2.	WKL	39	No	17	6	11	3
	3.	ZBH	34	No	11	4	7	5
	4.	LCH	30	Yes	8	3	5	2
	5.	LWE	28	No	8	1	7	1
	6.	WSJ	38	No	20	5	15	2
	7.	LYL	37	No	14	5	9	2
	8.	JGJ	35	Yes	13	8	5	5
	9.	LJL	34	Yes	11	6	5	13
Conception C2	1.	WAP	33	Yes	11	4	7	4
	2.	ZZL	36	Yes	15	6	9	11
	3.	CLY	44	Yes	21	10	11	17
	4.	JCY	37	No	15	6	9	8
	5.	LLJ	40	Yes	15	10	5	9
	6.	ZLQ	42	Yes	20	11	9	7
	7.	GDF	45	Yes	23	10	13	8
	8.	SZY	35	No	17	3	14	3
	9.	XYJ	42	No	19	8	11	2
	10.	MZS	43	No	22	9	13	2
	11.	ZTO	33	Yes	11	7	4	10
	12.	WYP	30	Yes	8	4	4	7
	13.	ZLE	30	Yes	6	2	4	8
	14.	LJJ	41	No	20	7	13	5
	15.	HCR	39	Yes	18	9	9	9
Conception C3	1.	CMF	39	Yes	16	8	8	10
	2.	WSL	42	Yes	20	14	6	18
	3.	SWH	35	Yes	12	8	4	10
	4.	XSG	45	Yes	24	12	12	8
	5.	FFZ	43	No	22	10	12	3
	6.	CDF	37	Yes	15	8	7	10

*For Chinese samples' full demographic information, please see Table 3.2.

CHAPTER 5 UK CONCEPTIONS OF PROJECT MANAGEMENT WORK

In this Chapter, I present the second part of the research findings, namely UK conceptions of project management work. First in Section 5.1 I describe the three identified categories of UK conceptions of project management work, including each conception's main focus and the meaning of its key attributes. In Section 5.2 I discuss a hierarchical relation within the three UK conceptions of project management work at both the general conception level and the attribute level. In Section 5.3 I indicate possible sources of the variation in UK project management competence.

5.1 Three UK conceptions of project management work

In my interpretation of the UK interview transcripts, three qualitatively different conceptions of project management work in the UK (represented by U) emerged:

U1. Project management as planning and controlling;
U2. Project management as organising and coordinating;
U3. Project management as predicting and managing potential problems.

The UK project managers expressing each conception differed from each other through their ways of experiencing and managing their work. They delimited and organised project management work in terms of certain essential attributes with different focus, forming different characteristic features of each conception. The essential attributes of project management conceptions expressed by UK respondents (represented by UA) included:

UA1. Ability to plan;
UA2. Knowledge of construction work;
UA3. Ability to communicate;
UA4. Ability to manage team;
UA5. Knowledge of commercial management;
UA6. Ability to coordinate;
UA7. Ability to deal with problems.

Figure 5.1 UK conceptions and their key attributes

UK conceptions	Key attributes of UK conceptions						
	UA1	UA2	UA3	UA4	UA5	UA6	UA7
U1	■	■	■	■			
U2		■	■	■	■	■	
U3		■	■	■	■	■	■

As indicated in Figure 5.1, some of the seven attributes might be considered essential in more than one of the three UK conceptions. However, within different conceptions, attributes represented different meanings and approaches. Further, not all of the seven attributes were key in every conception. For example, the attributes *knowledge of construction work (UA2)*, *ability to communicate (UA3)* and *ability to manage team (UA4)* were considered essential to all of the three UK conceptions and *knowledge of commercial management (UA5)* and *ability to coordinate (UA6)* were essential to both U2 and U3, but with different meanings. The *ability to plan (UA1)* was considered to be a key attribute only by project managers with Conception U1, whereas the *ability to deal with problems (UA7)* was considered to be key only to U3.

In the following sections, I describe each conception, its main focus, and the meaning of its key attributes respectively. The way each UK conception and its key attributes formed a distinctive structure of competence in project management in the UK is summarised in Table 5.1.

5.1.1 Conception U1: project management as planning and controlling

Figure 5.2 UK conception U1 and its key attributes

UK conceptions	Key attributes of UK conceptions						
	UA1	UA2	UA3	UA4	UA5	UA6	UA7
U1	■	■	■	■			
U2		See Section 5.1.2					
U3		See Section 5.1.3					

This conception was characterised by its main focus on the construction work process and individual subcontractors. This focus implied that all U1 project managers' key attributes were centred around the construction work details on site, such as the work programme and construction methods of individual subcontractors.

As indicated in Figure 5.2, the key attributes constituting this conception included: *ability to plan (UA1)*; *knowledge of construction work (UA2)*; *ability to communicate (UA3)*; and *ability to manage team (UA4)*. Their specific

meanings in Conception U1 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 5.1.

Ability to plan

Within Conception U1, this attribute meant the ability to plan the construction work sequence and to check and control individual subcontractors' work programme and construction methods, including the health and safety methods. This was one of the most fundamental attributes of this conception. It was through this attribute that U1 project managers considered that the cost, time and quality of the project could be controlled. As the following example illustrated (from my interview with ROW):

> Q: Could you describe to me your work on this project?
>
> A: Well, it is the sort of planning and controlling of a job. The key thing is really on the job site; you should plan the job properly, and I think if you can plan properly you will have a better chance of controlling everything, everybody and all the subcontractors. (ROW)
>
> Q: How do you plan the job then?
>
> A: There are a number of things to do. First of all, when you plan the job, you produce such a programme on computer with start date and finish date of each task. All these dates are completed first and they all need to be sequenced. They need to be in good sequence, that is important. You need to work on that. The control of the site you start with every subcontractor's work schedule and their methods. (ROW)
>
> Q: So, subcontractors produce their own methods...
>
> A: Yes. They should have got a programme and should have produced relevant method statements when they tendered for the job, such as health and safety measures. And as required their method statements now need to go through the approval process and it is important that they have got proper method statements of their work. (ROW)

Knowledge of construction work

In order to plan and control well, U1 project managers considered it essential for them to have good knowledge of the construction work. By this they meant understanding the overall construction process and being aware of the technical requirements of the project, including the technical details of each subcontractors' work, the health & safety procedures and so forth, so that they could plan the work sequence themselves and to check and

approve subcontractors' work programme and construction methods, and to provide advice when necessary.

Q: What is a good project manager to you?

A: To me? Well, a good project manager is somebody with enough knowledge of the construction work, not necessarily academic knowledge but enough experience and practical knowledge to be able to manage the whole process, and with enough confidence to be able to make decisions based on facts. (MIH)

Q: Could you please give me an example about this?

A: One example would be when subcontractors submit their programme and methods, I feel that I would have enough experience and knowledge to be able to check and approve them. In fact, the subcontractors generally try to use the minimum labour resources or safety measures. They are always quite positive about what they can achieve in the given time. So you have to help educate the guys to plan their work, demonstrate that they probably need more resources, longer time. You have to help plan their work so that they maximise their efficiency, and their safety. Although they are getting a lot better, a lot of contractors within the industry are still not completely educated on safety legislation, so I help them with that. (MIH)

Ability to communicate

U1 project managers considered the ability to communicate with others to be another key attribute. Their approaches were to have regular meetings, so that they were able to check and control the implementation of the planned work tasks and to update the project programme. These project managers' communication with others was usually in two directions, i.e. between themselves and the other party such as the client, team members or individual subcontractors.

A: ... My personal work is planning, planning all the time... You need to be planning regularly for every event because things change and they may not go in accordance with the way you have originally planned. So you need to sit down with your own team, the subcontractors and with the client, you need to communicate with them and you need to be able to plan and update your plan regularly. (STM)

Q: You mean communication...?

A: Yes. Communication. Communication with people is very important. Regularly, we hold meetings on site, meetings within the team, meetings with subcontractors and meetings with the client...

For instance, at this stage we meet with the client once a week, we inform them about the progress of the job, about any problem, and if the client has any new requirement we discuss that and we will see together how the plan need to be updated. (STM)

Ability to manage team

For U1 project managers, the attribute of *ability to manage team* meant to allocate work tasks to each team members, and then to chase and help them to fulfil their tasks. In so doing, they needed to be more experienced and have better knowledge of the construction work than others as discussed in the previous section of *knowledge of construction work*. They stressed telling people what to do. With their focus on the construction work details and individual subcontractors, their team members' tasks were also around checking and controlling work procedures and the programme.

A: ... it is various things to do. As the project manager you must know the programme, know what's going on, and get everyone involved to work as a team. You need to allocate liabilities and the sharing of roles make us work as a team... (BOG)

Q: You mentioned just now 'sharing of roles', could you describe a little further about your role?

A: Well, we are a team for this project. My role is that I am in charge of the job and I need to make sure that we have got a programme in the first place, and ensure everyone implements their work. In fact I cannot just enforce authority. If anyone starts failing in anyway, I will try to help him. Everyone makes mistake and they should learn from it. So my approach would be not just point them at what they should do, but tell them what to do and why they are wrong, and tell them what would be the problem if that goes wrong. (BOG)

5.1.2 Conception U2: Project management as organising and coordinating

Figure 5.3 UK conception U2 and its key attributes

UK conceptions	Key attributes of UK conceptions						
	UA1	UA2	UA3	UA4	UA5	UA6	UA7
U1	See Section 5.1.1						
U2							
U3		See Section 5.1.3					

This conception saw project management work as organising everything together and coordinating interfaces of work tasks on site. Its main focus was not only on the construction work process but also on the work interfaces involving multiple liaisons of subcontractors. As the following example showed (from my interview with JOA):

> Q: Could you tell me a little further about your work on this project?
>
> A: Yeah! I am the project manager for this project, responsible for organising liaison with all the subcontractors, checking all aspects of the work. I also organise weekly progress meetings with all the relevant trade subcontractors to ensure the work is carried out. I also have to look at all design issues, all construction issues, all aspects of health and safety on this particular project, they are under my responsibility, to make sure that it is delivered on time and also within budget. (JOA)

Apart from planning and controlling individual subcontractors' work as that for U1 project managers, understanding and coordinating interfaces of the work was central in this conception. As indicated in Figure 5.3, compared with U1, these project managers expressed another two new attributes: *knowledge of commercial management* and *ability to coordinate*. Meanwhile, although these project managers still agreed with the importance of planning for good project management, they did not consider it to be a key attribute, a point which will be discussed further in Section 5.2.2. Thus, the key attributes constituting this conception included: *knowledge of construction work (UA2)*; *ability to communicate (UA3)*; *ability to manage team (UA4)*; *knowledge of commercial management (UA5)*; and *ability to coordinate (UA6)*. Their specific meanings in Conception U2 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 5.1.

Knowledge of construction work

Knowledge of construction work for U2 project managers meant understanding not only the overall construction process but also the interfaces of each project task, so that they could put everything together as a big picture and they could allocate work tasks most efficiently. These project managers were aware of how every subcontractor's work related to each other technically, so that they could see the big picture and coordinate them without interfering with the technical requirements and the progress of the overall project.

> Q: In that case what do you think is a competent project manager?

A: I think he needs to have a reasonable level of technical ability such as the building process. He does not need to know everything and all the details, but he should understand the main principles of workings of each trade subcontractor, and make sure the work interfaces between each subcontractor are clear so they can proceed. (TRG)

Ability to communicate

U2 project managers also considered the ability to communicate with others to be important in their work. Compared with U1, these project managers communicated with people not only by regular meetings as that in Conception U1, but also by various other approaches. They stressed more about socialising and gaining trust with each other. They communicated not only for getting and sharing information but also for building trust, so as to help practically in their organising and coordinating the overall project. As the following respondent stated:

Apart from regular meetings, team bonding is also a good means to communicate with people. Everybody works hard on site. It is always nice to take people out for a drink or meal. We sit down and just relax and try not to think about work. It is a bonding thing, and you have to learn to bond with people. Here on site, you are driving them to say 'we want it, we want it today, we want it this way...' At one evening, team meet at a club in a relaxed atmosphere, it is not a regular thing, maybe once a month, but you do that to show that you appreciate what they have done. It builds trust between you and your client and people you are working with. (MAK)

Ability to manage team

U2 project managers considered teamwork as essential to their project management work. They must be able to build a team and create a team spirit on site. For them, teamwork was not only for ensuring each member to fulfil their own part of role tasks as that in Conception U1, but more importantly also for getting all the people to work together as one team towards that one single goal of the project. Therefore, these project managers should set principles to allow the team to carry out their work, and at the same time they should try to build a spirit of trust and openness to encourage people to express their ideas, worries and suggestions, and to support and help each other in their work.

Q: What do you enjoy most about your work?

A: Working with people, getting people together and getting that team built... I think project management is based on trust and a lot of hard work, which is not from myself but from the team. Project

management is about team, teamwork and team method, and you cannot succeed without a strong team. (BIK)

Q: What do you mean by 'teamwork' and 'team method' then?

A: As I said it is a people industry, you need to have an understanding of people and you need to be able to build a team. For instance, we have now over 20 staff here on this project, and the majority of them are new people to the company over the past two years. So we are taking new people and building a team. These people came from different projects or different places. A project manager has to understand everybody's needs and ways and what is required, and you need to make them understand each other's ways and work together as a team to achieve that one goal. I believe they can carry out their role, but sometimes it is difficult for them to see others' needs and the big picture, so you need to influence the team and to create an open team environment. (BIK)

Knowledge of commercial management

Project managers expressing Conception U2 also attended to the commercial sense of organising and coordinating their work. They were aware of the duties of all parties involved in the project contract and the relevant price constraints. In particular, when encountering variations or changes to the scope and/or design of the work in the contract, they should try to manage them properly, so they needed to understand the implications of such variations and changes for the contract price and the duties of each party involved.

A: Well, this project is quite large... Economically, we have to work within the constraints of what the project costs are. We have been told that figure, and we have to get procurement and make sure the work is delivered within that budget and on time... (JOA)

Q: Get procurement? Could you explain that further?

A: I mean for instance the use of specialised subcontractors. Whatever their price I have to make sure they did their job. Sometimes there might be variations or design changes to the contract. I have to be there to manage any variations and changes, to make sure it is within the budget... If the client asks for us to change something then we have to make sure that the client will pay for that. (JOA)

Another respondent expressed this aspect in the following way:

A: Another thing I think you should have is a good knowledge of the contract. You need to know the duties of all parties involved in the contract, including the main contractor and the subcontractors... You

need to know how you should perform, how everybody else should perform and what their duties are. You also need to know what's their price for... (TOH)

Ability to coordinate

Within Conception U2, this attribute meant the ability to coordinate the subcontractors' work interfaces. These project managers needed to be able to breakdown the project work and understand how every work task relates to each other. They understood the interfaces between subcontractors' work both technically and commercially, so that they could manage and coordinate properly not only to make sure the project work progress in good sequence, but also to avoid disruption to subcontractors' work and avoid inefficiency. Therefore, they needed both knowledge of construction work and knowledge of commercial management, as explained in earlier sections.

Q: What are the most important aspects of your work?

A: The most important aspect, I think is the coordination of everything on site, just making sure that things happen in a sequence and on the dates you want them to happen, and making sure that everybody complies with what you want them to do... So as a manager you need to have a programme in place and really you have to coordinate well. It is wrong to set dates and to push for the completion of work on those dates. You cannot just push and push, because you are working with so many subcontractors in so many areas and pushing doesn't work. (MIJ)

Another respondent said:

At the moment there are probably around 12 subcontractors working on site, the size of their contracts varies. There are a lot of interfaces which need coordination from us, because they have difficulties in seeing the big picture outside their own trade. So we coordinate. For example, in one 6 square feet bathroom, there is work by 7 subcontractors. So we just try to get them done in a free flow manner and a logical sequence, so that one finishes and leaves and the next one can carry on. You have to explain to them that once they finish, that is not the end of the job but only the release of his work for the following trades. You have to try to educate them really on what they need to produce in order for others also to produce results. (CHL)

5.1.3 Conception U3: Project management as predicting and managing potential problems

Figure 5.4 UK conception U3 and its key attributes

UK conceptions	Key attributes of UK conceptions						
	UA1	UA2	UA3	UA4	UA5	UA6	UA7
U1	See Section 5.1.1						
U2		See Section 5.1.2					
U3							

This conception considered project management work as predicting and managing potential problems. The main focus of this conception was on potential risks and problems facing the project with a multiple involvement of all actors in the project. The most essential aspect of these project managers' work was being able to predict and manage potential problems, reflected by a new attribute in this conception, the *ability to deal with problems.*

As the following respondent expressed:

> If I were not here, 90% of the job would just run itself anyway. What I am really employed for is to sort out or prevent the happening of the 10% – any problems that could cause us a major disaster on site. So that is really what I see myself to be employed for – is not to monitor the 90% of the job that goes automatically, but to pick up the 10% of the job that would go wrong if I don't keep an eye on it and to make sure we have a plan in place to avoid that happening. (ADR)

Thus, as indicated in Figure 5.4, the key attributes constituting this conception included: *knowledge of construction work (UA2)*; *ability to communicate (UA3)*; *ability to manage team (UA4)*; *knowledge of commercial management (UA5)*; *ability to coordinate (UA6)* and *ability to deal with problems (UA7)*. Their specific meanings in Conception U3 are elaborated below, supported by typical examples of statements in the data, and summarised in Table 5.1.

Knowledge of construction work

In Conception U3, this attribute meant having knowledge of not only the construction process on site but also the whole construction industry. In order to predict and manage any potential problems, U3 project managers needed to be aware of the potential risks and opportunities in relation to the on-going construction work, so they should get knowledge of the past, current situation and the anticipated future of the industry.

As one respondent said:

> Apart from the health and safety issue, training and an understanding of the construction industry including its history, its development and where it is going is very important. Because we are in a changing market full of risks and opportunities, new technology and new materials are coming up all the time, so it is very important to have a background within the construction industry. (MIF)

Ability to communicate

U3 project managers emphasised the ability to communicate with all kinds and levels of people relevant to the project. These project managers' communication with people was in multiple directions. They were prepared to take various approaches to communicate with others all the time. In order to predict potential problems and manage them well, they needed to be able to get updated information of all kinds from all possible sources. As the following example illustrated (from my interview with ASR):

> A: The biggest thing for being a good project manager is being able to communicate with lots of different people at different levels. There are so many different personalities and characters in this industry, some people are very quiet and shy and some people like to shout and scream... You need to be able to understand people and deal with each of them at their own level, so you can be fully informed. (ASR)
>
> Q: Can you give me an example please?
>
> A: An example? Yeah... for example, information is important. At the end of the day, there is one goal that is to produce the building. In order to carry out the works, information is quite important. We need to save information from one part and give the information to other part. If we cannot get right information at right time or give necessary information at the right time, there would be problems and delays. So what we got to do is to communicate with people and also make people communicate together, so we are 'middle men' if you like. For instance, when we deal with the architect we know what's their idea and what they want, and at the same time we know what the client wants and we have to communicate about what the client wants to the architect and our team, so all parties know what are the requirements and what are wanted at the end. (ASR)

Ability to manage team

Apart from those mentioned by U1 and U2 project managers, U3 project managers attended also to teaching and motivating their team members.

They put effort in order to make their team happy and they cared about their team members' career development as well. In this conception, building a team spirit for people to work together and getting everyone motivated were both important. U3 project managers considered themselves very much to be a motivator.

> Q: What do you think are the most important aspects of your work?
>
> A: ... management of the programme to adapt it to change internally caused or client caused, also management of a good site team, keep them motivated. (RIC)
>
> Q: How do you keep the team motivated then?
>
> A: Select people who are self-motivated in the first place, give them the role they are capable of doing, let them have the opportunity to expand. And it is important to empower them a little bit and let them cover a bit for their résumé. (RIC)

Another one said that:

> ... I give my team enough opportunities to learn so they can develop their own career, and that is part of what I think the project manager's work is. It is to make sure the team is developed and do what is required. If they are put to the position where they are project manager next time, they can get there to manage the project, because they have learned a little bit from me how to manage projects, and they can use that to develop their career. (JOM)

Knowledge of commercial management

Within Conception U3, knowledge of commercial management meant being aware of the financial constraints and being knowledgeable about any potential risks and problems in contract and in the commercial running of the project. Most of these project managers had been involved at the tendering stage for this project, so they were very familiar with the financial aspect of the project, and they thought this was helpful for them to identify potential problems.

> A: ...you should be able to identify risks, those negative risks ... because the biggest constraint is always finance, so the project manager should also have commercial awareness. (JOD)
>
> Q: What do you mean by such a commercial awareness?
>
> A: Well, as a project manager, you have responsibilities for the overall project but not just one or two particular aspects of the job. So you must be aware of all the contractual arrangements for the project

and understand the financial constraints the project is facing. At the end of the day, you have got to make profit, if you don't make profit, you don't exist and you don't survive. So you always have to face the constraints of finance against other aspects of the job such as health and safety. So you cannot just think of getting the job done, you have to know about the finance constraints, so that you would be able to identify the potential risks and know how much you could compromise. (JOD)

Q: How about this project, any specific constraint?

A: Well, there always be... the good thing is I priced all these so I know the work from the very preliminary stages and I know about where is the risk and where could be the problem. (JOD)

Q: You mean you were involved in the tendering stage for this project?

A: Yeah. That's right. I have always been multi-functional. I have been involved in pricing work and after getting it I act as the project manager. So I could see a contract from the sort of initial stage right through to the final account. (JOD)

Ability to coordinate

Within Conception U3, the meaning of this attribute was closely related to predicting and managing potential problems. Its focus was not only on the work interfaces as that in Conception U2, but also expanded on to everybody and everything involved in the project. They should be able to conduct all actors and coordinate everything. Being in line with their focus on predicting and managing potential risks and problems, these project managers tried to coordinate so as to avoid the happening of any potential problems.

A: ... you have the overall full responsibility for the job, so you must be able to put everybody involved in the project all together and coordinate everything. It is not just the field thing, which is the site manager's job, but everything involved. Many people when talking about project management would always think the project manager's role is to manage construction work on the job site, that's not correct. Project manager should see the big picture. He sets rules and direction, and it is the site manager's job to ensure the day to day running of the job site. I think this is actually the big step from site manager to project manager. (RIC)

Q: So you think project manager should see the big picture and ...

A: Yeah, that's important. You have to focus on the big picture, but inside that big picture, you need to encompass everything there. Well, it is like to conduct an orchestra. You have to conduct them all and to

> coordinate everything. You need to be able to foresee the problem and to coordinate before it happens, so you can try to avoid it happening. (RIC)

Ability to deal with problems

For project managers with Conception U3, the ability to deal with problems meant being able to think forward to predict potential problems and being prepared to resolve the problems quickly once they do happen. They should have a broad vision and be able to foresee risks and take precautious measures to avoid the risks.

> Q: What makes a good project manager at X [a company's name]?
>
> A: A good project manager is somebody with a broad vision and foresight, being able to identify a problem before it occurs, and being able to take actions to solve the problem, somebody who is a good motivator and team builder, somebody who has got good leadership skills, and somebody who understands construction and the client's requirements. (PAD)

Another respondent expressed it in the following way:

> Well, the fact is that every single building you built is different. Even with the same design there are always things different within it. The foundation would be different, the ground conditions and the access you have got to that building would be different, and therefore the problems would be different. You would have got all sorts of problems in there that you have not encountered before. They are there to make it more complicated for you and you have to be able to realise them and be prepared to sort them out and to get the project built. (ADR)

5.1.4 Summary

Thus far, I have described the three identified UK conceptions of project management work including each conception's main focus and key attributes that appeared when project managers experienced and accomplished their work. As noted in Chapter 3, the internal relation between an attribute identified from a respondent's statements and its embedded contexts showed the specific meanings attached to this attribute. In the above sections, the examples quoted from my interviews with UK respondents illustrate the meanings of each attribute in each conception respectively, and demonstrate that the same attribute meant different things to the project managers expressing different conceptions. Such different meanings of one attribute in different conceptions were usually cumulative and hierarchical, to be discussed further in Section 5.2.2. Meanwhile, within each conception,

the meanings of all its key attributes were internally related to each other, which formed a specific structure of competence in project management with these key attributes being the essential aspects of competence. The way each conception and its key attributes formed a distinctive structure of competence in project management in the UK is listed in Table 5.1 and summarised below.

Conception U1 was characterised by its main focus on the construction work details on site and individual subcontractors who were carrying out their work on site. Project managers expressing this conception planned the work sequence and produced a master work programme, according to which and with their knowledge of the technical requirements, they checked and approved each subcontractor's programme and construction methods, and controlled the work process on site. This was the fundamental aspect that also required and depended on the other aspects of this conception. In order to control the work on site, they allocated the management work tasks to team members, and then chased and helped people to implement their work. Thus, they needed to have a full understanding of the construction process and a better knowledge of the construction work than others. In order to keep the work programme updated and control the implementation of the project work on site, they held meetings with relevant parties regularly. Therefore, it can been seen that the meanings of the four key attributes within this conception were internally related to each other and centred around planning and controlling the construction work on site forming a distinctive structure of competence in project management work in the UK.

Conception U2 was characterised by its main focus on the construction work interfaces and the multiple liaisons of all the subcontractors working on site. The central aspect of competence expressed by these project managers was to coordinate subcontractors' work interfaces both technically and commercially, so that the project work could progress efficiently without disruption. This required these project managers to understand the construction work process and be aware of how each subcontractors' work relate to each other. They also understood each party's duties and were aware of the relevant price constraints in the contract. When focusing their role on organising everything together and coordinating the work, these project managers put effort into building a team who dealt with details and controlled the day to day running of the work on site. In order to organise and coordinate people and the work, they communicated with people by various approaches to gain trust with each other. Thus, it was obvious that the meanings of the five key attributes within this conception were internally related to each other and centred around organising and coordinating the construction work on site, forming another distinctive structure of competence in project management work in the UK.

Conception U3 was characterised by its main focus on the potential risks and problems facing the project with a multiple involvement of all actors in the project. Compared with U2, U3 project managers were more future-

oriented. The central aspect expressed by project managers with this conception was to think forward to be able to predict potential risks and problems and take precautious measures, and to be able to resolve the problems quickly once they really happen. The other five key aspects of these project managers' work were centred around this one and they together formed the third distinctive structure of UK project management competence. These U3 project managers understood the construction process and had good knowledge of the whole construction industry such as its history and future development. They were also fully aware of the existing and possible financial constraints and commercial risks relevant to the project contract. In order to be able to focus on predicting and managing potential problems, they empowered their team to look after the work details on site. They also cared about team members' career development and attended to getting the team motivated. They were capable of communicating with all kinds and levels of people by various approaches, so that they could be fully informed and could predict and identify any potential risks and problems. Meanwhile, in order to take precautious measures to avoid the happening of any potential risks and problems, they were able to organise and coordinate all the actors and everything involved in the project.

Table 5.1 The way each conception and its key attributes formed a distinctive structure of project management competence in the UK

Conception	Main focus	Key attributes of conception and aspects of competence						
		UA1: Ability to plan	**UA2: Knowledge of construction work**	**UA3: Ability to communicate**	**UA4: Ability to manage team**	**UA5: Knowledge of commercial management**	**UA6: Ability to coordinate**	**UA7: Ability to deal with problems**
U1: Project management as planning and controlling	Construction process and work details	Plan the work; Approve subcontractors' programme and methods; Control the work process.	Understand the construction process and detailed requirements, particularly of the 'H & S' legislation.	By regular meetings; Control the implementation of the work and keep the plan updated.	Allocate work tasks; Chase and help people in their work.			
U2: Project management as organising and coordinating	Construction work interfaces		U1+ Understand the work interfaces and subcontractors' work interactions.	U1+ By various approaches; Gain trust to assist in organising and coordinating work on site.	U1+ Get people work together; Build a team and create a spirit of mutual support, trust and openness.	Be aware of the contract and price constraints; Manage variations and changes to the contract.	Coordinate subcontractors' work interfaces to avoid disruption and inefficiency.	
U3: Project management as predicting and managing potential problems	Potential risks and problems Future-oriented		U2+ Know the construction industry; Be aware of the history and future development of the industry.	U2+ Communicate with all kinds and levels of people; Get updated info. from all possible sources.	U2+ Motivate the team and empower them; Care about team members' career development.	U2+ Be aware of potential risks and problems in the contract and the possible financial constraints.	U2+ Organise and coordinate all and everything; Coordinate to avoid the happening of potential risks and problems.	Think forward to predict problems; Take precautious actions to be able to resolve problems quickly.

5.2 A hierarchy of project management competence in the UK

The above three categories of conceptions (U1, U2, U3) identified in this study reflected three forms of competence in project management in the UK. From Conception U1 to U2 and U3, a variation in meaning was evident. This variation could be hierarchically organised, forming a hierarchy of competence in terms of increasingly advanced forms of conception. In the following sections, I discuss the way such a hierarchy of competence in project management appeared at both the general conception level and the attribute level.

5.2.1 At the general conception level

In the first conception U1, the project management work was seen as planning and controlling, with the main focus on construction work details on site and individual subcontractors. In Conception U2 the work was expanded so that it included not only planning and controlling but also organising and coordinating the construction work interfaces, the main focus of which also shifted onto work interfaces and multiple subcontractors in the construction process. Planning the work sequence and controlling individual subcontractors' performance, which were in focus in U1, formed a background for organising and coordinating subcontractors' work, which were in focus in U2. In Conception U3 the work was expanded further so that it consisted of not only planning, controlling, organising and coordinating the construction work on site, but also predicting and managing potential problems, the main focus of which was expanded onto potential risks and problems facing the whole project with a holistic vision involving comprehensively all participants in the project. Up to U2, the focus was mainly on the construction work process on the job site with the purpose of ensuring the construction work progress well as required. Building on this, Conception U3 moved further towards predicting potential risks and problems and taking precautious measures to avoid their happening. For it would always cost more money and need more time to repair the defects and delays caused by potential risks and problems.

Thus, as indicated in Figure 5.1 and demonstrated in Table 5.1, a cumulative hierarchy of UK competence was formed as: the first conception U1 was the least comprehensive, the second U2 was more comprehensive than U1, and the third U3 was the most comprehensive, which suggested that individuals holding the third conception U3 were the most competent and that those holding the first conception U1 were the least competent with regard to project management work in the UK. This suggestion was supported by the data in that project managers who expressed more comprehensive conceptions were also able to express less comprehensive conceptions,

while the reverse did not seem to be the case. This was more evident at the attribute level, to be discussed in the following section.

5.2.2 At the attribute level

The above hierarchy of project management competence in the UK was also evident through the key attributes of each conception, i.e. the essential aspects of each form of competence. As demonstrated in Section 5.1, each conception consisted of different attributes and the same attribute could mean different things to the project managers expressing different conceptions. A variation of meanings of attributes in different conceptions demonstrated a hierarchy within the three forms of competence.

For instance, the attribute of *knowledge of construction work* was considered essential to their work by all the UK respondents, but with a variation in meanings in the three conceptions. Those project managers with Conception U1 emphasised their technical knowledge of the construction work process, procedures and methods, since the central aspect of their work was to plan the work sequence, check and approve individual subcontractor's programme and construction methods, and control the construction work on site. Conception U2 also included an understanding of the construction work process, procedures and methods, which however was inadequate for U2 project managers who conceived their work to be centred around coordinating the interfaces of subcontractors' work. For them, the meaning of *knowledge of construction work* was expanded to understanding the interfaces of project work tasks, so that they could coordinate between subcontractors undertaking these different work tasks. Thus, the meaning of this attribute in Conception U1 formed a background for its expanded meaning in Conception U2. Similarly, in Conception U3, understanding the construction work process and interfaces of project tasks were important but insufficient for predicting potential risks and problems. In order to predict and manage any potential problems, U3 project managers needed to be aware of the potential risks and opportunities in relation to the on-going construction work, so they should have knowledge of the whole construction industry including its past, current situation and the anticipated future. Using the attribute of *knowledge of construction work* as an example, it can be seen that the meaning of this attribute at a lower level competence formed part of the meaning of the attribute at a higher level.

The attribute of *ability to communicate* was also expressed by all of the UK respondents as essential to their work. For project managers with Conception U1, the approach to communication was to have regular meetings with relevant parties. Since their focus was on planning the construction work sequence and controlling individual subcontractors' work on site, communication for these project managers was a measure to check and control the implementation of the work and to keep the programme updated. But when focusing on coordinating interfaces of the work tasks as

that in Conception U2, having regular meetings was not sufficient. U2 project managers took various approaches to communicate with people. They emphasised more about socialising and gaining trust with each other. For them communication was not only a measure for planning and controlling but also for socialising and building trust so that their coordination could be effective. Thus, the meaning of this attribute in Conception U1 formed a background for its expanded meaning in Conception U2. In Conception U3, its meaning was further expanded to being able to communicate with not only subcontractors and the project team members but also various kinds and levels of people relevant to the project. In order to predict any potential risks and problems facing the project, U3 project managers needed to be able to get all kinds of updated information from all possible sources, for which they would take various approaches to communicate with people. This meant that the meaning of this attribute at a lower level competence was included in the meaning of the attribute at a higher level.

Ability to manage team was another attribute expressed by all of the UK respondents as essential to project management work. When U1 project managers focused on planning the work sequence and making sure each subcontractor accomplishes their work as required, they included their team in the overall plan as well in that they planned for individual team members' work task and then allocated the tasks to each members. For them, to manage the project team was to plan for team members' work and to chase them to fulfil their role tasks. However, project managers with Conception U2 expected from their team members more than just fulfilling their role tasks. They put effort into building a team spirit and tried to get people work together as a coherent team. When these project managers coordinated between subcontractors, their team members were able to support and behave in a way to benefit the whole project rather than the individual team member's own part of task. Thus, the meaning of this attribute in Conception U1 formed a background for its expanded meaning in Conception U2. This cumulative relation also appeared between Conception U2 and Conception U3, in that project managers with Conception U3 emphasised not only on building a coherent team but also on motivating the team. It was evident therefore that within this attribute, there also existed a cumulative relation between project managers' different ways of experiencing team management in the three forms of competence.

Knowledge of commercial management and *ability to coordinate* appeared as key attributes in both Conception U2 and Conception U3, but represented different meanings in the two conceptions. There was no evidence in this study that these attributes were also of importance for project managers with Conception U1. For project managers with Conceptions U2 and U3, it was insufficient to have only technical knowledge of the construction work as that in U1. They also needed to understand how the project was run commercially. In order to ensure the construction work progress well and fulfil the project objectives, they needed the ability to coordinate between various people for various issues. So they should be aware of the relevant

contractual arrangements with parties involved in the project, such as each party's duties and the price constraints in the contract. They should also understand the commercial implications of any actions to be taken. Project managers with Conception U3 could be distinguished from those with Conception U2 in that the former expanded the meanings of these attributes by involving all project actors and in the meantime attending to predicting and managing potential risks and problems.

The attribute *ability to plan* was expressed as central to their work only by U1 project managers. This however did not mean that this aspect was not necessary in Conceptions U2 and U3. U2 and U3 project managers also considered planning the work well to be important and both regarded 'having a plan in place' to be one of the fundamentals in managing a project, but this was not considered to be their key task. As discussed in Section 5.2.1, the meaning of this attribute in Conception U1 was subsumed in the attribute of the *ability to coordinate* in Conceptions U2 and U3. Meanwhile, the *ability to deal with problems* was expressed as a key attribute only by U3 project managers. This again illustrated a cumulative hierarchy in the three forms of project management competence in the UK.

5.3 Possible sources of variation in project management competence in the UK

Having described the hierarchy of project management competence in the UK in Section 5.2, another question of interest is to look at how such variations in competence are related to the respondents' demographic information such as age, education, work experience and so on. The UK samples' demographic information against the three conceptions are summarised in Table 5.2 and shown in detail in Table 5.3.

It is difficult to see any strong effects of age, the length of work experience in the construction industry or the length of being a project manager on the respondents' different conceptions of their work. However, all the UK respondents had at least 6 years work experience in the construction industry. This is in line with the fact that all the respondents expressed it necessary for a good project manager to have experience in the industry.

Whether project managers held a formal educational degree seems to show some relationship to their different levels of conceptions of the project management work. Project managers with Conception U1 and Conception U2 cannot be distinguished in terms of whether they held a degree or not. However, a majority (78%) of the respondents with Conception U3 had formal education and held a university degree. Formal education also bears some relationship to the career path of all the respondents since they joined the construction industry. As can be seen from Table 5.3, it took a range of 0-16 years (with an average of 7.4 years) for the 17 respondents with degree to be promoted to the role of project manager after they joined the

construction industry, whereas it took a range of 5-22 years (with an average of 14.4 years) for the 13 respondents without a degree to be promoted to project manager after they joined the industry. Yet there is no strong evidence of any direct links between formal education and the different forms of competence in project management in the UK.

Table 5.2 A summary of the UK conceptions against samples' demographics*

		Conception U1	**Conception U2**	**Conception U3**
No. of project managers		7	14	9
Age	Range	29-55	35-55	30-52
	Mean	43.6	44.7	39.6
No. of years in CI	Range	6-34	13-38	6-31
	Mean	22.1	24.4	16.7
No. of years as PM	Range	1-24	1-22	3-18
	Mean	11.1	11.9	9.9
Education	With degree	4 (57%)	6 (43%)	7 (78%)
	Without degree	3 (43%)	8 (57%)	2 (22%)

*For details, please see Table 5.3.

Table 5.3 The three UK conceptions against samples' demographics*

	S/N	Name	Age	Formal education degree	No. of years in CI (a)	No. of years as PM (b)	(a)-(b)	Value (approx.) (£million)
Conception U1	1.	MIH	29	Yes	6	1	5	15
	2.	ROW	47	No	28	9	19	5.3
	3.	STR	42	No	23	7	16	0.5
	4.	RIW	36	Yes	13	9	4	1
	5.	ANM	55	Yes	34	24	10	3
	6.	BOG	43	Yes	21	11	10	3.7
	7.	STM	53	No	30	17	13	9.2
Conception U2	1.	JOA	42	No	23	9	14	15
	2.	TRG	51	No	35	16	19	85
	3.	CHL	54	No	38	21	17	20
	4.	PAS	39	Yes	14	8	6	17.4
	5.	CHH	49	No	30	8	22	0.15
	6.	MAK	42	Yes	15	15	0	30
	7.	SIP	46	No	25	18	7	22
	8.	RAC	55	No	35	20	15	30
	9.	TOH	39	Yes	17	1	16	6.5
	10.	BIK	47	No	29	22	7	16
	11.	ANT	36	Yes	13	2	11	8
	12.	MIJ	50	No	32	15	17	5
	13.	SIB	35	Yes	16	4	12	4
	14.	BOS	41	Yes	19	7	12	7
Conception U3	1.	ASR	30	Yes	6	3	3	0.4
	2.	ADR	38	No	9	4	5	8
	3.	DAB	36	Yes	13	7	6	10
	4.	JOD	52	Yes	30	18	12	500
	5.	DAT	33	Yes	13	8	5	30
	6.	PAD	42	Yes	17	15	2	20
	7.	MIF	47	No	31	15	16	3.5
	8.	JOM	40	Yes	15	10	5	700
	9.	RIC	38	Yes	16	9	7	22

*For UK samples' full demographic information, please see Table 3.3.

CHAPTER 6 CHINESE VS. UK CONCEPTIONS OF PROJECT MANAGEMENT WORK

All the Chinese and UK project managers in the sample were assigned by their company as being in charge of the management and delivery of a construction project within budget, on time, to a defined scope, which, as demonstrated in the previous chapters, was also considered as their fundamental task by all the respondents in both cultures. From their descriptions of their ways of experiencing and managing their work in order to fulfil the task, the similarities and differences of their conceptions of project management work became evident. In my interpretation of such similarities and differences within each cultural group of the interview transcripts, three categories of Chinese conceptions (C1, C2, C3) and three categories of UK conceptions (U1, U2, U3) of project management work were identified and have been described in Chapters 4 and 5 separately. This analysis shows that even within the same culture, respondents have experienced and conceived of their work in varied ways. In this chapter, I look at how these project managers' conceptions varied between the two cultures, presenting the third part of the research findings.

First in Section 6.1 I examine the similarities and differences between each level of the two cultural sets of conceptions based on findings illustrated in Chapters 4 and 5. Then in Section 6.2 I examine and summarise the similarities and differences between all the Chinese and UK conceptions of project management work. Finally in Section 6.3 I demonstrate the most apparent contrasting cultural differences between the Chinese and UK conceptions with further examples of statements in the data.

6.1 Comparison between each level of the Chinese and the UK conceptions

In order to observe the similarities and differences between Chinese and UK conceptions of project management work, I list in Table 6.1 a summary of all the six identified Chinese and UK conceptions, the main focus of each conception, and the key attributes constituting each conception. As described in Chapters 4 and 5, the meanings of each key attribute varied when appeared in different conceptions. In order to compare the varied meanings of the key attributes in each level of different conceptions in the two cultures, I reorganise Table 4.1 in Chapter 4 and Table 5.1 in Chapter 5 into Tables 6.2, 6.3 and 6.4 highlighting the contrasts between each level of the three Chinese and the three UK conceptions respectively. In the sections that follow I make comparison between each level of the two cultural sets of conceptions.

Table 6.1 An overview of Chinese vs. UK conceptions of project management work*

Conception of project management (PM)		Main focus	Key attributes constituting each conception in the two cultures							
			Ability to plan	Knowledge of construction work	Ability to communicate	Ability to manage team	Knowledge of commercial management	Ability to coordinate	Ability to build new relationships	Ability to deal with problems
Chinese conceptions	**C1: PM as planning and controlling**	Construction process and work details	Yes	Yes	Yes	Yes	Yes			
	C2: PM as coordinating relationships	Relationships		Yes	Yes	Yes	Yes	Yes		
	C3: PM as developing relationships	New relationships		Yes	Yes	Yes	Yes	Yes	Yes	
UK conceptions	**U1: PM as planning and controlling**	Construction process and work details	Yes	Yes	Yes	Yes				
	U2: PM as organising and coordinating	Construction work interfaces		Yes	Yes	Yes	Yes	Yes		
	U3: PM as predicting and managing potential problems	Potential risks and problems		Yes	Yes	Yes	Yes	Yes		Yes

*For the varied meanings of each attribute in each conception, please see Tables 6.2, 6.3 and 6.4.

6.1.1 C1 vs. U1

	vs.	Chinese conceptions		
		C1	C2	C3
UK conceptions	U1	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

As described in Chapters 4 and 5 (see Sections 4.1.1 and 5.1.1) and shown in Table 6.2, the similarities (represented by 1S) and differences (represented by 1D) between the first level of Chinese and the first level of UK conceptions of project management work, i.e. C1 and U1 (see the highlighted cell in the above chart), can be identified and described below:

Similarities (1S)

1S-1 Both the Chinese respondents with Conception C1 and the UK respondents with Conception U1 considered project management work as planning and controlling. The main focus of both C1 and U1 was on the construction process and work details on the job site. They both included the key attributes *ability to plan*, *knowledge of construction work*, *ability to communicate* and *ability to manage team*.

1S-2 To both C1 and U1, the ability to plan the construction work sequence and control the work process on the job site was most central.

1S-3 Both C1 and U1 respondents considered it necessary to have basic knowledge of the construction work process and the technical requirements for the project.

1S-4 They both considered it important to be able to communicate with people and manage the project team.

1S-5 To both of them, having regular meetings was the main approach to communication, though their approaches to team management were different, as will be discussed later.

Differences (1D)

From the meanings the Chinese and the UK respondents attached to each key attributes, three differences between C1 and U1 became evident, underlined in Table 6.2 and described below:

1D-1 Compared with U1, C1 respondents attended more to the commercial management of the work. Apart from the four key attributes included in both C1 and U1, C1 project managers expressed another key attribute *knowledge of commercial management*, which meant understanding the fundamental rules and practice in business negotiation and administration. Thus C1 project managers could procure the needed resources at lower price and get them delivered to the site as planned, so that the cost of the project could be controlled.

1D-2 Compared with C1, U1 respondents stressed more the need to manage and control Health and Safety issues on site. They needed to be aware of the relevant legislation and requirements, and they had to give guidance to subcontractors on the matter. This aspect was reflected in the attribute *knowledge of construction work*.

1D-3 In communicating with people and managing the project team, C1 project managers attached more personal affection and emphasised more the importance of good relationships, and they considered the team as a close family. In contrast, U1 project managers' approaches were rather distant with focus being more on the work itself and the work plan. They managed their team by allocating the work task and then chasing the team to fulfil their task.

Table 6.2 Chinese vs. UK conceptions of project management work: C1 vs. U1

Conception	Main focus	Key attributes of C1 and U1				
		Ability to plan	**Knowledge of construction work**	**Ability to communicate**	**Ability to manage team**	**Knowledge of commercial management**
C1: Project management as planning and controlling	Construction process and work details	Plan the work; Control the work process and cost of the project.	Understand the construction process and technical requirements for the work task.	By regular meetings; Have personal talks with people and care about people.	Maintain good relationships within team; Get the team united and work closely like a family.	Understand fundamental rules and practice in business negotiation and administration.
U1: Project management as planning and controlling	Construction process and work details	Plan the work; Control the work process. Approve subcontractors' programme and methods (including H & S).	Understand the construction process and detailed requirements, particularly of the H & S legislation.	By regular meetings; Control the implementation of the work and keep the plan updated.	Allocate work tasks; Chase and help people in their work.	

*For details, please see Sections 4.1.1 and 5.1.1.

6.1.2 C2 vs. U2

	vs.	Chinese conceptions		
		C1	C2	C3
UK conceptions	U1	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

As described in Chapters 4 and 5 (see Sections 4.1.2 and 5.1.2) and shown in Table 6.3, the Chinese respondents with conception C2 considered project management work as coordinating relationships, whilst the UK U2 respondents considered project management work as organising and coordinating. The similarities (represented by 2S) and differences (represented by 2D) between the second level of Chinese and the second level of UK conceptions of project management work, i.e. C2 and U2 (see the highlighted cell in the above chart), can be identified and described below:

Similarities (2S)

2S-1 The main focus of both C2 and U2 moved from the construction process and work details, as in C1 and U1, to the more complex interactions of either different parties, i.e. relationships as in C2, or different work tasks, i.e. work interfaces as in U2.

They both included the five key attributes *knowledge of construction work*, *ability to communicate*, *ability to manage team*, *knowledge of commercial management* and *ability to coordinate*.

2S-2 To both C2 and U2, the ability to coordinate was most central, though its meaning was different, as discussed later in 2D.

2S-3 Both C2 and U2 respondents considered they should not only have basic knowledge of the construction work process and the technical requirements for the project (as that for C1 and U1 in 1S-3), but also understand the way each different type and part of the work interfaced.

2S-4 Both C2 and U2 respondents considered it important to be able to communicate with people by various approaches and to gain mutual trust.

2S-5 They both considered teamwork as essential to their work and they should be able to build a team and to create a spirit of mutual support, trust and openness within the team.

2S-6 They both considered it necessary to be aware of the relevant commercial constraints in the project contract.

Differences (2D)

From the meanings the Chinese and the UK respondents attached to each attribute, three major differences between C2 and U2 became evident, underlined in Table 6.3 and described below:

2D-1 Compared with their UK counterparts, C2 project managers' conception was dominated by its main focus on relationships with all parties involved in the work. These project managers needed not only to understand the way different types and parts of the work interfaced, as in U2, but also to be aware of the relationships between people carrying out the different tasks. Correspondingly, C2 project managers' coordinating work was more about relationships of all people relevant to the project.

2D-2 Compared with their Chinese counterparts, U2 project managers attended more to managing and utilising the project contract. They were aware of the project contract and the relevant commercial constraints in the contract, as in C2, but also stressed the necessity to be able to use the contract to manage variations and changes to the project.

2D-3 Apart from that for C1 and U1 in 1D-3, C2 project managers also coordinated the relationships between new and old team members so that the newcomers could join and unite into the team family quickly.

Table 6.3 Chinese vs. UK conceptions of project management work: C2 vs. U2

Conception	Main focus	Key attributes of C2 and U2				
		Knowledge of construction work	**Ability to communicate**	**Ability to manage team**	**Knowledge of commercial management**	**Ability to coordinate**
C2: Project management as coordinating relationships	Relationships	C1+ Understand the work interfaces; Be aware of people's relationships.	C1+ By all possible approaches; Gain mutual understanding and trust.	C1+ Create a team spirit; Coordinate relationships between new and old team members.	C1+ Be aware of the contract; Understand the commercial implications of coordination.	Coordinate relationships of all people; Ensure work progress well.
U2: Project management as organising and coordinating	Construction work interfaces	U1+ Understand the work interfaces and subcontractors' work interactions	U1+ By various approaches; Gain trust to assist in organising and coordinating work on site.	U1+ Get people work together; Build a team and create a spirit of mutual support, trust and openness.	Be aware of the contract and price constraints; Manage variations and changes to the contract.	Coordinate subcontractors' work interfaces to avoid disruption and inefficiency.

*For details, please see Sections 4.1.2 and 5.1.2.

6.1.3 C3 vs. U3

		Chinese conceptions		
	vs.	**C1**	**C2**	**C3**
UK conceptions	**U1**	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

As described in Chapters 4 and 5 (see Sections 4.1.3 and 5.1.3) and shown in Table 6.4, the Chinese project managers expressing Conception C3 considered their work as developing relationships, whilst the U3 respondents considered their project management work as predicting and managing potential problems. The similarities (represented by 3S) and differences (represented by 3D) between the third level of Chinese and the third level of UK conceptions of project management work, i.e. C3 and U3 (see the highlighted cell in the above chart), can be identified and described below:

Similarities (3S)

3S-1 The main focus of C3 was on new relationships to be built and maintained through the current project, whilst that of U3 was on potential risks and problems that might cause delays and problems to the work. Nevertheless, both C3 and U3 moved further to being more future-oriented.

The five key attributes constituting both C2 and U2 were also essential for both C3 and U3. Moreover, being in line with their main focus, C3 project managers expressed one more attribute, *ability to build new relationships*, whilst U3 included one more attribute, *ability to deal with problems*.

3S-2 Apart from that for C2 and U2 in 2S-3, both C3 and U3 respondents considered it necessary to know the construction industry and to be aware of the history and future development of the industry.

3S-3 Apart from that for C2 and U2 in 2S-4, both C3 and U3 respondents considered it important to be able to take various approaches to communicate with all kinds and levels of people involved in the project.

3S-4 Apart from that for C2 and U2 in 2S-5, both C3 and U3 respondents attended to motivating their team. They both cared about their team members' learning and improvement.

3S-5 Apart from that for C2 and U2 in 2S-6, both C3 and U3 respondents were able to think forward. They were aware of the relevant potential opportunities and risks, and they tried to coordinate to avoid potential problems.

Differences (3D)

From the meanings the Chinese and the UK respondents attached to each attribute, certain differences between C3 and U3 became evident, underlined in Table 6.4 and described below:

3D-1 Compared with their UK counterparts, C3 project managers' conception was dominated by its main focus on new relationships. In order to build new relationships, these C3 managers needed to think forward and be able to communicate with people unknown before.

3D-2 Compared with their Chinese counterparts, U3 project managers emphasised more the potential risks and problems. In order to predict problems and take precautious measures, they attended more to the awareness and use of project contract. In the meantime they should think forward and try to get updated information from all possible sources.

3D-3 Compared with their UK counterparts, C3 project managers expressed more concerns about the future development of the company they were working for. Although all the Chinese respondents have more or less expressed their cares for the company (to be discussed further in Section 6.3), only the C3 project managers considered that they should try to build new relationships through the current project so as to contribute to the future development of the company in the market.

Table 6.4 Chinese vs. UK conceptions of project management work: C3 vs. U3

Conception	Main focus	Key attributes of C3 and U3						
		Knowledge of construction work	**Ability to communicate**	**Ability to manage team**	**Knowledge of commercial management**	**Ability to coordinate**	**Ability to build new relationships**	**Ability to deal with problems**
C3: Project management as developing relationships	New relationships Future-oriented	C2+ Know the construction industry; Be aware of the history and future development of the industry.	C2+ Communicate with all kinds and levels of people, with people unknown before.	C2+ Motivate the team to learn and to improve themselves; Be more competitive.	C2+ Be aware of the market and the potential opportunities for the future development of the company.	C2+ Coordinate before problems and conflicts occur.	Think forward; Build new relationships; Contribute to the future development of the company.	
U3: Project management as predicting and managing potential problems	Potential risks and problems Future-oriented	U2+ Know the construction industry; Be aware of the history and future development of the industry.	U2+ Communicate with all kinds and levels of people; Get updated information from all possible sources.	U2+ Motivate the team and empower them; Care about team members' career development.	U2+ Be aware of potential risks and problems in the contract and the possible financial constraints.	U2+ Organise and coordinate all and everything; Coordinate to avoid the happening of potential risks and problems.		Think forward to predict problems; Take precautious actions to be able to resolve problems quickly.

*For details, please see Sections 4.1.3 and 5.1.3.

6.2 Comparison between Chinese and UK conceptions: [C1, C2, C3] vs. [U1, U2, U3]

Thus far, I have compared each level of the three Chinese and the three UK conceptions of project management work respectively. In Section 6.1 I have described the identified similarities (1S, 2S, 3S) and differences (1D, 2D, 3D) between the corresponding levels of conceptions in the two cultures. In this section, I first examine between the above findings for different levels so as to observe those common for two or three levels, which will be then scanned across levels so as to finally conclude the most similar and different aspects between all the Chinese and the UK conceptions of project management work, summarised in Section 6.2.4.

6.2.1 [C1 vs. U1] vs. [C2 vs. U2]

		Chinese conceptions		
	vs.	**C1**	**C2**	**C3**
UK conceptions	**U1**	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

An examination of the results of [C1 vs. U1] in Section 6.1.1 in relation to that of [C2 vs. U2] in Section 6.1.2 showed that certain similarities and differences were applicable to both the first and the second level of conceptions in the two cultures (see the highlighted cells in the above chart), whilst others were not, described below:

On similarities [1S vs. 2S]

- Both the first and the second level of conceptions in the two cultures included the key attributes *knowledge of construction work*, *ability to communicate* and *ability to manage team*. For *knowledge of construction work*, 2S-3 subsumed 1S-3, i.e. both the Chinese and the UK respondents expressing the first and the second level of their conceptions considered it necessary to have a basic knowledge of the construction work process and the technical requirements for the project they were managing. For the attributes *ability to communicate* and *ability to manage team*, 2S-4 and 2S-5 subsumed 1S-4 and 1S-5, i.e. both the Chinese and the UK respondents expressing the first and the second level of conceptions considered it important to be able to communicate with people and manage a team on site, and they both held regular meetings on site.

- 1S-2 was not applicable to [C2 vs. U2], whilst 2S-2 was not applicable to [C1 vs. U1]. Although the meanings of the attribute *ability to plan* in the first level of conceptions have been included in the attribute *ability to coordinate* of the second level of conceptions, the ability to plan was most central only to the first level of conceptions in the two cultures, whilst the ability to coordinate was most central only to the second level.

- 2S-6 was not applicable to [C1 vs. U1]. Although C1 included the attribute *knowledge of commercial management*, neither C1 nor U1 considered awareness of the project contract to be important.

On differences [1D vs. 2D]

- 2D-1 reinforced the third aspect of difference between C1 and U1, i.e. 1D-3, in that compared with their UK counterparts, the Chinese project managers with the first and the second level of conceptions cared more about relationships with people involved in the project.

- 2D-3 subsumed 1D-3 that therefore represented a difference applicable to both the two levels of conceptions, i.e. compared with their UK counterparts, the Chinese project managers with the first and the second level of conceptions emphasised more the importance of good relationships with people involved in their work, particularly with their team. They attached more personal sentiment to their work and they considered their team as their own family.

- In consideration of the cumulative relation within the two levels of conceptions in both cultures, those differences on *knowledge of commercial management* in 1D-1, and on *knowledge of construction work* in 1D-2 were also applicable to the second level of conceptions in the two cultures. Thus, compared with their UK counterparts, the Chinese project managers with the first and the second level of conceptions attended more to the commercial aspect of their work. They cared more about the procurement of needed resources. Compared with their Chinese counterparts, the UK project managers expressing the two levels of conceptions stressed more the Health and Safety issues on site.

- 2D-2 did not appear in [C1 vs. U1], which therefore should not be applicable to all the Chinese and UK conceptions. Whether it was applicable to the third level of conceptions, i.e. its relation to 3D, will be examined in Section 6.2.2.

6.2.2 [C2 vs. U2] vs. [C3 vs. U3]

		Chinese conceptions		
	vs.	**C1**	**C2**	**C3**
UK conceptions	**U1**	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

An examination of the results of [C2 vs. U2] in Section 6.1.2 in relation to that of [C3 vs. U3] in Section 6.1.3 showed that certain similarities and differences were applicable to both the second and the third levels of conceptions in the two cultures (see the highlighted cells in the above chart), whilst others were not, described below:

On similarities [2S vs. 3S]

- Both the second and the third level of conceptions in the two cultures included the key attributes *knowledge of construction work*, *ability to communicate*, *ability to manage team*, *knowledge of commercial management* and *ability to coordinate*. For the attribute *knowledge of construction work*, 3S-2 subsumed 2S-3, i.e. both the Chinese and the UK respondents expressing the second and the third level of their conceptions considered that apart from the basic knowledge of the construction work process and the technical requirements for the job, they should also understand the way every different types and parts of their work interfaced. For the attributes *ability to communicate* and *ability to manage team*, 3S-3 and 3S-4 subsumed 2S-4 and 2S-5, i.e. both the Chinese and the UK respondents expressing the second and the third level of conceptions considered it important to be able to communicate with people by various approaches and at the same time to build a team and create a spirit of mutual support, trust and openness. For the attributes *knowledge of commercial management* and *ability to coordinate*, 3S-5 subsumed 2S-6, i.e. both the Chinese and the UK respondents expressing the second and the third level of conceptions considered awareness of the project contract and the ability to coordinate to be necessary in their work.

- Similarly to [1S vs. 2S], 2S-2 was not applicable to [C3 vs. U3] either. As shown in 3S-1 and 3S-5, the most central aspect in the third level of conceptions in both cultures was being future-oriented and able to think forward.

On differences [2D vs. 3D]

- 3D-1 subsumed 2D-1 that therefore became a difference applicable to both the second and the third level of conceptions in the two cultures, i.e. compared with their UK counterparts, both the second and the third level of Chinese conceptions were dominated by its main focus on relationships with all parties involved in the project.

- In consideration of the cumulative relation within the two levels of conceptions in both cultures, those differences on the *ability to manage team* in 2D-3 were also applicable to the third level of conceptions in the two cultures. Thus, compared with their UK counterparts, the Chinese project managers with the second and the third level of conceptions considered their team as a close family and in order to help the newcomers unite into the family they attended to the relationships between new and old team members.

- 3D-3 did not appear in [C2 vs. U2], which therefore should not be applicable to all the Chinese and UK conceptions. Whether it was applicable to the first level of conceptions, i.e. its relation to 1D, will be examined in Section 6.2.3.

6.2.3 [C1 vs. U1] vs. [C3 vs. U3]

		Chinese conceptions		
	vs.	**C1**	**C2**	**C3**
UK conceptions	**U1**	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

A final examination of the results of [C1 vs. U1] in Section 6.1.1 in relation to that of [C3 vs. U3] in Section 6.1.3 showed that certain similarities and differences were applicable to both the first and the third level of conceptions in the two cultures (see the highlighted cells in the above chart), whilst others were not, described below:

On similarities [1S vs. 3S]

- Similarly to [1S vs. 2S], both the first and the third level of conceptions in the two cultures included the key attributes *knowledge of construction work*, *ability to communicate* and *ability to manage team*. In consideration of the first point in the results of [2S vs. 3S] and the first point in [1S vs. 2S], it can be concluded that 3S-2, 3S-3 and 3S-4 subsumed 1S-3, 1S-4

and 1S-5 respectively. Thus, those applicable to both the first and the second levels described in the first point in [1S vs. 2S] were also applicable to the third level of conceptions, therefore constituting the similarities between all the Chinese and the UK conceptions.

- Similarly to [1S vs. 2S] and [2S vs. 3S], 1S-2 was not applicable to [C3 vs. U3], whilst 3S-1 and 3S-5 were not to [C1 vs. U1], which therefore should not be applicable to all the Chinese and UK conceptions.

On differences (1D vs. 3D)

- 3D-1 subsumed 1D-3 that therefore became a difference applicable to both the first and the third level of conceptions in the two cultures, i.e. compared with their UK counterparts, the Chinese project managers with the first and the third level of conceptions cared more about relationships with people involved in the project and they attached more personal sentiment in their work.

- 3D-2 subsumed 1D-1 that therefore became a difference applicable to both the two levels of conceptions, i.e. compared with their UK counterparts, the Chinese project managers with the first and the third level of conceptions attended more to the commercial aspect of their work particularly about the procurement of the needed resources.

- In consideration of the cumulative relation within the three levels of conceptions in both cultures, those differences in *knowledge of construction work* in 1D-2 were also applicable to the third level of conceptions in the two cultures. Thus, compared with their Chinese counterparts, the UK project managers expressing the first and the third level of conceptions placed more emphasis on Health and Safety issue on site.

- 3D-3 did not appear in [C1 vs. U1]. As it was not applicable to [C2 vs. U2] either, it became a difference unique to the third level of conceptions in the two cultures.

6.2.4 Summary: [C1, C2, C3] vs. [U1, U2, U3]

		Chinese conceptions		
	vs.	**C1**	**C2**	**C3**
UK conceptions	**U1**	C1 vs. U1	C2 vs. U1	C3 vs. U1
	U2	C1 vs. U2	C2 vs. U2	C3 vs. U2
	U3	C1 vs. U3	C2 vs. U3	C3 vs. U3

Thus far, I have compared and described the similarities and differences between each level of the Chinese and the UK conceptions respectively in Section 6.1. Then in Sections 6.2.1, 6.2.2 and 6.2.3 above, I have examined differences between the findings for each level, from which the most similar and most different aspects (represented by S and D respectively) of Chinese and UK conceptions of project management work became evident, described below. These aspects have also been scanned across different levels of conceptions in the two cultures, verifications from which have been incorporated. For example, from the examination between the findings for each level, 3D-3 was concluded to be applicable only to the third level of comparison, i.e. [C3 vs. U3]. But a further scan of this across other levels showed that it was applicable to none of the UK conceptions, therefore should be a difference between C3 and [U1, U2, U3]. Further, although all the cells have been covered thus far, in order to verify the results, an attempt has also been made to make a special comparison across each level in the two cultures (i.e. the highlighted cells in the above chart), but no further findings appeared.

Similarities (S)

In summary, Chinese and UK conceptions of project management work were most similar in the following five aspects, summarised in Table 6.5.

S1 Both the Chinese and the UK respondents in the sample expressed three increasingly advanced forms of conception, i.e. C1 to C2 and C3 in Chinese conceptions, and U1 to U2 and U3 in UK conceptions. The main focus of both C1 and U1 was on the construction process and work details on the job site, which then moved to the interactions of either different people as in Chinese C2 or different tasks as in UK U2. In the most comprehensive conceptions C3 and U3, the main focus both moved further to being more future-oriented. Thus, it can be concluded that in both cultures, project managers' conceptions of their work varied. In the variations of their different conceptions, there appeared a cumulative hierarchical relation, and such a hierarchy was formed in a similar way in the two cultures, i.e. moving from focusing on work details on site to interactions of either people or work, and further to the future implications of their work activities.

S2 In both cultures, the more comprehensive level of conceptions always included a greater number of key attributes than the less comprehensive ones. For example, both the third levels in two cultures, C3 and U3, had six key attributes, whereas both the second level, C2 and U2, had five. As for the first level, C1 had five key attributes and U1 had four.

S3 All the three Chinese and the three UK conceptions included the key attributes *knowledge of construction work*, *ability to communicate* and *ability to manage team.* This showed that in both cultures the fundamental requirements for being a good project manager for construction work were similar. Firstly, they all needed to have basic knowledge of the construction work on site and the technical requirements for the job. This was in line with the fact that all the Chinese and the UK respondents in the sample had at least 6 years work experience in the construction industry when being interviewed (see Section 4.3 in Chapter 4 and Section 5.3 in Chapter 5). Although they might not have had formal education relevant to construction work, they had certain experiences in the industry from which they had learned and been trained. Secondly, in both cultures, the ability to communicate with people and manage a team was considered to be important to project management work, though the meanings of and approaches to communication and teamwork varied in different conceptions in the two cultures.

S4 All the Chinese and the UK conceptions covered the ability to plan the construction work and then control the work process on site. But in the meantime, in both cultures, those respondents taking this attribute *ability to plan* as key in their work expressed the least comprehensive level of conceptions C1 and U1, and those having wider and future oriented vision and being able to think forward expressed higher level of conceptions.

S5 Both the Chinese and the UK respondents expressing the second and the third level of conceptions considered awareness of project contract and the ability to coordinate to be necessary in their work. Although C1 also included the key attribute *knowledge of commercial management*, neither C1 nor U1 respondents considered the awareness of project contract to be important. Thus, this was not applicable to Chinese C1 and UK U1 project managers.

Differences (D)

In summary, Chinese and UK conceptions of project management work differed in the following five aspects, summarised in Table 6.6.

D1 Compared with their UK counterparts, the Chinese respondents in the sample paid more attention to the commercial aspect of their work. This was demonstrated particularly by Chinese respondents' emphasis on controlling the project cost through managing and controlling the procurement of the needed resources for the project. As can be seen in Table 6.1, all the Chinese respondents included *knowledge of commercial management* in the key attributes of their work, whilst UK

respondents with only conceptions U2 and U3 considered commercial management to be a key aspect of their work.

D2 Compared with their Chinese counterparts, the UK respondents in the sample placed more emphasis on Health and Safety issue. This was demonstrated particularly by UK respondents' emphasis on how they should, or should arrange their people to, educate, check, and approve the suitability of the subcontractors' construction methods in order to meet the Health and Safety requirements on site.

D3 In contrast with the UK conceptions, all the Chinese conceptions were dominated by attention to relationships. In their efforts to build and maintain good relationships with people involved in their work, such as the client, subcontractors and their own team, Chinese project managers usually attached more personal affection. For example, they all considered their team as their own family. This scenario became more evident in the further exploration of cultural differences between the two sets of conceptions in Section 6.3.

D4 Compared with their UK counterparts, the Chinese C3 project managers expressed more concerns about building new relationships for the future development of the company they were working for. Although all the Chinese respondents had expressed greater concern for the consequences of their work actions for the company (to be discussed further in Section 6.3), only the C3 project managers considered that they should try to build new relationships through the current project so as to contribute to the future development of the company. In the meantime, a further scan of this aspect across different levels in the two cultures showed that it was applicable to none of the UK conceptions, therefore should be a difference between C3 and [U1, U2, U3].

D5 Compared with their Chinese counterparts, the UK respondents in the sample attended more to utilising the project contract in their work. Although in both cultures, the second and the third level of conceptions considered the awareness of relevant commercial constraints in the contract to be necessary in their work (as shown in Table 6.5), these UK U2 and U3 respondents also placed emphasis on using the contract to resolve conflicts and to manage variations and changes to the project when necessary. A further scan of this aspect across different levels showed that it was applicable to none of the Chinese conceptions, therefore this aspect represented a difference between [C1, C2, C3] and [U2, U3].

Table 6.5 Chinese vs. UK conceptions of project management work: A summary of the most similar aspects

S1	In both cultures, project managers' conceptions of their work varied. In the variations of their different conceptions, there appeared a cumulative hierarchical relation, and such a hierarchy was formed in a similar way in the two cultures, i.e. moving from work details and work process on site (as in Chinese Conception C1 and UK Conception U1) to interactions of either people (as in Chinese Conception C2) or work (as in UK Conception U2), and further to the future implications of their work activities (as in Chinese Conception C3 and UK Conception U3).
S2	In both cultures, the more comprehensive level of conceptions always included more number of key attributes than the less comprehensive ones.
S3	In both cultures, key attributes of *knowledge of construction work*, *ability to communicate* and *ability to manage team* were included in all levels of conceptions. This reflected that certain fundamental requirements for being a good project manager for construction work were similar in both cultures. Firstly, they all needed to have basic knowledge of the construction work on site and the technical requirements for the job. Secondly, in both cultures, the ability to communicate with people and to manage a team on site was considered to be important to project management work, though the meanings of and approaches to communication and teamwork varied in different conceptions in the two cultures.
S4	In both cultures, the ability to plan the construction work and then control the work process on site was covered in all the conceptions. But in the meantime, in both cultures, those respondents taking this attribute as key in their work expressed the least comprehensive level of conceptions C1 and U1, and those having wider and future oriented vision and being able to think forward expressed higher level of conceptions.
S5	In both cultures, respondents expressing the second and the third level of conceptions considered the awareness of project contract and the ability to coordinate to be necessary in their work. Although C1 also included the key attribute of *knowledge of commercial management*, neither C1 nor U1 respondents considered the awareness of project contract to be important. Thus, this was not applicable to Chinese C1 and UK U1 project managers.

Table 6.6 Chinese vs. UK conceptions of project management work: A summary of the most different aspects

	The aspects of differences	Applicable to	Caused by
D1	Compared with their UK counterparts, the Chinese respondents placed more attention to the commercial aspect of their work. This was demonstrated particularly by Chinese respondents' emphasis on controlling the project cost through managing and controlling the procurement of the needed resources for the project.	**[C1, C2, C3] vs. [U1, U2, U3]**	**Social structural differences between the two nations**
D2	Compared with their Chinese counterparts, the UK respondents placed more emphasis on Health and Safety issue. This was demonstrated particularly by the UK respondents' emphasis on how they should, or should arrange their people to, educate, check, and approve the suitability of the subcontractors' methods in order to meet the Health and Safety requirements on site.	**[C1, C2, C3] vs. [U1, U2, U3]**	
D3	Compared with their UK counterparts, the Chinese conceptions were dominated by attention to relationships. In their efforts to build and maintain good relationships with people involved in their work (such as the client, subcontractors and their own team), Chinese project managers usually attached more personal affection. They all considered their team as their own family.	**[C1, C2, C3] vs. [U1, U2, U3]**	**Cultural differences between the two nations**
D4	Compared with their UK counterparts, the Chinese project managers expressed more concerns about building new relationships for the future development of the company they were working for. They concerned more for the consequences of their actions for the company.	**[C3] vs. [U1, U2, U3]**	
D5	Compared with their Chinese counterparts, the UK respondents attended more to utilising the project contract in their work. Although both the Chinese and UK respondents considered the awareness of relevant commercial constraints in the contract to be necessary in their work, the UK project managers also stressed on using the contract to resolve conflicts and to manage variations and changes to the project when necessary.	**[C1, C2, C3] vs. [U2, U3]**	

6.3 A further exploration of the cultural differences between Chinese and UK conceptions of project management work

As demonstrated in Section 6.2.4 and summarised in Table 6.6, Chinese and UK conceptions of project management work differed in five aspects. It can be identified easily from the data that the first and the second aspect of these differences (D1 and D2) were caused by social structural differences, whilst the other three (D3, D4 and D5) were caused by deep-rooted cultural differences between the two nations. The causes of these differences will be discussed further in Chapter 7. In this section I explore further the three aspects of cultural differences between Chinese and UK conceptions of project management work.

6.3.1 Chinese attention to relationships – D3

As shown in D3, compared with their UK counterparts, the Chinese conceptions were dominated by attention to relationships with people involved in the project, such as the client, subcontractors and project team. And in their efforts to build and maintain good relationships with these people, the Chinese project managers usually attached more personal affection. However, as we can see from the data, this did not mean that the UK respondents did not consider relationships in their work at all. It is therefore necessary to explore further the cultural differences between Chinese and UK project managers' conceptions of relationship with people involved in the project, described below, supported by typical examples of statements, and summarised in Table 6.7.

Relationship with client

Both the Chinese and UK respondents in the sample stated that a good relationship with the project's client was necessary, yet with different conceptions underlying their statements.

The Chinese project managers conceived their client as 'boss' of the project. The client had the power to award or not award a contract, to appoint or dismiss a project manager and, consequently, his long-term team, and to decide when and how much to pay for the work. It was therefore very important to make the client happy. As the following examples illustrated:

> ... the client is like your parents, you need to do whatever they instruct you; if you don't you would be 'beaten'. You also need to know their character. In every way, you need to do all you can to make them happy. (WSL with Conception C3)

> ... we never dream of raising our voice with the client. The client is always right even he is wrong. (ZLE with Conception C2)

Being able to build and maintain a good, even personal, relationship with the client was considered by most Chinese project managers to be an essential attribute of being a good project manager.

> I have very close relationships with all the clients I have worked with, so I could say to my team 'no problem, do it, I will get it agreed by the client' ... the company sometimes needs my help in solving problems with a client I have worked with before, they [the clients] all give me 'face'. (CMF with Conception C3)

UK project managers saw the client as the provider of project funds, payable in accordance with the terms of the contract. Since construction projects often involve numerous scope changes and contractual variations after site work has started, it was important to keep the client informed.

> He [the client] has spent his money and he just wants to see the product ...we will deliver what the client wants, based on the contract. (JOA with Conception U2)

> On a regular basis we have weekly meetings with the client. And I probably talk to them two or three times a week, so they are informed and can then make the right decisions. (DAB with Conception U3)

Relationship with subcontractors

Similarly, both Chinese and UK project managers valued a good relationship with their subcontractors, but with different embedded conceptions of that relationship.

The Chinese project managers considered subcontractors as brothers and sisters of their project team family. They emphasised that they should help subcontractors and work closely with them as one family. Although they admitted that they could be in competition with subcontractors in certain circumstances, they believed that a good relationship, especially the personal relationship between them and the subcontractors' directors, could eliminate any problems, and they all preferred a long-term relationship.

> ...I have invited several subcontractors for dinner...You should not pride yourself on being the main contractor and consider that subcontractors should listen to your command. On the contrary, in order to get people work closely for the project, you need to help them in their work, and treat them as your brothers and sisters in the team family. (GDF with Conception C2)

> Subcontractors were selected from the company's preferred subcontractors' list of long-term cooperation, so we all know each other. Thus, whenever there is any problem, we can sit down together to discuss and sort it out, and when necessary, I can call the subcontractor's directors directly for support. (LJL with Conception C1)

The UK managers also stressed that it was important to help and educate subcontractors but they focused only on the current project. They conceived subcontractors as members of the project team with specialised techniques and skills. They considered their relationship with subcontractors as equal but preferred to keep a more impersonal, contractual distance. As the following respondent said:

> Whether we are small contractor or principal main contractor, we are all contractors. I don't like the word 'subcontractor', it is an old term for the 1960s. I don't think we are above them. My principle is we need to work together, therefore I don't want to command them, I want to talk to them at an equal level ... They have a work contract with us, we have the main contract with the client. The scope is different but the conditions are the same. (TRG with Conception U2)

Relationship with project team

As demonstrated in the previous sections, all respondents, Chinese and UK, placed a high value on teamwork as part of project management, and all considered that a good relationship with their project team was important. However the Chinese and UK respondents differed significantly not only in the meaning they assigned to *a good relationship with the project team* but also in their approaches to building that relationship.

For the Chinese project managers, a good relationship with their team meant that the project team should work as a close family. All family members should care for and support one another. This involved not only a supportive and cooperative relationship in the workplace but also an affectionate relationship outside work as well, with the latter usually more fundamental. As team leader, the project managers considered themselves as father of the team family, with a duty to care for all the members. For example, one project manager said he was trying to find a good doctor for one of his team members whose father was ill:

> You need to care for your people who are working for the project, they have families to care for, and they are your team family members, so you must know what they are worrying about and try to help them... (JCY with Conception C2)

Consistent with this sentiment, all Chinese project managers preferred to stay with their established team, and in fact most of their team members had been working together on various projects for years. They knew each other and their families. When there was a need for new members to join the team, the Chinese project managers preferred to select from people they knew or from those introduced by other relations. They used the term 'we' and they called their team members their 'own people'.

In contrast, the UK project managers' conceptions of a good relationship with their team were associated with getting to know each other and working as a team. They did not appear to care whether or not they had known their team members before, and since most of them had just joined the company for that particular project, most team members were new to them. However, they were quite happy to get to know new people through new projects. They believed that respect and trust were important for being able to work as a team, whilst the effective way to build respect and trust was to understand the problems and issues facing colleagues in their work and to help them out. As the following example illustrated:

> ... they all trust me, they know that I can achieve whatever they want to be done, and it is also in my interest to help them, because if I help them, they can help the project... I think since I have been here I have built a lot of trust. (JOA with Conception U2)

The data in this study showed that, in contrast with their Chinese counterparts, UK project managers' conceptions of teamwork and a good relationship with their team were associated only with work and only with the current project.

Organisational structure preference

Consistent with the cultural differences in their conceptions of relationship with project team described above, the Chinese and UK respondents in the sample preferred a different organisational structure.

The matrix organisation is a widely accepted structural form for UK project managers. Yet Chinese project managers expressed their dislike of it. They preferred to use their own stable, existing team as if they were their own department members within the company, rather than organising people from different departments as a temporary project team. When they had to add some new members to the team from specialist departments of the company, they did not want to share their leadership with functional managers in the company. As one respondent said:

> This project is relatively bigger, so we need an accountant working on site. I selected one from the financial department of the company. I wanted him to work here as one of my team member rather than a member of the financial department, thus the interference of his department manager could be minimised. (CLY with Conception C2)

6.3.2 Chinese concern for their company – D4

As shown in D4, compared with their UK counterparts, all the Chinese respondents had expressed greater concern for the consequences of their

work actions for the company they were working for, with those C3 managers concerned particularly about building new relationships for the future development of the company. A further exploration on this aspect showed the cultural differences between Chinese and UK project managers' conceptions of relationship with their company and of job satisfaction, described below, supported by typical examples of statements and summarised in Table 6.7.

Relationship with company

Assigned by their company as the project manager for the current project, all the Chinese and UK respondents in this study were managing the project on behalf of their company. However, their conceptions of their relationship with that company were markedly different.

The Chinese project managers expressed a strong self-identity as a company employee. They considered themselves responsible for the project under the empowerment and governance of the company. Their personal career development was considered to be strongly dependent on the company's development. This link was also reflected by the fact that none of them had changed company since the start of their career in the construction industry. As the following respondent stated:

> ... only when the company becomes stronger and can get more projects, we can have more jobs, more interesting jobs and more self-achievement, and only when the company has a good reputation, we can have a good personal reputation... (WKL with Conception C1)

In contrast, the UK respondents did not talk about their relationship with the company, except for one respondent who simply said:

> I consider myself very lucky to be given the opportunity to work on a project of this nature, this size. It is particularly an important project to Z [a company's name]. (TRG with Conception U2)

The UK respondents saw themselves more as the individual manager of their current project. They enjoyed their work and valued the unique opportunity and experience of being the project manager for that project. It appeared that their primary concern was which project to work on, with the choice of company secondary. They all had changed companies at least once, most several times.

> I like the big, exciting, structural sort of jobs ... The thing that attracted me to work for X [a company's name] was that with Y [a company's name], they were moving towards the sort of fit-out type of work and there was no big structural content there, which I find exciting. (ADR with Conception U3)

Correspondingly, the Chinese and UK project managers had expressed quite different kinds of satisfaction in their work, discussed below.

Job satisfaction

The Chinese project managers appeared to feel more pressured in their work. Although they cherished the final sense of achievement, they complained of too much responsibility and suffering throughout the project.

> It is a great pride to be able to have your name in such a project in Beijing. But it is too difficult, too many problems to solve, new problems to face. At the end you are the one who needs to make all the decisions and to be responsible for all the consequences. It is not the long working hours but the stress that makes me feel very tired. (ZZL with Conception C2)

In contrast, the UK project managers not only felt satisfaction at the achievement of project delivery but also enjoyed the everyday challenges. As the following respondents said:

> I love challenges. Building things are what people think cannot be achieved. Knowing that you are actually achieving something a lot of people think difficult, that is what drives me. And the excited thing really comes at the end when you finish that job safely within budget and on time. (JOA with Conception U2)

> I think I am very lucky in my job in that I have numerous different challenges every day and it is full of change... (ASR with Conception U3)

6.3.3 UK attention to utilising the project contract – D5

As shown in D5, compared with their Chinese counterparts, the UK respondents in the sample attended more to utilising the project contract in

their work. A further exploration of this aspect showed the cultural differences between Chinese and UK conceptions of claim and conflict resolution, described below, supported by typical examples of statements and summarised in Table 6.7.

Claim and conflict resolution

The Chinese and UK project managers expressed different attitudes to the use of claims and penalties based on contracts and described different approaches to resolving conflicts with the client or subcontractors, although they both valued communication and negotiation.

For the Chinese project managers, negotiation appeared to be the only choice of approach to conflict resolution. They tried to involve whoever would help – their site team, their friends and relatives. In many cases they had to seek support from their directors in the company. They considered claims as something extreme that would result in loss of 'face' by all involved, which in their terms meant losing reputation. Similarly they did not want their subcontractors to raise claims against them either. As a result good relationships with all involved were absolutely paramount for resolving conflicts amicably. As the following respondent explained:

> According to the new regulations [by the Ministry], there must be clauses for both claims and penalties in the project contract. But as far as I know, there have been few cases of claims against the client, as your relationship with the client will be damaged, and you will give the impression of being difficult to work with... Just imagine what you will feel if one of your subcontractors places a claim on you. (HCR with Conception C2)

In contrast, the UK project managers' negotiations were more impersonal, based on conditions in project contract and relevant legislations. They considered the placing of claims on clients or contractual penalties on subcontractors as normal project management practice that should be brought into play when necessary, although they too preferred to have conflicts settled amicably.

> ...claiming is bad for the relationship with the client, but then you have to. You are in the business of making money, aren't you? (PAS with Conception U2)

Table 6.7 Chinese vs. UK conceptions of project management work: A summary of the apparent cultural differences

	Chinese conceptions	UK conceptions	Applicable to
Relationship with client (in relation to D3)	'Boss' of the project; Making the client happy; Working and personal relations.	Provider of project funds; Keeping the client informed; Working relations.	**[C1, C2, C3] vs. [U1, U2, U3]**
Relationship with subcontractors (in relation to D3)	Brothers/sisters in the project team family; Long-term cooperation.	A member of the team; Cooperation for this project.	
Relationship with project team (in relation to D3)	Family-like; Existing long-term team; 'We', 'own' people.	Friend-like; New team, new people; 'You' and 'I' work for this project.	
Organisational structure preference (in relation to D3)	Disliking Western-style matrix structures; Preferring to use own existing long-term team.	Accepting and being used to the matrix structures; Liking to know new people through new projects.	
Relationship with company (in relation to D4)	Employee of the company; Working for own career achievements and the company's benefits.	Manager of the project; Working for own career achievements and job satisfaction.	
Job satisfaction (in relation to D4)	Too many uncertainties and responsibilities; Enjoying the final achievement, but feeling pressured throughout.	Enjoying experiencing new things; Enjoying both the final achievement and the day-to-day challenges.	
Claim and conflict resolution (in relation to D5)	Negotiation first and last; No claims; Need good relationships. Seeking help and support from team/friends/relatives/the company directors.	Negotiation first; Claims when necessary; Need a good contract. Relying on contract conditions/legislation (e.g. for H&S)	**[C1, C2, C3] vs. [U2, U3]**

CHAPTER 7 DISCUSSION AND CONCLUSIONS

In this final Chapter I discuss the research findings and sum up the study. In Section 7.1 I look back briefly on what the thesis has covered so far including the research background, conceptual argument, research question, methods and research findings. In Section 7.2 I discuss the research findings in terms of the conceptual argument and existing theory, and summarise the research contribution. In Section 7.3 I conclude the implications for practice. In Section 7.4 I acknowledge the limitations of the study and make suggestions for future research.

7.1 An outline of the research conducted

This research questions the assumption that project management is a generic social reality underlying recent vigorous attempts to transpose Western project management theories and practices into the Chinese cultural context. Prominent recent examples of such attempts include the launch in China of the several Western project management competence examination and certification programmes based on standards, introduced in Section 1.2. Not only are there a number of well-known contrasts between Chinese and Western cultural values that shape management beliefs and practices in important ways, but also evidence shows that cross-cultural transfer of management processes in general is not always successful.

An analysis of the literature in relation to: (a) core contents of Western project management work; (b) Chinese/Western cultural differences and their potential implications for Chinese and Western different conceptions of project management work; (c) project management competence; and (d) the phenomenographic approach to both conceptions and competence demonstrates the knowledge gaps that inform both the substantive and methodological orientation of the research, as concluded in Sections 2.4 and 2.5.3 and illustrated in the conceptual framework in Figure 2.1. The two principal research opportunities identified from the integrative review of these literatures are as follows:

First, because of certain established areas of difference between the two cultures, Chinese project managers' conceptions of project management work are likely to be different from their Western counterparts. Although there have been ample China-related studies and increasing numbers of cross-cultural comparisons addressing the cultural implications for different management conceptions and practices, little has been done to question the recent moves to transpose Western project management into the Chinese cultural context. Methodologically most current Chinese and Western comparative management studies are based on questionnaire surveys of university students. There is a need for an interpretive exploration of

Chinese practicing managers' conceptions of the Western originated project management work and to compare them with those held by matched samples in the West.

Second, a review of an established interpretive approach to understanding conceptions, namely, phenomenography, demonstrates its potential for this research, as summarised in Section 2.5.3. Its recent application for understanding management competence also provides an opportunity for a new understanding of project management competence while exploring and comparing project management conceptions in the two cultures. In accordance with Sandberg's (1994, 2000) phenomenographic approach to competence at work, Western project management standards that are prevalently used for competence certification in the West and transferred across cultures into China do not likely capture competence in accomplishing work. But rather, it is suggested that the basic meaning structure of practicing project managers' conceptions of their work constitutes project management competence, both in China and the UK.

Derived from the above conceptual argument, the following research question was formulated:

> *What are the similarities and differences between Chinese and Western project managers' conceptions of their work?*

In the present research the term 'conception' means 'people's ways of experiencing or making sense of their world' (Sandberg, 2000:12).

The samples of project managers for this study were selected from construction firms in China and the UK. In order to highlight the cultural influences on project managers' conceptions the Chinese and UK samples were matched as far as possible in terms of their work experience and the type and size of their current project. The final samples for this in-depth, interpretive study consisted of 30 Chinese and 30 UK project managers selecting from 32 Chinese and 33 UK interviewees. Following the phenomenographic approach, data were collected by in-depth open-ended interviews. The interview guide was developed in both English and Chinese, which are not literally identical, but rather, are equivalent in meanings and approaches (Adler, 1983). I transcribed all the interviews myself and analysed the interview transcripts following an iterative process alternating between *what* the project managers conceived of their work and *how* they conceived of that work.

In my interpretation of the Chinese interview transcripts, three categories of Chinese conceptions of project management work were identified (described in Chapter 4, and summarised in Table 4.1). They are:

C1. Project management as planning and controlling;
C2. Project management as coordinating relationships;

C3. Project management as developing relationships.

Each conception included a different main focus and key attributes that appeared when Chinese project managers experienced and accomplished their work. The three qualitatively different conceptions reflected three forms of competence in project management in China. The variation within the three conceptions formed a hierarchy of project management competence in China, which was evident at both the general conception level and the attribute level.

Similarly, as described in Chapter 5 and summarised in Table 5.1, the outcome of my interpretation of the UK interview transcripts was three categories of UK conceptions of project management work, which are:

U1. Project management as planning and controlling;
U2. Project management as organising and coordinating;
U3. Project management as predicting and managing potential problems.

Each conception included a different main focus and key attributes that appeared when UK project managers experienced and accomplished their work. The three qualitatively different conceptions reflected three forms of competence in project management in the UK. The variation within the three conceptions formed a hierarchy of project management competence in the UK, which was evident at both the general conception level and the attribute level.

A comparison of the three Chinese and three UK conceptions, described in Chapter 6, demonstrated five most similar aspects (summarised in Table 6.5) and five most different aspects (summarised in Table 6.6) of Chinese and UK project managers' conceptions of their work. Among the five aspects of differences, two (D1 and D2) were due to the social structural differences, whilst the other three (D3, D4 and D5) were due to the cultural differences between the two nations. The five aspects of differences are represented by:

D1. Chinese emphasis on commercial awareness
D2. UK emphasis on health and safety issues
D3. Chinese attention to relationships
D4. Chinese concern for their company
D5. UK attention to utilising the project contract

The three aspects of cultural differences were further considered, and became more evident in Chinese and UK project managers' contrasting conceptions of certain aspects of their work, including relationship with client, relationship with subcontractors, relationship with project team, organisational structure preference, relationship with company, job satisfaction, and claim and conflict resolution (illustrated in Section 6.3 and summarised in Table 6.7).

7.2 A discussion about the research findings and their contribution

As outlined above and described in Chapters 4, 5 and 6, the research findings consisted of three parts, namely, (1) Chinese conceptions of project management work, (2) UK conceptions of project management work, and (3) a comparison between the identified Chinese and UK conceptions. These three parts have responded to the research question and contributed to the knowledge fields of Chinese/Western cross-cultural management and project management competence in relation to the conceptual argument, discussed separately in Sections 7.2.1 and 7.2.2 below and summarised in Table 7.1.

7.2.1 Cultural differences between Chinese and UK conceptions

The centre of the conceptual argument of this research is that because of certain established areas of difference between the two cultures, Chinese project managers' conceptions of project management work are likely to be different from their Western counterparts. Hence the recent moves to transplant Western project management theories and practices into the Chinese cultural context are questionable.

As outlined in Section 7.1 and described in Chapter 6 Chinese and UK conceptions of project management work differed in five aspects. These aspects of difference were caused either by social structural differences or by deep-rooted cultural differences between the two nations. The latter is the main concern of this research and is the main source of differences in the study, whilst the former can be easily identified in the data.

7.2.1.1 Social structural differences – D1 and D2

From the data, it is clear that the first and the second aspects of difference, namely, (D1) Chinese emphasis on commercial awareness, and (D2) UK emphasis on health and safety issues, arose from social structural differences in the two nations.

First, for D1, because in China the project resources such as labour, materials and equipment are usually procured separately, project managers need to be more involved in commercial activities and more concerned about the cost and delivery time of the procured resources. By contrast, in the UK resources are usually procured as part of the subcontract package, with subcontractors then procuring and organising the delivery of materials and/or equipment needed for their part of the work.

Second, for D2, it can be easily identified from their further explanation and real work examples that UK project managers' emphasis on health and safety issues was due to the comparatively strict health and safety legislation in the UK. When asked, Chinese respondents also expressed the

importance of health and safety in their work, but this did not appear to be the main focus in their conceptions of project management work as it was for their UK counterparts.

7.2.1.2 Cultural differences – D3, D4 and D5

The other three aspects of difference, namely, (D3) Chinese attention to relationships, (D4) Chinese concern for their company, and (D5) UK attention to utilising the project contract, were due to the cultural differences between the two nations.

In response to the research question, D3, D4, and D5, together with the findings in a further exploration of them respectively (described in Section 6.3), have largely supported the apparent differences between the two cultures identified from existing literature (see Section 2.2 and Table 2.4) and the various conceptual arguments on potential implications of dimensional differences for conceptions in the two cultures (see Section 2.3). In the sections that follow, I discuss the three aspects of research findings in relation to the relevant cultural dimensions and conceptual arguments respectively. Meanwhile, in order to illustrate the confirmative linkages between these findings and the existing theory, I summarise each aspect of the found cultural differences between Chinese and UK project managers' conceptions of their work in terms of the dimensional differences and the early conceptual arguments in Table 7.2.

Chinese attention to relationships – D3

Compared with their UK counterparts, the Chinese conceptions were dominated by attention to relationships with people involved in the project, which however did not mean that the UK project managers paid no attention to relationships in their work, to be discussed later. Meanwhile, in their efforts to build good relationships with people, Chinese project managers usually placed more emphasis on personal affection. As illustrated in Section 6.3.1 and summarised in Table 7.2, a further exploration of this aspect of differences demonstrated the cultural differences between Chinese and UK conceptions of relationship with the client, subcontractors and project team, and of their organisational structural preference. These findings have confirmed the different dimensions between the two cultural groups identified in the literature, such as *individualism-collectivism*, *power distance, relationship-contractual*, *hierarchy/harmony-mastery* and *long term-short term orientation*, and are consistent with the various conceptual arguments developed here based on existing literature.

The *individualism-collectivism* dimension provides 'structure for the rather fuzzy construct of culture' and has been the focus of a great deal of research interest in cross-cultural issues (Kim, Triandis, Kagitçibasi, Choi, & Yoon,

1994: 2). The primary characteristics of individualism-collectivism include: (1) relationship between personal and collective interests and goals; (2) emotional dependence on the collective; (3) group solidarity, sharing, duties and obligations; (4) identity based in the social group; and (5) feelings of involvement in one another's lives (Hui & Triandis, 1985). The research findings on Chinese and UK project managers' different conceptions of their relationship with the client, subcontractors and their team have confirmed the Chinese collectivist and UK individualist cultural dimension. In collectivist China, group solidarity, sharing, duties and obligations are encouraged, and individuals within a collective are bound by affection and loyalty to one another. The relationship between subordinates and superiors is more morally based and the management of personal relationships is more important than the work. In the individualist UK, people can more easily be moved around as individuals. Emphasis is placed on individual freedom and preferences, and the relationship between subordinates and superiors is more contractually based (Erez & Earley, 1993). Such conceptual considerations were consistent with the research findings. For example, compared with their UK counterparts, Chinese project managers attached more personal affection to their relationships with the client, subcontractors and the team, and they considered people involved in the project, such as the subcontractors and their team, to be members of a big project family with their own role being much like the father in the family.

Meanwhile, in contrast to Western *contractual* culture, Chinese *relationship* culture emphasises *hierarchy* and the need to maintain *harmony*, valuing *long-term* co-operation for mutual benefits, which was also reflected in the research findings. Specifically, compared with their UK counterparts, Chinese project managers valued more long-term cooperation with the client, subcontractors and they preferred existing and stable project team. They conceived the client as the boss, whilst UK project managers simply considered the client a necessary work partner who provided funding for the project based on the contract.

The dimension of *power distance* has a bearing on leadership style, also providing certain explanations for the above-mentioned findings, as discussed in Section 2.3.6. Further, as illustrated in Section 2.3.4, power distance, together with the dimension of *uncertainty avoidance*, offered explanations for Chinese organisational structure preference. More specifically, in Chinese culture larger power distance and stronger uncertainty avoidance are associated with greater centralization and formalization. Organisations are usually taller, more hierarchical pyramid structures. As the research findings showed, Chinese project managers expressed their dislike of the matrix organisation that has become a widely accepted structural form for UK managers.

Chinese concern for their company – D4

Compared with their UK counterparts, the Chinese project managers expressed more concerns about building new relationships for the future development of the company they were working for. They were concerned more for the consequences of their actions for the company. As illustrated in Section 6.3.2 and summarised in Table 7.2, a further exploration of this aspect demonstrated the cultural differences between Chinese and UK conceptions of relationship with their company, and between their attitudes to job satisfaction. These findings have confirmed the different dimensions between the two cultural groups identified in the literature, such as *individualism-collectivism*, *power distance, hierarchy/harmony-mastery* and *uncertainty avoidance*, and are consistent with the various conceptual arguments based on existing literature.

In collectivist China, employees' personal interests and goals are subordinate to the interests and goals of the collective organisation. Because their self-identity derives from and is enhanced by their group membership (Newman & Nollen, 1996), their concern for the consequences of their actions for the company arguably leads to greater emotional dependence on the company. Whereas in the individualist UK, individual and collective interests and goals are distinguished, priority is usually given to self-interests over those of the collective. Individual self-identity derives from and is enhanced by self-sufficiency and self-pursuit of goals. As shown in Section 6.3.2, compared with their UK counterparts, the Chinese project managers expressed greater concern for their collective company. They had a stronger feeling of being a company employee with their career development being dependent on the company's collective development. In contrast, the UK managers saw themselves more as the individual manager of their current project. The difference was also reflected by the fact that none of the Chinese had changed company since the start of their career in the construction industry, whilst all the UK respondents had changed companies at least once, most several times.

Due to their concern for the company's collective interests and goals, Chinese project managers appeared to feel more pressured in their work. The research findings on Chinese and UK project managers' different conceptions of job satisfaction have also confirmed the cultural differences underlying the *uncertainty avoidance* dimension, discussed in Section 2.3.5. More specifically, Chinese project managers, with a stronger uncertainty avoidance culture, expressed unease with risky or ambiguous situations. They relied more upon rules and regulations and felt pressured when taking responsibility. In contrast, UK project managers, with a weaker uncertainty avoidance culture, appeared to be more comfortable with risk and ambiguity. They enjoyed both the job achievement and the everyday challenges.

UK attention to utilising the project contract – D5

Compared with their Chinese counterparts, the UK respondents attended more to utilising the project contract in their work. Although both the Chinese and UK respondents considered the awareness of relevant commercial constraints in the contract to be necessary in their work, the UK project managers also stressed using the contract to resolve conflicts and to manage variations and changes to the project when necessary. As shown in Section 6.3.3 and summarised in Table 7.2, a further exploration of this aspect of differences between Chinese and UK conceptions of project management work demonstrated the cultural differences between Chinese and UK conceptions of claim and conflict resolution. This confirmed the different dimensions between the two cultural groups identified in the literature, such as *individualism-collectivism*, *relationship-contractual*, *hierarchy/harmony-mastery* and *outer-inner directed* between the two cultural groups of samples, and was consistent with the conceptual arguments based on the existing literature.

Specifically, Chinese *relationship*, *collectivism*, *harmony*, and *outer-directed* culture led to Chinese project managers' greater attention to group harmony, maintaining 'face', and relationships with all involved when resolving conflicts. They tried to avoid direct debate or claim and always tried to get through conflicts quietly by utilising good relationships (Hoon-Halbauer, 1999). In contrast, UK project managers encouraged open and impersonal discussion on disagreements and conflicts based on project contract and relevant legislations. They considered the placing of claims as normal project management practice that should be brought into play when necessary. Accordingly, for UK project managers, a good contract and being familiar with the contract conditions were absolutely necessary.

Conclusion

In conclusion, D3, D4, and D5, together with the research findings in a further exploration of them, have largely confirmed the apparent dimensional differences between the two cultures and various conceptual arguments on potential implications of dimensional differences for conceptions in the two cultures, summarised in Table 7.2. In particular, as elaborated above, this part of the research findings has also added to the existing literature by confirming the central role of relationships (or *guanxi* in Chinese) in Chinese culture and revealing the important differences in the meanings attributed by Chinese and UK project managers to what is meant by good relationships.

The emergence that conceptions of relationships take a relatively central role in the cultural differences between Chinese and UK project managers is not surprising. In organisational and cultural literature, management processes in China have long been recognised as heavily influenced by their

relationship mechanisms (see, for example, Tsang, 1998; Tsui & Farh, 1997; Wong & Slater, 2002; Yang, 1994). However, despite the acknowledged importance of relationships in Chinese business affairs (see, for example, Boisot & Child, 1996; Flemming, 2002) very few studies have examined how this contrasts with the more transactional orientation of business relationships in Western culture. This research illustrates how Chinese and Western managers' conceptions of relationships differ in the same kind of work activities, specifically construction project management.

Further, the findings of this research demonstrate that placing a high value on relationships is not unique to Chinese project managers. UK project managers also consider good relationships at work to be important. The study reveals the different meanings Chinese and UK project managers attributed to good relationships. Methodologically, this research benefits from in-depth interviews of matched practicing project managers on the job site in the two countries.

Some studies (see, for example, Child & Tse, 2001; Redding, 1990; Xin & Pearce, 1996) suggest that the weakness of China's legislation system and the lack of institutional protection have promoted its relationship culture. This is not evident in this research. The adoption of Western project management processes in the Chinese construction sector has been accompanied by the introduction of relevant laws and regulatory procedures, such as enforced tendering and bidding procedures and the use of specific contract conditions. However, the findings of this research suggest that, despite the introduction of this new legislation Chinese project managers still see relationships as more important than contractual arrangements. In contrast to Western *contractual* culture, Chinese *relationship* culture emphasises hierarchy and the need to maintain harmony, valuing long-term co-operation for mutual benefits. In a culture where trust is one of the basic elements of any relationship, contract documents have traditionally been considered necessary only for dealing with someone who is untrustworthy (Yi & Ellis, 2000). Even though in modern China people sign contracts for business activities, the residual manifestation of deep-rooted cultural values makes the underlying relationship more important than the contract (Lee, 1996; Wong & Chan, 1999). At the same time the tendering and contract awarding procedures enforced in China today tend to form a hierarchy between the client, contractor, and subcontractors which may then enhance the Chinese relationship culture.

Kluckhohn and Strodtbeck (1961) argued that, despite significant differences within cultures, any culture would be characterised by dominant value orientations. There is ample empirical evidence that Chinese and Western cultures are based on fundamentally different norms and conceptions of social reality. The findings of this research reinforced that, although both Chinese and Western cultures are undergoing change (see, for example, Chen, 1995; Ralston, Holt, Terpstra, & Yu, 1997; Ralston, Egri, Stewart, Terpstra, & Yu, 1999), the dominant deep-rooted cultural values and beliefs

are not easily left behind but rather are being revived and enhanced (Sheridan, 1999). These cultural values and beliefs are still guiding and shaping people's conceptions of the world around them. This cultural inertia is even more apparent on the Chinese side when taken in the context of the huge reforms and changes in the country's economy. Moreover, China remains a changing scene, in which its 'companies and leaders are learning and changing as fast as the pace of the economic growth in China' (Tsui, Wang, Xin, Zhang, & Fu, 2004: 18). There will be a continuing need to update our knowledge about management and organisation practices in the Chinese cultural context and how do they contrast with that in the West.

Hence, this part of the research findings illustrates the culturally-based differences between Chinese and UK conceptions of project management work, and highlights the need to take account of the impacts of cultural differences when transferring project management theories and practices across cultures.

7.2.2 Project management competence

The use of phenomenography to explore and compare Chinese and Western conceptions of project management work gives rise to an opportunity to develop an innovative interpretive understanding of project management competence, both in China and the UK. From the phenomenographic perspective on competence at work, sets of knowledge, skills and abilities stipulated in Western project management standards do not capture project managers' competence in the workplace. I find support for this position in empirical studies that have found no significant relationship between effective workplace performance and project management standards (Crawford, 2005). Hence the widespread practical use of project management standards for professional competence assessment and development in the West itself is open to question, not to mention their transfer across cultures into China.

As discussed in Section 2.5.2.3, existing studies of project management competence based on standards accord with the so-called work-oriented rationalistic approach to competence (Holmes & Joyce, 1993) and describe project management competence as a specific set of attributes, independent of the context of project management work. Following the phenomenographic approach to the study of human competence (Sandberg, 1994, 2000), the findings of this research demonstrated that project managers' conceptions of their work constitute their competence in accomplishing work, both in China and the UK. This, of course, does not mean that the knowledge, skills and other attributes described in project management standards are not necessary for competent project management work performance. Rather, the research findings suggest that whether and how project managers use these attributes in accomplishing their work are preceded by and based upon their conceptions of that work.

Specifically, with different conceptions, project managers attach different meanings to attributes and organise the attributes, such as knowledge, skills and abilities, into distinctive competence in performing their work.

For example, the attribute *knowledge of construction work* appeared in all three Chinese conceptions, but the data demonstrated that its meaning varied in different conceptions. In the first conception C1, knowledge of construction work meant understanding construction process and technical requirements for the project. In the second conception C2, it meant understanding the work interfaces and being aware of different parties' relationships. In C3, it meant being knowledgeable about the construction industry including the history and future development of the industry. As described in Chapters 4 and 5, each identified conception in the two cultures contained different key attributes that appeared when project managers experienced and accomplished their work. The different ways of conceiving project management work delimited certain attributes as essential and organised them into a distinctive structure of competence in project management. The three groups of Chinese conceptions (C1, C2, C3) and the three groups of UK conceptions (U1, U2, U3) represented three variations of Chinese and three variations of UK project management competence respectively.

Moreover, as demonstrated in Sections 4.2 and 5.2, these variations formed a cumulative hierarchy of competence in both the Chinese and the UK conceptions. The first level of conception, C1 and U1, was the least comprehensive, the second, C2 and U2 was more comprehensive than the first, and the third C3 and U3 was the most comprehensive. This suggests that individuals holding the third conception, namely, those Chinese respondents with C3 and UK respondents with U3, were the most competent and that those holding the first conception, namely, those Chinese with C1 and British with U1, were the least competent with regard to project management work in China and the UK respectively.

In this way, the first and the second parts of the research findings not only provide an interpretive understanding of what constitutes project managers' competence in the workplace, but also offer an opportunity for a new approach to professional competence assessment and development, both in China and the UK, that complements the existing rationalistic standards-based approaches.

Further to the contributions of the research discussed in the above Sections 7.2.1 and 7.2.2, it is worth mentioning the contribution of this study to research methodology. As discussed in Sections 2.4 and 2.5.3, by adopting the interpretive approach, phenomenography, this research has contributed to existing research methodology for (1) cross-cultural comparative studies, and (2) project management competence, both of which have been dominated by quantitative surveys of either university students or experts.

I summarise the major contributions of the research in Table 7.1 below.

Table 7.1 A summary of major contributions of the research

Contribution to knowledge	
Research findings	**Contribution to knowledge fields**
Different categories of Chinese and UK conceptions of project management work and the cultural differences between Chinese and UK conceptions	<u>Contribution to Chinese/Western cross-cultural management field:</u> • Confirm the apparent dimensional differences between the two cultures identified from existing literature (see Table 7.2 for details). • Confirm the central role of relationships (or *guanxi* in Chinese) in Chinese culture. • Add to the existing literature by demonstrating that placing a high value on relationships is not unique to Chinese project managers and revealing the different meanings Chinese and UK project managers attributed to good relationships. • Refute the suggestion that Chinese relationship culture is caused by the weakness of China's legislation system and the lack of institutional protection.
Different categories of conceptions of project management work, both in China and the UK	<u>Contribution to project management competence field:</u> • Add to the existing literature by providing a new interpretive understanding of project managers' competence in accomplishing work, both in China and the UK. • Refute the suggestion that project management competence at work can be described as a set of context-free knowledge, skills and abilities. • Offer an opportunity for a new conceptions-based approach to project management professional competence assessment and development that complements the existing standards-based approaches.

Contribution to research methodology	
	• Add to the existing literature on cross-cultural comparative studies by adopting an interpretive approach, phenomenography, to investigate and compare cultural differences in people's conceptions of their reality. • Add to the rigour of existing literature on cross-cultural management studies by using matched samples of practicing project managers working in their usual environment in their respective countries. • Complement the existing literature on project management competence by adopting the interpretive approach, phenomenography.

Table 7.2 Apparent cultural differences in the research findings linking relevant cultural dimensions and conceptual arguments

Apparent cultural differences in the research findings		Dimensional differences and relevant arguments based on existing literature	
	Chinese conceptions vs. UK conceptions	**Cultural dimensions**	**Conceptual arguments**
Relationship with client (in relation to D3)	Boss vs. Fund provider (Working & personal relations) vs. (Working relations)	Collectivism vs. Individualism Large vs. Small Power Distance Relationships vs. Contractual Hierarchy/harmony vs. Mastery	Section 2.3.6
Relationship with subcontractors (in relation to D3)	Team families vs. Team members Long-term cooperation vs. Cooperation for current project	Collectivism vs. Individualism Large vs. Small Power Distance Relationships vs. Contractual Hierarchy/harmony vs. Mastery Long-term vs. Short-term Orientation	Section 2.3.6
Relationship with project team (in relation to D3)	Family-like vs. Friend-like Existing long-term team vs. New team for this project	Collectivism vs. Individualism Large vs. Small Power Distance Relationships vs. Contractual Long-term vs. Short-term Orientation	Section 2.3.7
Organisational structure preference (in relation to D3)	Disliking vs. Accepting & being used to the matrix structure Preferring existing long-term team vs. Liking to know new people through new projects	Large vs. Small Power Distance Strong vs. Weak Uncertainty Avoidance Long-term vs. Short-term Orientation	Section 2.3.4
Relationship with company (in relation to D4)	Employee of the company vs. Manager of the project Working for the company's benefits vs. Working for job satisfaction	Collectivism vs. Individualism Large vs. Small Power Distance Hierarchy/harmony vs. Mastery	Section 2.3.6
Job satisfaction (in relation to D4)	Feeling pressured vs. Enjoying experiencing new things and challenges	Collectivism vs. Individualism Strong vs. Weak Uncertainty Avoidance	Section 2.3.5
Claim and conflict resolution (in relation to D5)	No claims vs. Claims when necessary Need good relationships vs. Need a good contract Seeking help/support from relationships vs. Relying on contract/legislation	Relationships vs. Contractual Collectivism vs. Individualism Hierarchy/harmony vs. Mastery Outer-directed vs. Inner-directed	Section 2.3.8

7.3 Implications for practice

I have discussed how the research findings on (1) Chinese and UK conceptions of project management work, and (2) cultural differences between the Chinese and UK conceptions have responded to the research question and contributed to the existing knowledge field of (1) Chinese/Western cross-cultural management, and (2) project management competence, thereby presenting several implications for practice, described below.

7.3.1 Implications for cross-cultural management

This study contributes to the cross-cultural management literature by exploring and comparing Chinese and UK project managers' conceptions of their work. Following the phenomenographic approach, the findings of this research were based on in-depth interviews with matched samples of practicing project managers in the two nations. The identified cultural differences between Chinese and UK project managers' conceptions of their work in this research provide empirical evidence for the apparent dimensional differences between the two cultures in existing literature. These results have also added to the existing literature by confirming the central role of relationships in Chinese culture, and in the meantime, revealing the different meanings Chinese and UK project managers attributed to good relationships. In sum, the cultural differences found in this study (as described in Section 6.3 and summarised in Table 6.7) have certain implications for Chinese/Western cross-cultural management and project management practice:

- Although both Chinese and Western cultures are undergoing change, the dominant deep-rooted cultural values and beliefs are not easily left behind. When adopting Western management concepts and processes, Chinese organisations need to understand how the different cultural values and beliefs may impact on management practices. Specifically, the cultural differences in conceptions of project management work found in this study provide important insights for the introduction and development of the Western-oriented project management in China, particularly in the construction sector. For example, although the adoption of Western project management processes in the Chinese construction sector has been accompanied by the introduction of relevant new legislation, Chinese project managers still see the underlying relationships as more important than contractual arrangements. This highlights the need for Chinese researchers to do further studies of the effectiveness and applicability of newly introduced legislation based on practices in the West.

- Chinese organisations need to be aware of their project managers' dislike of the matrix organisational structure and preference to work with their long-term team and subcontractors when adopting the Western project management processes.

- Western project management professional associations, such as PMI and IPMA, need to be aware of the impact of cultural differences on people's conceptions when introducing their project management professional training and certifying programme across cultures into China.

- When negotiating and managing joint venture projects both Chinese and Western organisations need to pay attention to cultural differences between managers' conceptions of their work, particularly those relevant to relationships, in order to adapt practices and foster successful collaboration. More specifically, Westerners need to be aware that Chinese conceptions are dominated by attention to relationships. In their efforts to build and maintain long-term good relationships with people involved in the project, Chinese always attach personal feelings. On the other hand, Chinese need to understand Western ways of separating work and personal relations, and Western greater emphasis on contract conditions and utilising contracts in conflict resolution. Meanwhile, Western organisations need to understand Chinese greater concern about and dependence on their company.

- In order for Chinese and Western organisations to gain mutual understanding and achieve effective collaboration, training on cross-cultural issues is necessary. Such training should be based on conceptual frameworks that are both up-to-date and relevant.

7.3.2 Implications for competence assessment and development

This study contributes to the project management competence literature by taking an interpretive approach, namely, phenomenography, which suggests that practicing project managers' conceptions of their work constitute project management competence at work. The three different Chinese conceptions and the three different UK conceptions found in this research reflected three forms of competence in project management in China and the UK respectively. The hierarchical variation within the three conceptions in each nation provided implications for a new approach to project management professional competence assessment and development that complements existing standards-based approaches.

The prevalent use of project management standards for assessing and developing project management competence, as described in Chapter 1, takes attributes as the point of departure. Project managers who are able to demonstrate under examination conditions their knowledge, skills and

abilities, namely, attributes, in relation to the profession of project management embodied in these standards are deemed to be competent. Accordingly, in order to develop project management competence, efforts are put into transferring important attributes to those who do not possess them.

This research makes a shift of point of departure from attributes to project managers' conceptions of their work. This however does not mean that the attributes described in project management standards are not necessary for competent project management work performance. But rather, such a shift of emphasis enabled by the phenomenographic approach makes it possible to better describe whether attributes are used in accomplishing work, and more importantly, how attributes are formed, developed, and organised into distinctive structures of competence in project management work performance.

Hence, the assessment of project management competence should not only involve examining the possession of knowledge, but should also consider the fundamentally different ways in which people experience project management work, namely, their conceptions of their work. The most basic form of developing project management competence is then to change people's conceptions of their work. This has implications for project management professional organisations, such as the American Project Management Institute (PMI) and the British Association for Project Management (APM), to update their competence assessment and development programme. This may also have implications for designing and conducting effective training courses on project management, both in China and the UK.

7.4 Limitations of the research and suggestions for future studies

In this final section I acknowledge several limitations of this research and offer suggestions for addressing these limitations in future studies.

The first limitation of this research derives from its sampling constraints. The research findings are limited to the Chinese sample project managers in Beijing area and UK sample project managers in central England. To some extent this has served to minimise the domestic (within each nation) cultural variations, but has at the same time limited the applied implications of the research findings. Future studies may try to explore conceptions of project managers in wider domains of Chinese and Western culture, such as in the USA and in southern border areas of China.

Second, the analysis conducted in this research was based on data only from in-depth interviews with project managers, which might have a negative impact on validating the different hierarchical levels of conception. This problem is not critical for generating conceptions, because features of the

phenomenographic approach have largely ensured the reliability and validity of the study, as described in Chapter 3. Nevertheless, future studies may strive to collect wider data from project managers' superiors, peers, subordinates and clients so as to further validate the research findings.

A third limitation of this research concerns the possible sources of variation in conceptions. In this research I examined the sources of variation in terms of respondents' age, formal education, and length of work experience in the construction industry and length of being a project manager. As discussed in Sections 4.3 and 5.3, even though all respondents considered certain experience and knowledge in the construction industry to be necessary, no strong links emerged between the examined sources and the conceptions identified. Future studies may investigate the impact of other sources, particularly the type of work experience of individual project managers. Such results may provide further insights into competence development and career development.

Fourth, the findings of this research are based on data from a single industry, namely, the construction sector. Characteristics idiosyncratic to construction projects, such as their relatively well-defined goals and methods for achieving the goals, have offered to provide a more stable context for capturing project managers' conceptions of their work and for comparing such conceptions in the two cultures. However, these characteristics mean that caution should be exercised in generalising the findings in this research to contexts other than construction projects. Future phenomenographic research into project management competence may further examine project managers' conceptions of their work activities in other sectors such as IS/IT. If similar sets of attributes and structures of conceptions can be found in other contexts of projects, then it might be possible to confirm certain general characteristics of project management competence based on conceptions. If differences of project managers' conception of their work between contexts are found, this would provide valuable information for those in the project management profession who are concerned with the development and application of uniform standards.

Another limitation that merits special attention is associated with the cultural differences between Chinese and UK project managers identified in this study. As noted above, the identified conceptions in this research are limited to the context of construction projects, so are the cultural differences that were revealed. Therefore, generalisation of these cultural differences to other contexts should be made with caution.

Nevertheless, the findings of this research suggest that there is a continuing need to update our understanding of competence at work and our knowledge about why, how, and with what consequence Chinese and Western managers' conceptions of the same kind of work activities differ. Even in the modern world deep-rooted cultural values and beliefs such as

collectivism, attention to relationships and harmony, and long-term orientation are guiding and shaping people's conceptions of the world around them.

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LIST OF APPENDICES

Appendix A: Example formats sent off to arrange interviews

Example I:

Dear Janet

I got your contact details from Connor - thought it better to send you this note before calling you.

Many thanks for your kind willingness to help me get access to K (firm's name) project managers.

My research is to look at cultural differences between UK and Chinese project managers and how cultural factors affect their management approach. As part of the research process the interviews with project managers are all about their work. About one hour of their time is all that will be needed. The research is all anonymous - neither the firm's name nor the interviewee's name will appear in any writing or presentation. Ideally the project managers are working on site now for small/medium size building/construction projects, but I would accept that much compromise will be inevitable. The interviews will be either in their company office or on the job site of their current project, with the latter preferred. If you could provide access to four or five K (firm's name) project managers (in any areas of England, though the Midlands area preferred), that would be brilliant.

Many thanks in advance and I look forward to hearing from you soon

Best regards

Ping Chen

Example II:

Dear Bill

I am a PhD student at Cranfield School of Management. I am currently researching cultural differences between UK and Chinese project managers. As part of the research I need to interview both UK and Chinese managers working on projects. The research is all anonymous - neither the firm's name nor the interviewee's name will appear in any writing or presentation.

I got your name and contact details from RF - many thanks for your kindness to be my interviewee. The interview will be all about your current work, usually last about 45 minutes. No preparation is needed.

Could you please advise me of any dates good for you? and the venue? I will be travelling from Milton Keynes or Bedford by train or coach, so if you could give me a map or the nearest station name, that would be very helpful.

Many thanks in advance and I look forward to hearing from you soon.

Best regards

Ping Chen

Appendix B: The demographic form for respondents to fill out during interviews

Interviewees' demographics (for the researcher's reference and future contacts only)

Name	Age	Highest qualification	No. of years in construction sector	No. of years as project manager	Name of project under construction	Value (approx.) (£ million)	Contact No. & Email

Appendix C: The preliminary coding scheme

Code	Category	Definition
K1	Knowledge	Statements about project managers' personal knowledge of construction work
K2	Knowledge	Statements about project managers' personal knowledge of commercial (business, contract) management
K3	Knowledge	Statements about project managers' personal knowledge of project management
E1	Experience	Statements about project managers' personal experiences in construction work
E2	Experience	Statements about project managers' personal experiences in managing projects
P1	Personality	Statements about project managers' ambition in career development (self-driven sense of achievements)
P2	Personality	Statements about project managers' personalities of sincere, open, strong character, painstaking etc.
Aw1	Ability to manage work	Statements about project managers' ability to plan and arrange the site work in good sequence
Aw2	Ability to manage work	Statements about project managers' ability to manage project quality
Aw3	Ability to manage work	Statements about project managers' ability to manage project cost
Aw4	Ability to manage work	Statements about project managers' ability to manage the Health & Safety on site
Ap1	Ability to manage people	Statements about project managers' ability to manage project team
Ap2	Ability to manage people	Statements about project managers' ability to communicate with people
Ar1	Ability to manage relationship	Statements about project managers' ability to manage relationships with the project client
Ar2	Ability to manage relationship	Statements about project managers' ability to manage relationships with subcontractors/suppliers
Ar3	Ability to manage relationship	Statements about project managers' ability to manage relationships with local authorities
Ao1	Ability to overall manage	Statements about project managers' ability to overall control the project/make decisions
Ao2	Ability to overall manage	Statements about project managers' ability to manage problems/conflicts
Ao3	Ability to overall manage	Statements about project managers' ability to overall coordinate the project

Appendix D: Data examples from each Chinese respondent for each attribute in their conception

Conception C1: Project management as planning and controlling						
S/N	**Name**	**Ability to plan**	**Knowledge of construction work**	**Knowledge of commercial management**	**Ability to communicate**	**Ability to manage team**
1.	ZXL	'The most important thing is to plan and then to ensure the implementation of the plan on site. Without a good plan, the project manager would be like a blind person, and it is of course impossible for him to manage the project successfully.'	'A good project manager needs to be able to plan the job and organise the site work, so he must have technical awareness of the job.'	'... since you are also responsible for procuring resources, procuring and subcontracting are two important aspects in the plan... and you need to know the relevant practices about business procurement and administration...'	'It is important to keep the door to your office open so that people can come to talk to you about their thoughts and problems. You should also go to communicate with people...care about them and make them happy to work together as a team.'	'...you need to be able to get people united and integrated as a team. The team is like a big family on site, and you are like the father of the family...you need to care about their worries and thoughts, and be able to manage the relationships between people within the team.'
2.	WKL	'It is all about getting the right things at right time and at a lower price. So first you have to plan very carefully, plan the whole work and plan how to procure and when to deliver the required resources to site...'	'You should have both the technical and commercial knowledge... without basic knowledge of the work, how can you plan for the job? How can you check and control the implementation of the job on site...'	'...you must also have good knowledge about how to negotiate and sign a contract, you need to understand the fundamental rules and practices in business administration.'	'...we have regular meetings for various topics... I also take opportunities to chat with people about their work and life...'	'... people may see me as a leader here, but I see myself as a father of a big family...you need to care about your team and be fair to people, thus people will trust you and the team can be united around you.'

3.	ZBH	'...everyone first makes their own plan, based on which I make the overall plan. The plan is the 'law' on site, based on which I check the progress and control the construction process on site...'	'A good project manager must first of all know every aspect of the construction work, being aware of the construction process and technical requirements of every work task.'	'... he needs to have technical knowledge of the work, as well as the relevant commercial knowledge for planning and managing the procurement and delivery of resources.'	'...you need to have the kind of personal traits of being able to communicate with people... I mean to be able to talk to people and to be accepted by people.'	'Most of the members have been working together for years. We all know each other and just like a family...so the most important thing for team management is to maintain the close relationships in the team.'
4.	LCH	'To me, the most important aspect of project management work is to plan the work well... we have just got a new software for compiling and modifying the project plan... a good and reasonable plan can ensure the cost and progress be controlled...'	'You need to understand the technical requirements for the job. You should be able to understand the construction drawings, and be aware of the construction process on site.'	'I don't like to be a businessman really... but one criterion of successful project management is to earn profit. In other words, cost management is very important.'	'... we have weekly progress meetings with the client. We also have regular meetings with subcontractors and within our own team. I also keep communicating with my people everyday to see whether there are any problems.'	'I selected to work with these people I know very well before, and we have very close and good relationships within the team. '
5.	LWE	'...you must have the ability to plan the job, which is to put various tasks and parties in a good sequence... you also need to control the work process on site.'	'I think a good project manager needs to be knowledgeable of the construction work and be experienced as well... '	'...you also need some basic knowledge of contract and commercial management...you must know how to do the procurement properly.'	'I am still young, so I must show modest attitudes when communicating with elders or superiors. But I am usually serious at formal meetings as I must be in charge of.'	'...teams are relevant stable in our company. I think this is good for project management, because people usually like to work with those they already know and have good relationships with before...'

6.	WSJ	'... the project manager needs to manage and control the overall construction process on site, from labourer, materials, plants, to methods... so I think the most important and difficult part is to plan the job properly and update the plan continuously.'	'I think to be a project manager, he should have the basic technical knowledge of construction work... he should have been trained on construction process, and he must have also got certain experience of working on site...'	'For example, you need to know the tendering procedures, price conditions and so on... you must understand and know these commercial aspects...'	'...communication with head office, the client, suppliers and so on is important...by written reports, correspondences, and regular meetings... I would also like to go out to have a personal chat with people... I don't want people consider me as a leader, but a brother.'	'I organise my own team. It is just like my own family. Everyone knows each other very well, and we all have very good relationships... Small conflicts are inevitable, project manager needs to be sensible and get the small conflicts resolved quietly...'
7.	LYL	'Project management is to control the progress, cost, and quality... like anything else in our life, there must be a detailed plan in place first, then you can check and control the whole construction process, step by step from the very beginning... project manager must follow the plan and know what is the deadline and what are the requirements...'	'...you'd better have got experience of working outdoor on construction site for similar jobs. Construction work is not very complicated involving high technology. Compared with formal education, I think, relevant experience is more important for being a good project manager.'	'...to control the cost, you need to control the process of procuring materials. You must try to get the lowest price and to ensure the delivery to be according to the overall plan...'	'Whenever I have time I would like to go out to have a look at the job site, to check the progress and say hello to people, not always going with a clear purpose, but always coming back with valuable information. We also hold regular meetings to check the progress, and to discuss and find solutions to problems.'	'You should try to balance people's different personalities and requirements so as to maintain a harmonious relationships within the team...'

8.	JGJ	'I am the project manager here, my job started with compiling the overall plan, and then allocated the work task according to the plan... So I have to check and control the work on site to make sure they are being done according to the plan and the approved construction methods.'	'He should have been educated on a construction related area. I don't know other types of projects, but I think a construction project manager must have a good knowledge of the technical requirements and construction specifications...'	'I don't like to deal with the commercial aspect. I have suggested many times that the head office should be fully in charge of procurement... The situation won't be changed quickly, so you need to know about commercial procurement as well...'	'I like talking with people and collecting good ideas and opinions from people working on site... of course, you need the sort of personalities and abilities to communicate with different kinds of people... you should be open, sincere and caring.'	'Teamwork is very important in successful project management. To make a team work, project manager must care about everyone, try to create a spirit of cohesion and unite all people to work together...'
9.	LJL	'Planning is most important. It also brings me a lot of headache. At tendering, we enclosed a plan, which however was made optimistically in order to win the project. Now, we have to compile a detailed one for the client to approve...my primary task is to save time by controlling the construction process and improving methods...'	'I worked together with my people for several days to discuss the plan and construction methods. We tried very hard to get the most reasonable plan for saving time and money... It is your job to call for good ideas, to consider them and to decide, so you yourself have to be fully aware of the technical and contractual requirements.'	'Project manager should have the ability to manage contract and deal with the relevant commercial aspects... for example to deal with subcontractors... There are always problems such as whether they should get paid and how much for this time and so on... you must know how to deal with these sorts of commercial management.'	'It is also necessary for project manager to have the ability to deal with people... to be able to talk with people of different levels on different topics... topics from work plan, construction site work, to the sort of food, fishing and so on.'	'I have a very good team. We are like one big family. It is not easy to get such a close relationship within the team, so I must put effort to maintain the good relationships... my policy is no blame. I care about everybody and I request them to care with each other as well.'

Conception C2: Project management as coordinating relationships						
S/N	**Name**	**Knowledge of construction work**	**Knowledge of commercial management**	**Ability to communicate**	**Ability to manage team**	**Ability to coordinate**
1.	WAP	'He should have been educated on construction engineering. He needs to understand the technical requirements in the contract, be able to organise and coordinate people on site...'	'...I mean he needs to know the contract. Although coordinating relationships is most important in a project manager's daily work, he has also to be aware of the commercial implications when he deals with different aspects of relationships.'	'Project manager needs to take all possible opportunities to communicate with people, to build trust with each other, and to coordinate relationships.'	'We are a family really... It is the project manager's task to maintain a good relationship within the team family and build such a close team spirit...'	'So he needs to be able to coordinate all kinds of relationships in order to make sure the work progress well without delay.'
2.	ZZL	'You must know the fundamentals of the construction process on site, without which you cannot talk about construction project management really. You need to know how people's work are related before being able to coordinate their relationships...'	'Project management is to fulfil a project contract to the scope, on time and within the budget... Although the commercial conditions in the contract, such as putting claims to the client, are hardly implemented in real life, you still need to know that, know what can help in your negotiation with the client and in your coordination of the work on site.'	'The project manager must understand all those people involved in the project, and be able to communicate with them. Thus you can manage and coordinate relationships with them, and can maintain a good environment for the project to be accomplished without delay.'	'There must be a good team so that the project manager can be freed from the details and be more focused on coordinating. Team members all have their own tasks and the project manager's role is to see the overall picture.'	'Basically most of my time is spent on coordinating relationships, both internal and external relationships. The control of construction work on site depends mainly on my team members...'

3.	CLY	'The most important aspect is to coordinate relationships. But I think a major difference between general management and the construction project management is that the latter also requires a good knowledge of the construction work.'	'... project manager has to manage the commercial aspects of the work. This is different from working as a construction engineer. And it is always great to know that the work under your control is earning money for the company.'	'We have regular meetings on site... I also organise some entertainment activities to provide opportunities for people to get to know each other better and to gain each other's trust.'	'We are a team, and we have been working together for many projects... you need to create a kind of spirit of mutual support, trust and openness in your team, so that the new members can join and unite into the team quickly.'	'One of the difficulties is to manage relationships and to get people work together... you have to put a lot of effort to coordinate relationships between all people to make sure the work progresses in good quality and without delay.'
4.	JCY	'You must know how different work tasks are interacted... So technical knowledge of the construction work and experience of working on site are necessary for being a good project manager.'	'...you have got a contract and a budget. In order to understand the contract and manage the cost, you have to get specific training on managing the commercial aspects of a project.'	'It is important to be able to communicate with all kinds of people on all kinds of occasions. For different people and different purpose, the approaches can be quite different... you need such skills of communication.'	'You need to care for your people working for the project. They have families to care for and they are your team family members, so you must know what they are worrying about and try to help them.'	'...it is my job to coordinate various relationships with all people involved and to maintain such good relationships throughout the project implementation process.'

5.	LLJ	'You must have basic knowledge of the construction work. Then you can learn from past experience, and understand the interfaces between different work tasks and the relationships between subcontractors.'	'...failure to control the procurement of resources could cause work delay and more money significantly. So you need to be aware of the commercial requirements and constraints in the contract, to be able to organise and coordinate them efficiently.'	'...you can get the first hand information if people trust you... You need to be able to talk to people by all approaches and care about them so that they will rely on you and trust you.'	'Despite people's character varies, we care about each other. We don't say this is your job, and that's mine...we all know that we are a family. We must unite and work closely together to achieve our goal...'	'...project manager needs to have the ability to manage people and to coordinate relationships of all parties involved in the project.'
6.	ZLQ	'A good project manager should be somebody with enough knowledge of the construction process and full awareness of the technical specifications of the job.'	'You must know both the technical requirements and the commercial constraints. And most importantly, you need to be able to coordinate relationships of people involved in the project, so that cash flows efficiently among the client, the company, and the subcontractors without delay, and every party works well without delay. It is not an easy job, so you need to study the contract, being fully aware of the commercial side of the project.'	'He should be open-minded, be good at expressing himself and good at communicating with others... he knows how to talk to people and has the ability to shorten the distance between himself and others...'	'You need to have the managerial and social skills for maintaining a good relationship within your own project team. So you can create a kind of spirit that can encourage people on site to work as a close team.'	'In coordinating among different parties, you need the ability to convince people that good relationships and sincere cooperation will lead to a 'win-win' solution. I always try to encourage the subcontractors to share their resources on site. If they can reduce their cost, they win, and we also win. At the end, the project benefits.'

7.	GDF	'To be a good project manager, you need to know the construction process and more importantly to understand how work interacts on site... I can go back to the office to do tendering but those having been in office and never worked on site cannot come directly to work as a project manager.'	'...since we are responsible for procuring resources and have to try to control cost, sometimes I think project management is also a business activity. And project manager has to deal with commercial negotiations like a business man.'	'... there are regular meetings on site so as to make everything transparent and prompt. We also organise social gatherings so as to build good relationships with people.'	'It takes time to get such a team spirit as mutual understanding and mutual support built. We all care for each other like families. We all treasure it very much and it enables the new comers to integrate into the team quickly.'	'My team members are managing and controlling the work on site, they are not in a position to see the overall, big picture. On the other hand, I try not to interfere with their job details. They come to me when there is any problems about the work or people, and I coordinate that and get them sorted out.'
8.	SZY	'You should understand the construction process and the particular technical requirements in the contract. Then you know how to bring in subcontractors and coordinate their relationships.'	'...you need to be aware of the contract and to make sure that all you are doing and intend to do are covered in the contract.'	'You also need the ability to communicate with different people by different approaches...'	'My role is like the father in the project team family. People rely on me and respect me. It is crucial that I could coordinate and maintain a close relationship within the team'	'Good relationships, both internally and externally, are important to get problems and conflicts resolved and get the job done. My role is centred around dealing with people and coordinating these relationships.'
9.	XYJ	'...he needs to be technically capable, be aware of the job interfaces between different parties...and be able to judge and make decisions on site.'	'...it is not just dealing with salesman for materials procurement, but you have to be aware of the contract and understand the commercial implications of every decision you make.'	'...project manager must have the ability to take all possible opportunities to communicate with them to gain mutual trust...and to build good relationships.'	'It is important to have a good team who look after the day-to-day running of the work... it is important that the team can fulfil your decisions on site.'	'The most important aspect is to coordinate relationships of all parties involved in the project...'

10.	MZS	'You need certain experience of working outdoor on the construction site, ideally for similar types of project.'	'Project management is a new concept in China. A good manager needs to know the fundamentals of project management. In particular, he needs to understand the project contract... there are various contract conditions...this one follows FIDIC.'	'You are the commander here on site, and you are the centre of communication... Progress meetings are not adequate, you need to spend more time to communicate with people and maintain good relationships around you.'	'I depend on my team for all kinds of planning, controlling and supervising the site work. I trust them and they rely on me as well for dealing with relationships and solving problems. Within the team, we have built a kind of spirit of mutual trust and support.'	'You also need to be able to coordinate among different parties and people...'
11.	ZTO	'A good project manager needs to have a good technical knowledge of the construction work... he may start from working as a site engineer, engineer and assistant project manager... So he can understand every aspects of the work, and how different types and parts of the work interface and relate to each other...'	'He also needs to have business administration ability. He understands the contract conditions and commercial constraints in the contract ... Thus, he can see the big picture, organise the work on site, and can coordinate relationships of all parties involved.'	'...you need to maintain good relationships with people, so I always go out to communicate with people. Sometimes we just chat about football games or maybe the weather. Gradually in this way, you gain trust from people.'	'... it is like a big family, project manager's role is very much like a father. Everyone can cry to you, but you cannot. You are there to coordinate and maintain a close relationship in the big family.'	'...so that I know what are the problems and what can be problematic, and know how to coordinate among people.'

12.	WYP	'He should have been educated on construction work and have got certain practical experience of working on site. Since the work progresses, it is not static, he needs to be able to follow the progress and understand the work interfaces between different parties on site...'	'The company has a short list of suppliers, from whom you can get offers... The lowest price is preferred, but other conditions such as quality and service are also important...'	'... he needs the ability to gain trust and build good relationships quickly with people.'	'We are a family. In fact, I just consider it as my own family. Thus I found team management becomes easier and simpler, since there exist good relationships in the team, and there exist sentimental feelings as well...'	'He needs to overall control the work on site and coordinate all kinds of relationships.'
13.	ZLE	'He must be technically conscious... so he can understand different subcontractors' work interfaces and coordinate them to accomplish their part of the job without delaying others.'	'There are always difficulties in cash flow, and there are always conflicts with subcontractors or the client for effecting payment. You needs to understand such commercial constraints and resolve the conflicts.'	'In his efforts to communicate with others, he must try to understand others and help them out so as to build trust and good relationships.'	'...I need continuous efforts to coordinate relationships within the team, particularly when new members join the team.'	'...my task is to coordinate with various parties and people so as to build good relationships and create a harmonious project environment.'

14.	LJJ	'...construction work is not complicated, it is all about experience. You need to have experience of working for similar jobs and experience of dealing with different kinds of people. You can learn from your experience.'	'Despite the company provides guidance and support for resources procurement, you still need to have relevant knowledge of business negotiation and contract implementation. '	'To maintain good relationships and to avoid misunderstandings, communication is very important. Project manager should understand this and should have the ability to communicate with people by various approaches.'	'It is important to build a team spirit... You should encourage the team members to learn from each other and to support each other. They should understand people they are working with can be very experienced, and they can always learn from others.'	'To me, project management is to coordinate among people and to maintain good relationships with people involved in the project...'
15.	HCR	'I am the manager here and I am also an engineer. I think my technical knowledge and past experience are great support to my managerial role.'	'I don't mean you must be a talent in doing business... you need to decide on procuring materials and subcontracting parts of the work, so you need to be able to coordinate these business and commercial activities.'	'I attend very much to communicating with people, I think this is important and can help me to better understand the work interfaces between different parties, and to get aware of any problems each party is encountering...'	'You should be able to build a team of your own and to maintain a close relationships within the team.'	'I enjoy my work because it involves not only technical aspects, but more importantly also dealing with people and managing the relationships with people.'

Conception C3: Project management as developing relationships							
S/N	**Name**	**Knowledge of construction work**	**Knowledge of commercial management**	**Ability to communicate**	**Ability to manage team**	**Ability to coordinate**	**Ability to build new relationships**
1.	CMF	'I enjoy my work. I enjoy the process to put my knowledge and experience into better practice... This is an era of new technology and new concepts, so you should keep your knowledge of the construction industry updated.'	'The market changes everyday... you should be aware of the market and report to the company if any changes in the market would possibly affect this project and the company's future projects.'	'I think it is very important for the project manager to be able to try all his best and take all opportunities to communicate with people, particularly with those you don't know before.'	'...you need to be able to motivate the team. People usually have different personalities and backgrounds, you need to understand them and try to get them motivated and self-improved.'	'You need to organise the work, control the project cost and a lot of other things. I think most importantly you need to be able to coordinate relationships of all parties involved in and relevant to the project.'	'The most successful aspect of this project up to now is the good relationships we have built with the client.'
2.	WSL	'A good project manager should have a good knowledge of the construction industry and any new developments in the industry.'	'The competition for getting new jobs in Beijing area is fierce. Project manager needs to be aware of this and try to develop new associates and new relationships through this project.'	'It is a people industry. Project manager's role is to manage people, trying to develop and maintain good relationships with people, so his ability to communicate with all levels and kinds of people is absolutely important.'	'...there should be a team spirit, and moreover, the team must be competitive... I encourage my team to learn and to improve themselves continuously.'	'My daily task involves a lot of persuasion and coordination, just talking and talking like a diplomat...'	'...one important factor of a successful project is to be able to build new relationships through this project. These new relationships will be added to the company's assets for being more competitive in getting new jobs in the future.'

3.	SWH	'You must be more experienced than others, and must know better about the history and future development of the industry.'	'I expend a lot of energy and time on the commercial management... I have to control the financial aspect of the project and coordinate among different parties trying to achieve more with less cost and making sure it is within the budget.'	'...I would like to invite people for a personal chat... it is important for me to keep communicating with all my people, the client, subcontractors, and other relevant parties.'	'I care for my people, not only their life but also their career. I encourage them to learn more and think for future. A project usually lasts 2 or 3 years, if they don't keep studying, they would not be able to get their technology and management concepts updated.'	'A good project manager needs the ability to foresee problems and the talent to coordinate relationships in order to avoid the happening of the potential problems...'	'... we are building a very good relationship with our client and all parties involved. We all appreciate such good relationships and we look forward to further cooperation in new projects.'
4.	XSG	'Since you have to decide the strategy on how to construct or say manage the project successfully, you must be aware of the development of the industry such as the availability of any new technology and more advanced methods.'	'...you have to control the budget. You need to be able to coordinate among different parties, trying to achieve more with less cost and make profit from the project. The company needs profit anyway.'	'Moreover, a good project manager needs the ability to communicate with people, even with those you don't know before. I think this is really an art and can be difficult...'	'Another task of the project manager is to keep the team motivated, to ensure people to work on their own initiative... I also encourage my team to attend training courses organised by the company...'	'Project management is to administrate and control all aspects of a project, such as cost, quality, safety, and to coordinate people's relationships to make sure everyone is happy and the work progresses well.'	'You must be able to deal with people and relationships. What we call the *'guanxi xue'* [relationship science] is very important in managing projects...you should be able to maintain relationships and try to establish new ones.'

5.	FFZ	'You should know the fundamentals of the construction work process, should be experienced in the construction industry... you need to be a technical man first, not about details but you need to know the fundamentals...'	'You need to understand the market...the company as a whole usually has a market strategy, and within the company, different projects cooperate closely with the purpose for the company to earn money at last.'	'I enjoy working with people. I don't like just sitting in the office or working with drawings or documents... To communicate with people and build new relationships through our communications are two key aspects of our role really.'	'You should train your team,particularly the young people, who will lead the company's future... they all like to work with me because they can learn from my experience. They don't call me 'Manager F' but 'Teacher F', I like this, I think this shows more respect.'	'I have to coordinate different people on site and outside the site to make sure the job is carried out without delays and problems.'	'...being a good project manager, you need the kinds of skills and ability to build and maintain good relationships with the client, the local authorities and so forth.'
6.	CDF	'Once you have built trust and good relationships with the client, they would come back for long-term contract and new projects.'	'...now in China we always say 'market economy', it is the same for project management... Project manager should know about the market and be aware of the commercial constraints in their contracts with the client and subcontractors.	'A good project manager needs to have the kind of personalities to be able to communicate with all kinds and levels of people, to be able to convince them and to build new relationships with them.'	'You need to build a strong team and create such a team spirit that everyone cares about each other and the whole project rather than his own role and the self. You also need to motivate your team to cherish the collective team and put effort to make the team stronger and more competitive.'	'you must be able to see the bigger picture and be able to foresee any potential problems. And in the meantime, you need the ability to coordinate among different parties involved...'	'...at the end, you are not just accomplishing one single project and earning profit for the company, but also you are building new relationships for the company to get more jobs in the future.'

Appendix E: Data examples from each UK respondent for each attribute in their conception

Conception U1: Project management as planning and controlling					
S/N	**Name**	**Ability to plan**	**Knowledge of construction work**	**Ability to communicate**	**Ability to manage team**
1.	MIH	'...this has freed my time to do what a manager should do – plan, programme, negotiate with subcontractors and so on... It is to make sure everything is done in sequence. First to make plans and then to ensure everything happens in a logical sequence.'	'A good project manager is somebody with enough knowledge of the construction work, not necessarily academic knowledge but enough experience and practical knowledge to be able to manage the whole process, and with enough confidence to be able to make decisions based on facts.'	'We have weekly meetings with the client to report and update the implementation of the job plan. We also sit down with subcontractors regularly to discuss their progress, to approve the health and safety measures and so forth.'	'We are a team for this project. We need to work together. I cannot just enforce my authority. I always try to help people...'
2.	ROW	'It is the sort of planning and controlling of a job. The key thing is really on the job site; you should plan the job properly, and I think if you can plan properly you will have a better chance of controlling everything, everybody and all the subcontractors.'	'You won't be able to do the job if you have not got relevant knowledge of the construction work process and relevant experience... you need to understand the technical requirements. You particularly need to be health & safety conscious.'	'A good project manager needs to be able to understand people and to be a good communicator with people working on the site...'	'...you need to lead the team and be able to drive the people, able to put them all together in one single direction.'

3.	STR	'You have to sequence the work; when you programme the job, you set every event a start date and a finish date ... you then control the site by controlling the subcontractors' methods. They should have prepared proper method statements of their work for checking and approval.'	'I would consider whether he has got enough experience for taking on such a management role, to see whether he understands the construction process so that he could manage and control the work on site.'	'You need the sort of skills to communicate with people. Apart from regular meetings discussing various issues about the job... I also try to communicate with people on non-work-related topics.'	'It is important to have a good team to take responsibility for the day-to-day running of the site and the safety issues, so that I can do more management.'
4.	RIW	'You should be able to plan the job and control the plan to get the job done finally. For this project, I produced this programme on my computer, so I know all the details, know what's going on, and I can control the whole work process.'	'You need to be technically capable, understand construction work and have good experience of construction management...'	'Communication is important...we have regular meetings with the client and subcontractors, also team meetings of our own management staff. We go through the progress report, discuss problems and update the plan...'	'You should try to help the team, educate them, just trying to really maintain a good working relationship, that is the key to success...'
5.	ANM	'There must be a plan in the first place, based on which way you manage the whole process and check the subcontractors' methods.'	'He should have a working background in the construction industry, and he needs to understand what is going on out there...'	'A good project manager should know not only how to talk but also how to listen, listen to other's views and being influential in the meantime...'	'He should be able to create a team environment, and work with the team to plan and control the project.'

6.	BOG	'My role is that I am in charge of the job and I need to make sure that we have got a programme in the first place, and ensure everyone implements their work.'	'Apart from the health and safety issue, it is very important that you have got training and an understanding of construction work...'	'You need the ability to communicate with people, knowing how to talk with different people and how to get people to understand and be convinced.'	'You need to allocate liabilities and the sharing of roles make us work as a team...so my approach would be not just point them at what they should do, but tell them what to do and why they are wrong, and also tell them what would be the problem if that goes wrong.'
7.	STM	'My personal work is planning, planning all the time... You need to be planning regularly for every event because things change and they may not go in accordance with the way you have originally planned.'	'You need to have got experience, need to understand the process of the construction work on site, and have been educated on safety legislation...so you are able to plan...'	'Regularly, we hold meetings on site, meetings within the team, meetings with subcontractors and meetings with the client... For instance, at this stage we meet with the client once a week, we inform them about the progress of the job, about any problem, and if the client has any new requirement we discuss that and we will see together how the plan need to be updated.'	'You need to sit down with your own team, the subcontractors and with the client, you need to communicate with them and you need to be able to plan and update your plan regularly.'

Conception U2: Project management as organising and coordinating						
S/N	**Name**	**Knowledge of construction work**	**Knowledge of commercial management**	**Ability to communicate**	**Ability to manage team**	**Ability to coordinate**
1.	JOA	'You have to understand all the construction issues, design issues, and subcontractors' work interactions...'	'Economically, we have to work within the constraints of what the project costs are. We have been told that figure, and we have to get procurement and make sure the work is delivered within that budget and on time...'	'I also organise weekly progress meetings with all the relevant trade subcontractors to ensure the work is carried out.'	'They all trust me, they know that I can achieve whatever they want to be done, and it is also in my interest to help them, because if I help them, they can help the project...I think since I have been here I have built a lot of trust.'	'I am the project manager for this project, responsible for organising liaison with all the subcontractors, checking all aspects of the work... to make sure that it is delivered on time and also within budget.'
2.	TRG	'He needs to have a reasonable level of technical ability such as the building process. He does not need to know everything and all the details, but he should understand the main principles of workings of each trade subcontractor, and make sure the work interfaces between each subcontractor are clear so they can proceed.'	'He should be aware of the contract and be able to sit down with the client to discuss things in the contract, like budget, design issues, and be prepared to claim money and time if there is a variation.'	'...you need to keep communicating with the client, with subcontractors... ensure we all know exactly what is expected from us and the subcontractors know exactly what is expected from them, and that's fairly important. It sets the work interfaces of subcontractors that you need to coordinate from time to time...'	'I don't think I am above them. My principle is we need to work together, and we need to support each other. I don't want to command them. I want to talk to them at an equal level...'	'The important thing for a project manager is to be able to see the big, overall picture and coordinate all trade contractors properly to avoid work delay and problems.'

3.	CHL	'I have been in construction for many years. I think you need to know the process, the safety measures, and need to understand for a specific project how people's work interacts and how it may need coordination.'	'...you are working with a contract, you need to understand the contract and budget constraints, and you need to be commercially wise.'	'You need the kind of personality to be able to communicate with people and influence people to trust you when you proceed with the coordination...'	'I think you need to have an understanding of people, to be able to read people's approach, and you need to build a team...'	'There are a lot of interfaces which need coordination from us, because the subcontractors have difficulties in seeing the big picture outside their own trade... You have to try to educate them really on what they need to produce in order for others also to produce results.'
4.	PAS	'He should have experience of working on site, understand the fundamentals of the construction process, be able to allocate tasks and manage subcontractors...'	'I think to be a successful project manager, you have to also understand what is involved in the contract... it is your job to manage the budget and time, and to manage changes to the contract...'	'...a team night out is also necessary, it may not be a regular thing...we meet at a club, have a nice meal and drink in a relaxed atmosphere, it helps gain trust in each other...'	'You need to understand people's different ways of doing things, and make them understand each other and work together as a team...be able to influence the team and to create an open team environment with trust.'	'My work is to understand what we want to achieve and be able to bring people together to organise the work, and to coordinate among subcontractors to ensure everybody proceeds without problems.'
5.	CHH	'You have to be able to understand the workings of each subcontractor and the interactions between their workings...'	'The client is funding the job, he likes to know that his money is not being squandered...my responsibility is to keep the job within that budget.'	'I like to communicate with people, to go out to talk to an ordinary labourer... and I think most people respect me for what I do.'	'...you need to create an open team culture...if there are problems, everybody knows about the problem and everybody would try to solve the problem and find solutions.'	'...and to coordinate the interactions between subcontractors' different workings.'

6.	MAK	'A good project manager must have enough knowledge of the construction process and full information of the technical requirements in the contract specifications... should make the same clear to subcontractors and be able to coordinate when there is a problem.'	'He should be commercially capable, understand the contract details, knowing where the constraints are and how they can be managed.'	'...apart from regular meetings, team bonding is also a good means to communicate with people...'	'Everybody works hard on site. It is always nice to take people out for a drink or meal. We sit down and just relax and try not to think about work...you do that to show that you appreciate what they have done. It builds trust between you and the people you are working with.'	'...it is wrong to leave subcontractors to do their own thing. You need to coordinate to make sure the work is done in a good logical way, so that one finishes and releases his part of the job for the following ones quickly, without delay or disruption.'
7.	SIP	'...you should have good knowledge of construction work, and understand how the work activities are organised and coordinated...'	'It is important to be aware of the contract and be able to manage changes if there are any...'	'It is a people industry. You need to be able to deal with people and communicate with people.'	'You need to build a strong team. The majority of the staff here are new people to the company, so we have to build a team and create a spirit of openness and support to ensure people work as a team in carrying out their role.'	'My job is centred around dealing with people and coordinating work interactions.'
8.	RAC	'...you have to judge and make decisions, so you must be technically conscious and experienced in what you are working on.'	'What I enjoy least about my work are the financial problems sometimes...so you need to know about the financial constraints relevant to the contract.'	'We have regular meetings...they give me correspondence...keeping communicating helps me to monitor and coordinate what is happening on site.'	'...you need to build such a team culture that everybody has to work together to achieve that one goal.'	'So as a manager you need to have the ability to put everything together and you have to coordinate it well.'

9.	TOH	'You should have got some experience on construction work...'	'You need to know the duties of all parties involved in the contract... you need to know how you should perform, how everybody else should perform and what their duties are. You also need to know what's their price for...'	'It is important to be able to communicate with people, as we are dealing with people and we have to get along with the people we are working with.'	'We are building a team and trying to create a team spirit on this project... it is important that everybody can support each other and work as a team.'	'The most important aspect of project management work is to coordinate and to make sure the work on site progresses properly without disruption...'
10.	BIK	'You need to be experienced in construction, in health and safety control, knowing what the specification is and how the subcontractors should perform.'	'A good project manager is somebody who knows the fundamentals of project management, understands the contract and manages the contract...'	'...we are very vocal, we say what we feel, which is to me a very important thing in building trust and coordinating things on site.'	'Working with people, getting people together and getting that team built... Project management is about team, teamwork and team method, and you cannot succeed without a strong team.'	'My role as the project manager is principally to be responsible for everything happening on the site, to manage subcontractors, to coordinate everything and manage the construction of the project.'
11.	ANT	'...relevant experience is paramount, I don't think new graduates can carry out the role...'	'...you have got to understand the contract and to protect the company...'	'...communication is important... we all understand what's going on and what each party is going to do. That, I think, is the most important thing.'	'I always go to the canteen every morning to get my toast...you start getting a feeling about what a team spirit I have got here...'	'...you need to be able to manage the subcontractors to mediate any delay... it is to coordinate really...'

12.	MIJ	'...you need to understand how different trades of work interface on site, foresee potential problems and try to sort them out.'	'To be a good project manager, you need to have the sort of general management skills... and you must have commercial awareness with a good knowledge of the contract and cost management...be able to make money and make the client happy as well.'	'You cannot just push and push, because you are working with so many subcontractors in so many areas and pushing doesn't work... you need the ability to communicate with people and be able to persuade them to work for you...'	'It is important to build a kind of spirit of mutual support, trust and openness in your team... it is all about team work. You can do nothing alone.'	'The most important aspect, I think is the coordination of everything on site, just making sure that things happen in a sequence and on the dates you want them to happen, and making sure that everybody complies with what you want them to do...'
13.	SIB	'...look at their experience probably their last 4-5 years' experience, not necessarily their educational background or training in project management, it all comes down into their experience, to see what they have achieved.'	'...it is wrong to just put the contract in the drawer, you need to read it and understand it, and try to manage the construction properly...'	'...despite having regular meetings, progress meetings...I like to go out to chat with people... I think that gains a lot of trust and is helping my work very well.'	'Project management means a lot of hard work, which is not from myself but from the whole team... it is important to build a good team around you.'	'Everybody has to work together... I am here to coordinate, to make sure one's completion allows others to follow on.'
14.	BOS	'...you need to have an understanding of the work interfaces that might cause problems and delay, you need to manage that...'	'You have to be aware of the contract and commercial things, to be realistic as to what you want to achieve...there is a budget restriction and time limit.'	'I would like to spend a little longer communicating with people. That is fairly important for us to understand each other and trust each other.'	'...some knew each other before, but some of them are new players, so what I need to do is to bring them all together to work as a team...It is the team, not individuals, who are carrying out the work...'	'It is to coordinate subcontractors to make sure they have put in enough effort and are managing their process properly...'

Conception U3: Project management as predicting and managing potential problems							
S/N	**Name**	**Knowledge of construction work**	**Knowledge of commercial management**	**Ability to communicate**	**Ability to manage team**	**Ability to coordinate**	**Ability to deal with problems**
1.	ASR	'It is important to know what new technology and new materials are available and what was available 30, 40, 50 years ago...it is always nice to have that working background of the industry...'	'It is all there in the contract. You have to know the contract, the price constraints and be able to see the risks...If there is a variation, it is something different...'	'The biggest thing for being a good project manager is being able to communicate with lots of different people at different levels... You need to be able to understand people and deal with each of them at their own level, so you can be fully informed.'	'You have to have a strong personality...project management is about driving people, is about making everybody move forward, is a driven thing.'	'You need to encompass everything there... you have to conduct everybody and to coordinate everything.'	'I like challenges, the challenge to foresee and resolve problems... to have to complete a project within the cost and on time.'

2.	ADR	'We are in a new century, new technology and new materials are coming up all the time...it is important to have a background within the construction industry and be fully aware of the development of the industry.'	'...a good project manager is someone who can not only get the job built, but more importantly make money out of it.'	'You need to communicate with the client, the subcontractors, because the picture changes, you need to be able to continuously monitor, listen to what they want and explain to them what you are going to give them...'	'The team needs to be developed so that if they are put in the position of project manager next time, they can get there to manage the project, and they can use what they have learned here to develop their career.'	'I see my role as to oversee everything, not focusing on the site work but setting rules and making sure everybody does what is required...'	'...what I see myself to be employed for – is not to monitor the 90% of the job that goes automatically, but to pick up the 10% of the job that would go wrong if I don't keep an eye on it and to make sure we have a plan in place to avoid that happening.'
3.	DAB	'He'd better have got a formal education in construction and carry a rounded experience of working in various roles...'	'...you need to understand the management process and contractual process, and have risk awareness.'	'On a regular basis we have weekly meetings with the client, and I probably talk to them two or three times a week, so they are informed and can then make the right decisions.'	'It is important to develop your role in the team; it is to motivate the team and empower them, getting people working with you.'	'He needs to be risk aware, to be aware of potential risks, and he needs to be able to coordinate to avoid their happening...'	'What I enjoy most about my work is problem-solving. I like working to solve all sorts of problems...'

4.	JOD	'He should know about the building process and be knowledgeable of new technology...'	'...you should be able to identify risks, those negative risks ... because the biggest constraint is always finance, so the project manager should also have commercial awareness.'	'In this industry, there are so many different personalities and characters...you have to got to be able to communicate with them...'	'Another important thing is to keep the team motivated constantly. Where possible, offer them opportunities to learn and to have their career developed.'	'My particular role on this project is to coordinate and get problems sorted out...'	'I would look at his experience and whether he knows how to solve problems, whether there is a potential to work further.'
5.	DAT	'Most of the clients are not good at technology things, they rely on the contractor for better solutions that can save money and time. So you need to know the industry and technology.	'...project management involves various commercial control such as budgeting and cost management...'	'...if you can communicate exactly what you want then you tend to get back a lot more valuable information...it is important to be able to communicate in a correct way, not being frustrated by the fact that you have to say something 3 or 4 times sometimes.'	'We are a good team here. We can have a laugh, a joke, a crack, everybody is motivated and enjoys coming to work...'	'One of my roles is to organise people to work together, to ensure the work progresses well and to achieve the final goal.'	'...techniques change, priorities always change... you need to make decisions and get all sorts of problems that may be in relation to resources, design, work interfaces and so on sorted out...'

6.	PAD	'The client may not know about the industry well, they rely on you. You need to know the industry, and understand the client's requirements.'	'...it is also important to know the commercial constraints in the contract, to be aware of potential risks and problems that may affect the project...'	'He's got to be able to communicate with all kinds and levels of people, to get them informed and convince them... '	'He should be a good motivator and team builder, who has got good leadership skills...'	'...that's the ability to foresee the problem and coordinate to avoid it happening.'	'A good project manager is somebody with a broad vision and foresight, being able to identify a problem before it occurs, and being able to take actions to solve the problem...'
7.	MIF	'...training and an understanding of the construction industry including its history, its development and where it is going is very important...'	'A good project manager needs to be multi-functional... he needs to have a better knowledge of the contract.'	'The personal qualities that enable you to communicate with people to get full information from them are more important than educational background...'	'You have to have a good team around you... It is a bonding thing, and you have to get people to work together, with a team spirit of mutual support and trust.'	'You have the overall full responsibility for the job, so you need to coordinate and manage everything out there'	'The most important aspect of my work is to get problems solved and make sure the project is delivered to the correct standard and on time.'
8.	JOM	'If you don't understand the management of building process, that could affect the decisions you are making. It is very important to be experienced possibly in a variety ways.'	'... you need to know the financial risks and budget constraints in the contract.'	'...the management of subcontractors is through communication... We hold meetings among our staff, meetings with subcontractors, and safety meetings...'	'I give my team enough opportunities to learn so they can develop their own career, and that is part of what I think the project manager's work is.'	'You have to focus on the bigger picture to oversee the work, rather than focus on the details on site...'	'You have to be able to predict and realise all sorts of problems and be able to get them sorted out and to get the building built.'

9.	RIC	'He should possess a good knowledge of construction work and should be open-minded and well-informed of new developments in the construction industry.'	'A good project manager is somebody who can firstly foresee problems, can predict potential problems before they happen...so they need to know both the technical and commercial aspects.'	'We have regular meetings on site to check each party's work progress, to exchange information and any new requirements...'	'Select people who are self-motivated in the first place, give them the role they are capable of doing, let them have the opportunity to expand. And it is important to empower them a little and let them cover a bit for their résumé.'	'You must be able to put everybody involved in the project all together and coordinate everything. It is not just the field thing, which is the site manager's job, but everything involved...'	'We are human beings, we are not machines, we are not perfect, we all make mistakes. So, we try to predict problems and when that happens, we try to correct them and get problems resolved quickly.'