Cross-cultural management in international construction projects:

Case study of China Machinery Industry Construction Group Inc.

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ABSTRACT

Title: Cross-cultural management in international construction projects: Case study of China Machinery Industry Construction Group Inc.

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Aim: This study presents the characteristic and current status of the international construction projects, and figure out which barriers caused by cross-cultural differences the multinational corporations and enterprise would face, as well as the solutions for these barriers.

Method: This study was carried out by using a qualitative and quantitative research method. We gathered relevant information by conducting questionnaire to Chinese employees working in Congo, Rep and interviews which include four managers of China Machinery Industry Construction Group Inc (CMICGI). By comparing the literature review and finding, we find barriers caused by cross cultural differences and relevant solutions.

Result & Conclusions: Through the literature review associating with the analysis of the questionnaire and interview, we find out that there are nine barriers in the project, the reason why they appeared and how them influence the projects. We also find solutions to solve the barriers.

Suggestions for future research: This study restricted to geographical and time, it only included one company and one country. More cases can be concluded in future research.

Contributions for the study: The study results show how barrier case of cross-cultural different impact in international construction project. We also
contribute the evaluation for each barrier. Cultural differences between multinational trading are frequently neglected by firms but have a significant impact. Our research can help more companies to find some problems which they usually ignored.

**KEYWORDS** — Cross-cultural management, Barriers, Cross-cultural difference, International construction projects, Identification, Evaluation

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1. Introduction

With the fast-growing international trade and developments, the construction industry has been provided new opportunities by the World Trade Organization agreements (WTO, 2013) and the Asia-Pacific Economic Cooperation forum (APEC, 2013). Large-scale projects are no longer local events but international affairs involving parties of different nations by sophisticated communication technologies, advanced project management, and by profits attraction (Chan, 1997; Ofori, 2000).

Especially in developing countries, international construction business grows rapidly. According to Engineering News Record (ENR, 2013), the turnover of biggest 225 international contractors is 310247 million dollars in 2007 and 390008 million in 2008, and grows 38.24% and 25.71% year-on-year. Due to the international financial crisis, the growth of international construction projects business turns out to be slow, and the year-on-year growth is only 0.40% and -0.30% in 2009 and 2010. Among the 225 contractors, the turnovers in European, Asian and Australia markets are top three, and 63.4% of sales come from companies in the three areas in 2010. From the view of industry, the turnovers of transportation, oil chemical industry and construction are largest, which contribute 73.3% of all turnovers of the 225 contractors.

According to the Global Construction Perspective and Oxford Economics (2011), the market value of global construction market is about $7.5 trillion and accounts for 13.4% Gross Domestic Product (GDP) of whole world in 2008, and would be about $12.7 trillion and accounts for 14.6% GDP of whole world in 2020 as predicted. With the recovery of global economy, international construction and engineering contracting market will walk out of the recession and continue to grow. In the future, there is still a broad space for development of international construction.

We would choose a project of Chinese company which located in The Republic of Congo (Congo, Rep) to do our research. Congo, Rep located in West Africa. It covers
a territorial area of 342 thousand square kilometers and the population is 4.04 million in 2010. According to Congo, Rep customs statistics, China's total trade volume is in the first of their foreign trade, which number is 1.43815 trillion Central African CFA franc (XAF) ($3.027 billion), accounting for 37.88% (Ifeng, 2012). The statistics of China's ministry of commerce show that, until the end of 2011, the sum of new signing international construction projects among Chinese companies and the Congo, Rep is $464 million and turnover of contracts is $372 million. Chinese companies occupy a half of international construction project market in Congo, Rep. (Ifeng, 2012). So the Chinese companies have enough experience to do the international construction project in Congo, Rep.

1.1 Background

When the contractor, the lead consultant, or the employers in a project do not come from the same country, and at least one of them is working outside his or her own country, the project is an international construction project (Stebblings, 1998). In the international construction project, the employees working out of their countries are the precondition, so in the project there are at least two different national cultures. The construction industry is complex. Construction companies from developed countries help the developing countries to do construction projects and get through the difficulties (Chan, 2003). International construction project often involves both developed and developing country, having different economic base, different education level and different social structure. Sometimes there is huge culture difference in the international construction project.

Other cultures have always been considered worse than the local culture. For example, the people living in north of China think their traditional culture is better than the one of south while the people living in south have the opposite feeling. “People in these cultures tend to protect themselves and monitor others, and to celebrate and honor people who, against their basic nature, do extremely good things” (Distfano & Maznevski, 2003). The misunderstanding always causes the barriers from the
beginning. Managers and employees need to know the laws and social customs of the different countries. All in all, to know the different operation modes of businesses and the life-styles of people around the world is necessary (Darling & Fogliasso, 1999).

In the global context, the use of international contract project is increasingly widespread. International Management derives from both: Strategic Management and Cross-cultural Management disciplines. As a part of International Business field, International Management utilizes concepts from its other components, International Trade in particular (Rozkwitalska & Gdańska, 2009). When the projects progressing, the barriers caused by cultural differences rise from time to time.

The barriers have many aspects. All the above-mentioned areas are influenced by cross cultural differences. Prepare environmental analysis needs to be completed before starting the internationalization strategy. One of the dimensions that must be scrutinized is the cultural environment. The barriers caused by the cross-cultural differences are one of the most important barriers in an international construction project, due to the different cultures in countries that participant in this project (Chan & Tse, 2003). These barriers may affect the smooth implementation and performance of the project. According to Rapaille (2001), cross-cultural difference is the core problem when an enterprise does the international business and management, because it would lead to problems and even make the international business fail.

Less-developed and developing areas can get particular benefit from the international collaboration. In the globalized economy, this business method offers an opportunity to develop products using the most up-to-date expertise and knowledge in a cost-effective manner (Clark and Ip, 1999). International projects often involve more parties, requiring a longer time span but having faster pace (Chan, 2003). Even though International construction project can bring benefit to both developed and developing countries, it also meets barriers, and cross cultural difference is one of them.

There are also some problems about doing business in developing countries. According to (Luiz, 2006), in Sub Saharan Africa, the economy is developing very
fast but the bribes is a big problem. It would take some unexpected cost. Long et al. (2004) do a case study about which barriers would meet when doing a large construction project in developing country. They conclude five top rank barriers: designer and contractor barriers, estimation and management barriers social and technological barriers, site related barriers and techniques and tools barriers.

1.2 Problem

According to the background, we could find problems in international construction projects and cross-cultural research. The international construction projects are often in the developing countries, so we may meet problems because of the less-development. Another problem is the projects happen between two countries and it will cause cross-cultural conflicts. According to the background, we also find that the most of the researches about cross-cultural management do not focus on the specific barriers and problems, so in our study we are going to focus on figuring out the certain barriers or problems which could influence the international construction projects.

1.3 Purpose and Research Questions

Since the purpose of this paper is to analyze barriers caused by cross-cultural conflict, and give some theoretical basis and beneficial recommendations to later international engineering contract projects. As it can help to improve the actual situation of cross-cultural and multinational management capabilities, multinational corporations and enterprise can get some useful knowledge from this study.

This study discusses the characteristic and current status of the international engineering contract projects, and analyses barriers caused by cross-cultural differences the multinational corporations and enterprise would face. The two research questions are summarized as:

- What are the barriers caused by cross-cultural differences in international construction projects?
How to manage the barriers caused by cross-cultural differences in international construction projects?

To answer these two questions, firstly a theoretical review of international engineering contract projects, cross-culture in business and management will be discussed. Later we will propose possible barriers that may be caused by cross-cultural differences according to theories. Based on the barriers, then we will set up questionnaires and interview to employees in The First Construction Company of China Machinery Industry Construction Group Inc., who are working in different international construction projects all over the world. The aim is to study if cross-culture barriers do exist in practical international engineering contract project. At last we will put forward solutions for these barriers.

1.4 Limitation

There are many problems in international construction projects, but in our study, it will be limited in the barriers and problems which are caused by the cross-cultural difference. It includes which mainly barriers or problems would be met, how the barriers and problems could influences the projects and how to solve the barriers and problems.

Our study also would be limited in the CMICGI’s Djiri water plant project in Congo, Rep. The CMICGI has many experiences about cross-cultural management, and they also has worked in Congo, Rep for two years. Congo, Rep has got assistance from all over world, for example, from 2000 to 2009 it gets more than 100 billion Central African CFA franc (XAF) assistance from European Union, most of which are used into the international construction projects (MOFCOM, 2011). The respondents and interviewees would only be the Chinese employees, because we want to find out the problems and barriers which companies and people come from the foreign countries would meet, as well as how they could deal with the problems and barriers.
2. Literature review

In this chapter, we firstly research how the cross-culture influences business and the cross-cultural management by the articles and books. We also research how to identify barriers caused by cross cultural differences and how to manage those barriers.

2.1 How cross-culture influences the business

“A customary term for such mental software is culture” (Hofstede et al., 2010). In narrow sense, culture means education, art, and literature which are results of refinement of civilization. In social anthropology, culture is not only activities supposed to refine the mind, but also the menial and ordinary things in daily life, such as what food or color the people like. Farmer and Richman (1965) treat culture as “a major variable in determining both managerial and organizational effectiveness”. The culture would affect the elements of management process, and as a result, affect the management and managerial effectiveness, then influence the efficiency of the whole organization,

However, cultures are diversity all around the world, which would lead to cross cultural differences. Cross cultural difference which could be influenced by group differences in climate, geography, history, politics, economics, and the way of coping with such environmental differences is the difference in attitude or behavior among different nationals or subgroups (Weber & Hsee, 1999). As culture plays such an important role in business, failure of managing cross cultural differences would lead to great loss. According to Søderberg et al. (2000), managing cultural differences judiciously will bring competitive advantage and even organizational health.

Williams et al. (1998) states seven environments to represent the sources of culture: physical environment, social environment, political environment, operational environment, economical environment, legal environment and cognitive environment. Physical environment is mainly about nature disaster, landscape, etc. Social
environment is concerned with “the changes in people’s values, human behavior and state of social structures” (Tchankova, 2002, pp 294). Political environment cares about the action of the ruling party. Operational environment is about the environment in operational activities, such as working conditions. Economic environment causes barriers through economic recession, or interest rate. The legal environment impact the project through laws, and different legal standards will cause conflict also in an international business. Cognitive environment will lead to conflicts because perception and reality differs from person to person.

Wild and Wild (2012) study the problem from another point of view. They propose eight main components of culture which have influences on business, as shown in figure 2.2: aesthetics, values and attitudes, manners and customs, social structure, religion, personal, communication, education, and physical and material environment.

**Figure 2.1 Components of Culture**

![Diagram of Culture Components](image)


**Personal communication:** Different cultures have different communication systems to convey knowledge, feelings, thoughts, and information through writing, speech and action (Wild & Wild, 2012). It means people often pass their information through language and body language. Body language is a communication way without
speaking, and it can be facial expressions, gestures, physical greetings, eye contact, and manipulation of personal (Wild & Wild, 2012). Understanding the language means you get the key to understand the culture.

**Value & Attitudes:** The value is ideas, beliefs, and customs to which people are emotionally attached, and it can be reflected by the attitudes (Wild & Wild, 2012). Attitudes can directly influence the time, work and culture change (Wild & Wild, 2012). In generally, different culture value has been thought one of the reasons for cultural differences in conflict situations (Ohbuchi et al., 1999). According to Muriithi and Crawford (2003), value differs greatly among more developed countries and less developed countries. Jaeger and Kanungo (1990) also claim that uncritically transfer management theories and techniques based on value system in more developed countries contribute to inefficiency and ineffectiveness in the context of less developed countries. Value reflects on many aspects. For example, collectivists think the group goals are more important than the personal goals when they make discussion, but individualists focus more on their own interests (Ohbuchi et al., 1999). Chinese managers have been proved more disposed to an avoidant style than western managers in some studies (Morris et al., 1998).

**Manners & Customs:** “Manners is the appropriate ways of behaving, speaking, and dressing in culture and customs is the habits or ways of behaving in specific circumstances are passed down through generations in culture” (Wild & Wild, 2012, pp. 73). Understanding manners and customs is important when dealing with business in other cultures. At least, it can help managers avoid offending people or making embarrassing mistakes. In-depth knowledge of manners and customs can even improve the ability of effective marketing, international operations management and negotiations in other cultures (Wild & Wild, 2012).

**Social Structure:** Social structure is the fundamental organization of a culture, including its institutions and groups (Wild & Wild, 2012). Social group associations, social mobility and social status are three important elements of cross-culture (Wild &
Social structure plays a role in many business decisions, such as advertising methods, the costs of doing business and production-site selection (Wild & Wild, 2012). As stated by Granovetter (2005), social structure could affect the economic outcomes from three ways: the flow and the quality of information; source of reward and punishment; trust with each others.

**Education:** Crucial for passing on traditions, values and custom is education (Wild & Wild, 2012). Education level is one of important topics in education, countries which have high education level could good-paying industries but countries which have education level only can have lowest-paying manufacturing jobs (Wild & Wild, 2012). Brain drain often happened in developing countries, it means the people who have high education level leave their profession, geographic region and nation to another to escape poverty (Wild & Wild, 2012). According to Knack and Keefer (1997), education may enhance trust and civic norms, which way improve the working efficiency.

**Aesthetics:** Aesthetics is the symbolism of certain colors, the imagery evoked by certain and a culture considers “good taste” in the arts (Wild & Wild, 2012). When a company does business in another culture aesthetics is very important. The color is a typical manifestation of aesthetics. For example, green is Islam’s favorable color, but in some other Asian countries green is often associated with sickness (Wild & Wild, 2012).

**Physical & Material Environment:** Development and pace of change of a culture are influenced by its physical environment and material surroundings (Wild & Wild, 2012). Physical environment dose not influence people’s culture directly, it influences it by topography and climate (Wild & Wild, 2012). Companies often use material culture which is defined by all the technology used in a culture to provide services and manufacture goods to measure the nation’s markets or industries’ technological advancement (Wild & Wild, 2012).
Religion: Different religions take different views to the people, because human values often originate from religious beliefs (Wild & Wild, 2012). Religion is not only a spirit. It is also the social norms and moral standards (Ruhe & Lee, 2008).

Wild and Wild’s theories focus on how the culture impacts the business, which mainly helps us find the conflict which is made by culture. As a result, the Wild and Wild’s theories would be better to be used in finding the barriers caused by cross cultural differences which can influence the international construction project. Rather than searching barriers through mountains of information aimlessly, we could identify barriers according to the components one by one.

2.2 Cross cultural management

As different researchers hold different views towards cross cultural management, there is not an agreed definition available (Fontaine, 2007). According to Søderberg and Holden (2002), cross cultural management focuses on cultural encounters between different entities: the organizations and the nation-states, as well as helping to deal with cultural differences which would be sources of conflicts or miscommunication. Trompenaars and Hampden-Turner (1998) study cross cultural management from the perspective of human resource. The definition given by Adler (1991) states that cross cultural management mainly cares about organizational behaviors, which is describing and comparing organizational behavior within and across countries and cultures, as well as seeking to “understand and improve the interaction of co-workers, clients, suppliers, and alliance partners from different countries and cultures”.

As Søderberg and Holden (2002) claim, cross cultural management is meaningful for two reasons: one is supporting managers to make procedures and policies with different cultural backgrounds, and the other is decreasing the impact of cultural differences on the project process.

Trompenaars and Voerman (2009) propose a four-step cross culture management
process. The first step for doing cross cultural management is to create cross-cultural awareness. We must know what is the cross-culture, how can the cross-culture influence the projects, and then we can make policies and adopt measurement to solve it. Respecting the culture differences is the second step. Each culture has its own way to solve problems and make decision. So when a manager has a cross-cultural awareness, he/she also needs to avoid ethnocentrism. A manager must communicate with other people equally. In other words, he/she should understand each other’s language, culture, religion and taboo. The third step is reconciling, and it means we need find methods to resolve the culture difference. At last is realizing and root, which is to implement the methods found in the step before, and to see if the method is useful.

Figure 2.2 The procedure of cross cultural management

2.2.1 Identify barriers caused by cross cultural differences

Barriers are the problems caused by cross cultural differences, such as conflicts and
According to the Farmer – Richman Model (1965) and the theory of Wild and Wild (2010), we identify three barriers existing in international construction projects, which are language barrier, business etiquette and religious difference.

**Language barrier:** According to Feely and Harzing (2002), language barrier is a big block for the understanding. Babcock and Babcock (2001) claim that individuals speaking different language will influence international business directly and indirectly, both horizontally within a project and vertically across projects and organizations. Hofstede (1984) also strengthens one bad translation, which involves at least two different languages, may invalidate the communication within two countries. Language barrier increases the cost not only because it gives rise to the money and time spent on translation, but also disrupts the relationships within the organization. Thus in turn impact the daily work of project and even the whole application of project strategy (Feel & Harzing, 2002). Physical gestures cause most misunderstandings among people, because their meanings could be completely different in different cultures (Wild & Wild, 2012).

**Business Etiquette:** Business etiquette is a barrier because culture differences in rules of proper behavior, such as greetings, dining, and dressing. Schaffer et al. (1993) define business etiquette as “the behavior, manners, and protocol established by convention as acceptable or required in a business or profession”. As Sabath (2005) claims, being knowledgeable about the customs and manners of the country is one way leading to successful business. Lack knowledge of business etiquette could be costly when build international relationships (Martin & Chaney, 2012). For example, French like check kissing when greeting, while Chinese cannot accept it. However, they also state that improving the innate ability to adjust to another culture through training can help to build a good business relationship.

**Religious Differences:** Different countries have different religions. As Ricks (2009) claims, religious differences are constantly causing problems for international
business. For example, beer and pork is forbidden for Muslims, which could be normal, even favorite food and drink to others. Dickson et al. (2008) also claim that religious differences will influence the day-to-day functional communication within an organization. Feldman (2007) also claims that as religion directly influences the view of people toward things, it is easy to cause disagreements, intolerance or even conflicts.

2.2.2 Managing barriers caused by cross cultural differences

The next step is to managing barriers caused by cross cultural differences, which is to minimize the influence of the differences. ICE (2005) proposes four solutions types for project barriers which are useful, and which types will be adopted is generally based on the evaluation of the barriers. However, international construction projects have unique characteristics which should be taken into consideration when dealing with the barriers caused by cross culture differences. One is the project deadline according to the contact. If the project cannot be finished on time, the company usually has a large amount of default, which is even larger than the profit it could get from the project. As a result, sometimes increasing cost is more acceptable than delaying the project processing. It is also need to be noticed that the whole project is in a foreign country. As there are no certain ways to solve those barriers, we have found four normal ways to manage the barriers in international construction project: localization, culture assimilator, cross cultural conflict avoidance and acculturation.

Localization: Compared to globalization, localization is a useful way to solve the cross cultural differences (Escobar, 2001). The basic point for localization is that the locals have their own advantages in international business. Jacobs (1996) claims that through localization, which is attending to local and taking local seriously, foreigners will fully understand the power of locals. Gibson-Graham (1996) also address that local practice is economically meaningful, and it makes visible practice of cultural differences which be treated as a basis for alternative. As Escobar (2001) states, the localization could have many aspects, such as capital, the state, techno science,
communities, etc.

**Culture Assimilator:** According to Mendenhall et al. (2004), culture assimilator may be one of the most popular and earliest ways to manage barriers caused by cross cultural differences. Bhawuk and Brislin (2000) also state that culture assimilator is an effective way to solve the barriers. As Triandis (1995) describes, it concerns about puzzling cross cultural interactions and explanation in order to avoid the emerging misunderstandings. In other words, it deals with the “intercultural interactions between a sojourner and a host country national that depict a misunderstanding because of cultural differences among people”. It helps foreigners and locals to distinguish cultural differences from individual differences, and find way to cope with cultural differences.

**Cross Cultural Conflict Avoidance:** Cross cultural conflict avoidance means avoiding the big differences in cultures between foreigners and host country, in case the conflicts in these sensitive areas. According to Morris et al. (1998), avoiding certain cross cultural conflict involves the skills and knowledge to avoid the conflict in ahead. Leung (1988) claims that conflict avoidance is positive for cross cultural performance. It is especially useful when dealing with religious problems.

**Acculturation:** Redfield et al. (1936) has defined acculturation “comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups”. However, even though in the definition, the changing is both-side, the acculturation trends to change more in one group than the other (Berry, 1990). As a result, acculturation is mainly about how one culture generally influences the other one. In international business, the companies sometimes would change the value of workers in host country, even the culture in host community (Berry, 1990).
2.3 Summary

In this chapter, we review literatures on cross culture and cross cultural management. The first stage for cross-cultural management is to identify barriers caused by cross cultural differences, and we adopt the eight components theory of Wild and Wild to find out the barriers. We summarize the barriers we found in table 2.1. Then we have summarized four ways to manage the barriers, which are localization, culture assimilator, cross cultural conflict avoidance and acculturation.

Table 2.1 Barriers caused by cross cultural differences

<table>
<thead>
<tr>
<th>Culture Component</th>
<th>Barriers caused by cross cultural differences</th>
<th>Description</th>
<th>Publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Communication</td>
<td>Language barrier</td>
<td>The differences of speaking language and body language from culture to culture will lead to misunderstandings</td>
<td>Feely and Harzing, 2002&lt;br&gt;Babcock and Babcock, 2001&lt;br&gt;Hofstede, 1984&lt;br&gt;Wild &amp; Wild, 2012</td>
</tr>
<tr>
<td>Customs’ &amp; Manners</td>
<td>Business Etiquette</td>
<td>Lack knowledge of business etiquette such as greetings, dining, and dressing could be costly when build international relationships</td>
<td>Martin &amp; Chaney, 2012&lt;br&gt;Schaffer et al., 1993&lt;br&gt;Sabath, 2005</td>
</tr>
<tr>
<td>Religion</td>
<td>Religious Differences</td>
<td>Different religions have different manners and tattoos, which may cause conflicts and influence the relationship among people from different religions.</td>
<td>Ricks, 2009&lt;br&gt;Dickson et al., 2008&lt;br&gt;Feldman, 2006</td>
</tr>
</tbody>
</table>

Source: Own Construction
3. Methodology

In our research, we need to find which barriers caused by cross cultural differences will occur and how to solve them. The research of barriers in international construction project is not a common one. We need to use the qualitative approach to identify which barrier will occur. We will conduct a case study to answer the research questions. Interviews will be done at first to collect data. Then we build a likert scale based on the barriers and do a survey to Chinese workers using the likert scale.

3.1 Mixed-methods Research method

Qualitative and Quantitative approaches are two general approaches to gathering and reporting information (Ben-Eliyahu, 2013). Quantitative approach is often used to analyze natural science model as generally underpinned and manages the analysis of numerical data by mathematical and statistical tools (Croom, 2008). This approach can recognize patterns by surveying the individuals and applies statistical techniques in the relations of processes (Ben-Eliyahu, 2013). Compared to the quantitative approach, qualitative approach bases on constructivist, interpretation and perception, rather than the identification of a rational, objective truth (Croom, 2008). Because the information from the qualitative approach focuses on describing phenomenon, the findings from it cannot be generalized to the whole population. But qualitative approach is a good method to identify new and untouched phenomena (Croom, 2008). Both qualitative and quantitative approaches have their benefits and limitations, and the contrast is shown below:

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Allows identification of new and untouched phenomena</td>
<td>Enables gathering information from a relatively large number of participant</td>
</tr>
<tr>
<td>Can provide a deeper understanding of mechanisms</td>
<td>Can conduct in a number of groups, allowing for comparison</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gives a one-on-one and anecdotal information</td>
<td>Allows generalizing to broader population</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Provides verbal information that may sometimes be converted to numerical form</td>
<td>Provides numerical or rating information</td>
</tr>
<tr>
<td></td>
<td>May reveal information that would not be identified through pre-determined survey question</td>
<td>Informative for instantiating policy or guidelines</td>
</tr>
<tr>
<td></td>
<td>/</td>
<td>Lends to statistical techniques that allow determining relations between variables (think of better word)</td>
</tr>
<tr>
<td>Limitation</td>
<td>Cannot generalize to the general population</td>
<td>Difficulty in recognizing new and untouched phenomena</td>
</tr>
<tr>
<td></td>
<td>Challenges in applying statistical methods</td>
<td>Caution in interpretation without a control group</td>
</tr>
<tr>
<td></td>
<td>Difficulty in assessing relations between characteristics</td>
<td>/</td>
</tr>
</tbody>
</table>

Source: Ben-Eliyahu, 2013

However, qualitative and quantitative methods are incommensurate with each other through they are distinctive (Bryman, 2006). Qualitative and quantitative approaches could be combined in practice (Bryman, 2006). Maxwell and Loomis (2003) have argued further that integrating the two approaches is more complex than classifying them separately from limited dimensions.

Combining the two methods together brings benefits. Evers and Staa (2010) state that it can help to overcome or decrease the system biases and drawbacks in a single methodology. Yin (2009) also highlights that using mixed method will make the study more convincing. Madey (1982) states the combination could benefit from three ways: (1) helping to validate quantitative finding through referring to information coming
from qualitative study; (2) helping to analyze quantitative data through indices constructed from qualitative data; (3) enable researchers to both study what they concern and capture the voice of participants at the same time.

According to Onwuegbuzie & Leech (2005), the main goal for applying quantitative and qualitative research is to understand phenomena coherently and systematically. Graham (1989) has summarized five purposes of mixed method approach: (1) triangulation, using more methods to confirm the result of study; (2) complementary, using the result of one method to support the result of the other; (3) development, using one method to complete which the other one cannot fulfill; (4) initiation, figuring out the paradoxes or contradictions which lead to research question; (5) expansion, using different methods to analyze different aspects of the phenomena.

Mixed method approach is particularly suitable for case study, which we use in the research, as Kitchenham (2010) claims. Because it allows rich empirical data yielded from case studies, and more ways to analyze the data, no matter quantitative or qualitative method or both. He also states, in mixed method approach, “qualitative data can be quantitized or quantitative data can be qualitatized to extract meaning from the data sets that might otherwise be hidden”. Tashakkori and Teddlie (2003) also claim there are two ways to do multiple-method study. One is collecting quantitative data and classifying them so as it can be analyzed qualitatively. The other is collecting qualitative data and turning them into numbers, and as a result the data can be analyzed statistically.

In order to make our study reliable, the mixed-method is the best choice. Only one approach is not sufficient for our research. We adopt the second way that using quantitized qualitative data to analysis. We will do an interview at first and then a questionnaire using likert scale. The result of questionnaire is analyzed through quantitative way. The scale will be designed according to literature review and information from interview.
3.2 Case study

“A case study is an empirical enquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 2003, pp13).

According to the definition given by Yin (2003), case study is a way to confirm what can be gotten from theory through investigating a phenomenon under its circumstance. Yin (2003) puts forward three kinds of case study: descriptive case study, which a description of a phenomenon; exploratory case study, which concern with an important subject but not investigated before; and explanatory case study, which is a explanation of facts and features in the case. According to how many cases involved in the research, case study are divided into single-case study and multiple-case study.

Our research is exploratory single-case study. Because the subject we focus on has not been paid much attentions on. To do the research, we select the case based on the theoretical part, and using the case to verify what we get. In our research, we choose the China Machinery Industry Construction Group Inc (CMICG) to do the case study. Because this company has several years experience in international engineering contract project. It has finished projects in Southeast Asia and East Europe. The project we focus on is in the West Africa, in Republic of Congo. The developing countries need development badly, but most of them are lack of infrastructure (Long et al., 2004). In such case many foreign companies come to Africa to do the engineering contract projects. It will bring some barriers, so we choose a Chinese company’s project in Republic of Congo to find out what barriers they will meet and how the barriers influence the project.

3.3 Data Collection Method

There are two types of data: primary data and secondary data. We can get primary data through surveys, observations and interviews which mostly reflect reliability, and secondary data is collected in articles, books, newspaper reports and other publications (Walliman, 2005). Primary data is the data that we collect without
analysis, and secondary data is the data come from other people’s research.

Secondary data, according to Jain et al. (2008), are those already existing and collected on others’ purpose. Secondary data is different from the primary data. Jain & Jhunjhunwala (2007) have listed 6 types of differences to distinguish primary data and secondary data, which are listed in figure 3.1 below. They are: (1) meaning of primary and secondary; (2) who collects/compiles the data; (3) cost for collect data; (4) suitability for the inquiry; (5) use of the data; (6) possibility of personal prejudice in data collection.

Figure 3.1 Distinguishing primary data and secondary data

<table>
<thead>
<tr>
<th>Basis of Distinction</th>
<th>Primary Data</th>
<th>Secondary Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meaning</td>
<td>Primary Data is collection of original data for the first time.</td>
<td>Secondary data is basically compilation of existing data.</td>
</tr>
<tr>
<td>2. Who collects/compiles</td>
<td>It is collected by the investigator or his agents.</td>
<td>It is compiled by persons other than who collected the primary data.</td>
</tr>
<tr>
<td>3. Cost</td>
<td>Its collection is relatively more costly.</td>
<td>Its collection is relatively less costly.</td>
</tr>
<tr>
<td>4. Suitability</td>
<td>It is usually directly suitable to the purpose of enquiry.</td>
<td>It may or may not be directly suitable to the purpose of enquiry.</td>
</tr>
<tr>
<td>5. Use</td>
<td>It may be used as it is for the purpose of enquiry.</td>
<td>It may require certain adjustments to be made to suit the purpose of enquiry.</td>
</tr>
<tr>
<td>6. Personal prejudice</td>
<td>There is possibility of personal prejudice in its collection.</td>
<td>There is no possibility of personal prejudice in its compilation since such data are already collected.</td>
</tr>
</tbody>
</table>

Source: Jain & Jhunjhunwala, 2007, pp.9

We will get the primary data from the company which we choose. Firstly, we will conduct face-to-face interviews to four managers in the company. Then we develop a questionnaire, which is for the staffs of CMICGI who work in the Congo.

The majority of secondary information came from website of the company and the managers. The CMIGC gave us their project research report. This report was finished before the project began, and includes information of Congo and the project.

3.3.1 Literature review

The quality of the research depends on the literature review, because information used
in analyze comes from the literature. The more theories to be collect, the more information can be disposal in the analysis (Walliman, 2005). Saunders et al. (2012) state that literature review not only allow researcher learn more academic background and find research gap about the subject, but also provide a framework and information for following works, such as findings and analysis. We analysis previous researches about cross-cultural management in international construction project, in order to find what they have studied in this area and what barriers they have gotten, as well as how they deal with the barriers. The result will be compared to what we get from interviews and questionnaires in analysis & discussion part.

3.3.2 Interview

Interview is one method we use in the case study. It often is used for the qualitative approaches. In the qualitative research, the data is the evidence which is in the form of people’s experience (Polkinghorne, 2005). Interview is a good way to acknowledge experience. According Ghauri & Grönhaug (2005), there are three types of interview: structured interview, which has predefined questions; semi structured interview, which only has a guideline for the interview; and unstructured interview, in which non questions are predefined and interviewees are free to say anything about the topic.

We interview four managers in the company: the CEO of the company Mr Jianping Lu, top manager of the international contrasting project in Congo Mr Yongbing Liu, human resource manager Zheng Xu and a chief engineer of the project Tongfu Wang. They had worked in Congo for two years, and are the managers whom CMICGI send to the Congo when the project began. We choose the CEO because he is the leader of the company, and he knows information of almost all international construction projects in the company including the case project. The project manager could tell us the barriers which they meet in the project. The human resource manager could tell us the barrier they meet when managing the employees. We could get the information of barriers due to engineering problem such as the working skill from the chief engineer. In our study, semi structured interview is adopted. We encourage people to say as
much as they can about the project. The questions mainly concern with the information of cross-cultural management in international construction project and how they deal with the problems. In this way, we can get opinions from different aspects. Besides, we can also get basic information of the company and project when we interview the CEO and top manager. We have a face-to-face interview to the CEO. For the rest three interviewees, we do the interview through video call.

### 3.3.3 Questionnaire

We will develop a questionnaire according to literature review. This scale includes the barriers which can influence the project. In order to evaluate the importance of a certain barrier caused by cross cultural difference, we could examine it from two dimensions: probability or likelihood, which means the frequency of the barrier happens, and its impact or severity to the organization (Maylor, 2010).

Lansdowne & Engert (1999, pp.4) define the impact of barriers into five levels: (1) critical, the program will fail if the barrier occurs; (2) serious, if the barrier occurs, the project can still be finished, but important requirements or tasks cannot be met; (3) moderate, if the barrier occur, major requirement would still be met, but there would be moderate increasing of cost/schedule; (4) minor, the barrier will lead to small increasing of cost/schedule; (5) negligible, whether the barrier occurs or not, the project would not be influence. They also define five scales of probability, which are: 0~10%, 11~40%, 41~60%, 61~90%, 91~100%. Meanwhile, Kendrick (2003) simplifies it into three scopes: High probability, 50% or more, with five points; Medium probability, 10%~49%, with 3 points; low probability, less than 10%, with one point. The two dimensions are summarized in table 3.2.
### Table 3.2 The probability and impact of barriers caused by cross cultural differences

<table>
<thead>
<tr>
<th>Impact</th>
<th>Level</th>
<th>Meaning</th>
<th>Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negligible</td>
<td>Whether the barrier occurs or not, the project would not be influence</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Minor</td>
<td>The barrier will lead to small increasing of cost/schedule</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>If the barrier occur, major requirement would still be met, but there would be moderate increasing of cost/schedule</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Serious</td>
<td>The program will fail if the barrier occurs</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Critical</td>
<td>If the barrier occurs, the project can still be finished, but important requirements or tasks cannot be met</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Probability</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Less than 10%</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Medium</td>
<td>10%~49%</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>High</td>
<td>50% or more</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Own Construction

As a result, our scale will include 9 questions. In our scale, we will have two dimensions for each barrier, frequency which has five degrees and influence with three degrees. All options are described by words to help respondents choose answer easily. Then the degrees of the scale will be translated into number in order to do statistic analysis. The degrees of probability, according to Kendrick (2003), vary from low to high, and the points are 1, 3, and 5. The impact has five scales according to Lansdowne & Engert (1999), and points are from 1 to 5, where 1 for negligible and 5 for critical. The questionnaire is placed in appendix 1. We send the questionnaire to all Chinese workers in the project, which number is 48. Because of the project would be end soon, so the number of Chinese workers in not high.
In order to compare the result gotten from the questionnaire, we multiply the point and the number of person of each answer, and then it is divided by the number of people to get the average point of each barrier. 

\[
(Average \ Point) = \frac{(Single \ Point \times \ Number \ of \ people \ choosing \ the \ answer)}{48}
\]

### 3.4 Date Analysis Framework

The whole data analysis framework is shown below in figure3.2. Firstly through literature review, we collect useful data and information from theories and organize them. We summarize two steps to manage barriers caused by cross cultural differences, which are barriers identification and barriers management. After that, we conduct a case study, which is composed by interviews and questionnaires. The questions of questionnaires are based on the result of literature review and the interviews. In the findings, based on the results of case study, we conclude a three-step process, rather than two-step, to manage the barriers, which are barriers identification, barriers quantification and barriers management. The last effort is to compare the result of literature review and case study and do analyze and discuss the results.
3.5 Validity and Reliability

(1) Validity

Validity of a research is how much the result of research can match the measurement results (Yin, 2009). Firstly, we choose the CMICI to do case study. This company has done international construction projects all over the world in the past several years. The managers and the workers of this company have meet barriers caused by cross-culture differences in their working time and daily lives. By the interview and questionnaire could know that how the barriers influence the projects. The CMICI have solved many barriers in the past project. We can compare their methods and the
methods of theories how to solve the barriers to prove that our research is validity.

(2) Reliability

According to Krishnaswamy et al. (2006), reliability means the result of similar research would be the same or similar, regardless of the system error. There are three forms of reliability: stability, equivalence, and internal consistency, and economical, convenient, and interpretable could prove that a method has practical value (Cooper & Schindler, 2003). A method has practical value for the research if it is economical, convenient, and interpretable. We have done research in theories, and we find three barriers in the theories, which are language barrier, business etiquette and religious difference. We also find how to do a cross-cultural management in the theories. The result of our study could link to the theories. We interview four managers in the company, all of whom have experience in the international construction projects. The CEO has more than 20 years working experience on the international construction projects. The others three managers have more than 10 years working experiences. The managers at least worked in three projects located in three countries. Their suggestions are not only based on the case projects, but also their experience of doing the cross-cultural management in different projects and different countries. We also have done questionnaires to the Chinese workers who work in Congo, and the result could show the attitude of workers what they think about the cross-cultural barriers.
4. Findings

In this chapter, we introduce the information of the case company and the case project at first. Then we conclude our interview and questionnaire to find out what the case company thinks about the barriers caused by cross cultural differences and what they do to solve the barriers.

4.1 The information of case company and case projects

(1) The case company

The company we use is China Machinery Industry Construction Group Inc. This company has business all over the world; this company is hold by SINOMACH (China National Machinery Industry Corporation) (SINOMACH, 2013), which is number 367 of 500 largest companies in the world by 29846 million us-dollar income in 2012 (Fortune Global 500, 2012).

China Machinery Industry Construction Group Inc has passed the verification and certification of ISO 9000 Quality Management System, ISO 14001 Environmental Management System and GB/T 28001 System of Occupational Health and Safety Management. Until now, SINOCONST has 12 separate subsidiaries, 5 branch companies, 4 specialized companies, 5 business offices, 8 equity participating companies and 1 polytechnic school. It has more than 10,000 employees, including 3,000 various technicians. (SINOMACH, 2013)

(2) International construction projects in Congo, Rep in the case company

This water plant stands by Djiri River in Congo, Rep about 500 meters from water treatment plant. It includes water inlet channel, desalting basin, raw water pumping station and switch room. As a major part of Water Plant (Djiri) Project, the water plant will extract water from Djiri River for water treatment plant, and treated water will be supplied to Brazzaville citizens as drinking water (Sinoconst, 2013).

According to the report of company, the total investment of this project is about 0.3
billion USD (about 1.9 billion SEK). SINOCONST contracting whole project, now has 736 employees at Congo, Rep, the number of local employees is 699. After finishing this project, Djiri water plant can provide 126 thousand tons drinking water to Brazzaville city every day. Maintenance barriers of water engineering are: repairing issue of waterworks; restoring its water rate and water quality. Urban pipeline engineering is: the laying of water supply pipeline is 188 km, including ductile iron pipes, 66 km, 122 km PVC pipe; 7 new pool, a pumping station 4.

Open and completion date of the project is: The second phase of Djiri waterworks project started on November 11th, 2009; the completion time is on November 10th, 2012. The contract period is 36 months.

Urban water supply network project started on December 7th, 2010, and completed on November 21, 2013. The contract period is 36 months. In fact this part has finished on July, 2013. Maintenance barriers of waterworks project started on April 4th, 2011, completion date would be April 3th, 2014. The contract period is 36 months.

4.2 Cross culture management in the case project

In order to study the existing cross culture management in the case company, we made interviews to four managers in the company and project. We arrived at company in the afternoon, and met the CEO of the case company Jianping Lu at 2:30 pm. He told us some information of the international construction projects, the company and the case projects. Because of the rest of the managers were in Congo, Rep, then at 3:00 pm we have a video meeting in the meeting room of the company. There were four managers attending the meeting: CEO of the case company Jianping Lu, project manager Yongbing Liu, human resource manager Zheng Xu, and chief engineer Tongfu Wang. We asked the questions which we had prepared to the managers firstly. Then we have a free discussion about the cross-cultural management. The video meeting lasted two hours. After the video meeting, the projects managers Mr. Liu gave their own report about which barriers they had met, and how to manage the barriers. After one week, we combined the literature review and the interview and
conclude nine questions to do the questionnaire. We send the questionnaire to the project manager Mr. Liu. He replied us the result after one week. Because the projects would be almost finish, there are only 48 Chinese employees in Congo, Rep when we did the questionnaire, all of whom joined the questionnaire. The topics concern three aspects: (1) what are the barriers caused by cross cultural differences, and what their influences are; (2) how they evaluate the barriers influence in the case project; (3) solutions used for the barriers existing in the case project.

### 4.2.1 The barriers caused by cross cultural differences which the case project faces

According to the interviews to the managers, there are nine barriers in the project, which are: language barrier, engagement, salary, business etiquette, communication method, leisure time, working skill, goods and materials, and religion.

**Language Barrier:** This barrier is included in the literature review, so we asked the managers directly. As the project manager Mr. Liu said, language barrier causes many problems in daily work, even for the contract. For the case company, English is their secondary language, and only managers are able to speak English. The HR manager Mr. Xu said most Chinese workers could not understand English. For local workers, as Congo, Rep used to be colony of France, their mother tongue is French, and English is also their secondary language. Mr. Liu told us that both Chinese and Congolese workers were not good at English, which make the daily communication very difficult. Besides, because there are also workers from nearby countries, the languages used are diverse, which causes a lot of misunderstanding. Mr. Liu said that the problem also exists when the project manager makes contract with local government and consulting corporation.

**Engagement:** The HR manager Mr. Xu mentioned this barrier when we asking about value and attitude. He said that a problem for local workers is the low working efficiency. The locals are always late for work and leave early without asking. The
work arranged for them usually cannot be finished on time. Without supervision they prefer relaxing, such as chatting and sleeping, rather than doing their own jobs. Comparatively, project manager Mr. Liu said that efficiency of Chinese worker was higher, and one Chinese worker can do the job of three Congolese workers in the same period of time. However, there are not many Chinese workers in the project. Local government has policy that if you have to hire enough locals to ensure the employment rate of local. It makes the number of local employees has to be twice than Chinese employees in this project. Such a low working efficiency will largely extend the whole time of the project, as a consequence increase the total cost. The CEO Mr. Lu said that if the company could hire more skilled workers from the local people, the situation could be improved. Sometimes the novice workers’ work efficiency is catastrophic. The skilled workers could also follow the working rules better.

**Salary:** Another problem complained by HR manager Mr. Xu is the salary, and he also mentioned this barrier in value and attitude. He said that the discretion of the salary could directly affect the working attitude of employees. The project manager Mr. Liu told us that Congo, Rep is much poorer than China. The price level in Congo is much lower than in China and the life in Congo is also simple. There are few things to spend money on, except for food and drink. The CEO Mr. Lu told us that it means with the same salary, local workers would have a happy life in Congo, but Chinese workers could not afford their family in China, which will lead to the dissatisfaction of Chinese workers, and many of them would not willing to attend the project any more. But if Chinese workers have higher salary than local worker, local worker would reject working, or even accuse the company for discrimination.

**Business Etiquette:** We asked the managers this directly because we found the barrier in literature review. The project manager Mr. Liu told us that Congolese is influenced greatly by French culture. For example, the local pay a lot of attention to politeness and dress, and judge depends on what he wears and what car he drives. They are used to being late sometimes. In the report of company we found that
Monday is usually the busiest day in a week, so business activity or visiting should be avoided on Monday, and should make an appointment ahead. Failure to follow these rules will lead to bad impression, even offend others. This will harm the relationships among Chinese workers and local workers. Another big problem is the corruption. Due to local protectionism in Congo, many things cannot be solved in a formal way, such as taking legal proceeding against some local people. Seeking help from local government is usually proved as useless, and even cause extra cost for bribery and unfair judgment. The CEO Mr. Lu even complained that local government officials will not allow them to do anything unless they give relevant officials enough money. Otherwise, the company would face the risk of huge penalty even shutting down the project.

**Communication Method:** In the HR managers Mr. Xu’s opinion, the differential in communication method is also a problem for Chinese managers. The managers mentioned this barrier in the manners and customs question. The project manager Mr. Liu said that if Chinese workers fell dissatisfied on something, or fell something could get improved, or there is something wrong, they prefer to write a polite suggestion, or have a private communication with managers. But for local workers, they would like strike to get more benefit, even though there is not serious disagreement. But if Congolese workers have same problem, they will complain and argue directly to managers, even shout at managers, no matter what condition it is or how many people there are. It is treated as impolite by Chinese workers, and will make Chinese managers fell disrespected and lose face. Thus, the CEO Mr. Liu thought that it would harm the relationship within Chinese and Congolese employees in the project.

**Leisure Time:** When we asked the question about manners and customs, both CEO Mr. Lu and project manager Mr. Liu also treat leisure time as a big barrier. The project manager Mr. Liu told us before this barrier happen they never thought it would be a barrier. According to the project managers Mr. Liu experience, people would not refuse extra work if they can get extra salary in China and Southeast Asia which are developing countries. In China, it is usual to work overtime or in weekends if needed,
as long as workers are paid enough, often 2 or 3 times of the normal daily work. Congo. Rep is a developing country as well, so Mr. Liu thought his experience would also work. But when he told the local workers they have to work overtime because of the delayed schedule, the reaction of the local workers is very fierce. They think work overtime would occupy their leisure time. This event becomes a strike at last. They refuse to work until China embassy and the local government promised they won't have to work overtime. The CEO Mr. Lu said that for Chinese workers, most of their friends and families were in China, and Congo was not a good place for travel, so they actually did not have many things to do in leisure time. They hope finishing the project as soon as possible, so that they can go back home earlier.

**Working Skill:** The Chief engineer Mr. Wang complains about the working skill of local workers when we asked them if there was any barrier because of education. The HR manager Mr. Xu said that hiring skilled construction workers and technical workers from local is not easy. There is not complete a local construction team, as a result, the local workers hired lack of skills or experience needed. They have to carry out training every time when they hire a new local worker, which increases cost of the project. However, the project manager Mr. Liu said that he local workers would quit jobs with no reason, which means the managers have to hire some other workers and train them again. Some local workers transfer to other companies after getting trained, because local companies would pay higher for the pressing need of skilled workers. The HR managers Mr. Xu said workers with poor skills and experience will lead to more mistakes and lower efficiency than skilled workers. This will impact the processing of the entire project.

**Goods and Materials:** When we asking the question about Physical & Material Environment, the project manager Mr. Liu mentioned this barrier immediately. He said almost everything needed for construction in Congo is bought from Europe or China. All machines are brought from China, because it is very hard to rent one in Congo. Chief manager Mr. Wang complained that in Congo, there is not a complete electric power system, and the voltage is not stable, which varies from 140V to 270V.
The CEO Mr. Lu complained other materials, such as cement, building stones, steel, nail, and oil paint, are all rare in Congo. Those things in Congo are with bad quality, if can be bought, and the prices are 5~8 times than those in China. Transportation is also a big problem, no matter for road or railway. Inland water transportation is a good choice, but there is not cargo ship available, instead, canoe is usual. Additionally, goods for daily life are also expensive, the prices of which are 2~3 times than those goods in China. The project manager Mr. Liu complained again that there is not textile industry locally, so clothes are all imported from other countries. According to the report of company, there is also a problem about the logistics. The company could not control the arrival time of the materials. The terrible condition results in a high cost of construction and low satisfaction for Chinese workers.

**Religious Differences:** This barrier also has been concluded in literature review. The CEO Mr. Lu says in Congo, about 61% population in Republic of the Congo beliefs primitive religion, 26% is Catholic, 10% is Christian, and the other 3% is Muslim. Each religion has its own taboos. We found some example in the report of company, number 13 is an unlucky number for both Catholic and Christian. The HR manager Mr. Xu also said religion festival is also diversity, and Chinese also have their festivals. Christmas is the most important festival for Christian, so as Spring Festival for Chinese workers. The diversity festivals will lead to great delay on the whole project.

The barriers caused by cross cultural differences are summarized in table 4.1

<table>
<thead>
<tr>
<th>Language Barrier</th>
<th>Influence</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Communication problems in daily lives</td>
<td>• English is not the first language for locals and Chinese.</td>
</tr>
<tr>
<td></td>
<td>• Contract problem with local government and consulting corporation</td>
<td>• Language diversity</td>
</tr>
<tr>
<td>Engagement</td>
<td>• Low working efficiency</td>
<td>• Late for work and leave early</td>
</tr>
</tbody>
</table>

Table 4.1 Barriers caused by cross cultural differences in case
<table>
<thead>
<tr>
<th></th>
<th>· The work cannot be finished on time</th>
<th>· Chatting and sleeping</th>
</tr>
</thead>
</table>
| **Salary**                  | · Wage differentials among Chinese workers and local workers  
                                · Dissatisfaction, strike, even accuse of discrimination | · Price level in Congo is much lower than in China. |
| **Business Etiquette**      | · Harm relationship among Chinese and local workers  
                                · Extra cost increasing | · Unfamiliar with each other’s culture and business etiquette  
                                · Corruption |
| **Communication Method**    | · Bad relationship among Chinese and locals employees | · Congolese employees prefer direct communication which would make Chinese feel offends |
| **Leisure Time**            | · Strike  
                                · Schedule delay | · Chinese workers prefer working overtime  
                                · Locals are disgusted with working overtime |
| **Working Skill**           | · More mistakes and lower efficiency  
                                · Influencing the processing  
                                · Increasing cost of training | · No local construction team.  
                                · Poor of working skill of locals  
                                · Job-hopping frequently |
| **Goods and Materials**     | · Increasing cost of purchasing | · Lack of necessary materials and instrument  
                                · Poor infrastructure facilities in Congo |
| **Religious Differences**   | · Delay on the whole project | · Religion diversity |

Source: Own Construction

### 4.2.2 The evaluation of barriers in the case project

Based on the questionnaire, we can summarize the impact and probability of each barrier, which is listed in table 1. In the table 4.2, the fist column means each barrier,
with the probability of the barrier. According to the methodology it could be divided to three levels: low, middle and high, and below is the relating point. In the impact column, there are five levels: Negligible, minor, moderate, serious and critical. For the row of each barrier, the number means how many people choose the answer of the column. Then we calculate the average impact and probability of each barrier and list them in table 4.3.

Table 4.2 The impact and probability of barriers caused by cross cultural differences

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Probability</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low (1)</td>
<td>Middle (3)</td>
</tr>
<tr>
<td>Language Barrier</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Engagement</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td>Salary</td>
<td>38</td>
<td>8</td>
</tr>
<tr>
<td>Business Etiquette</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>Communication Method</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Leisure Time</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Working Skill</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>


Table 4.3 The average point of impact and probability of each barrier from questionnaires

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Probability</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Barrier</td>
<td>4.58</td>
<td>1.98</td>
</tr>
<tr>
<td>Engagement</td>
<td>2.88</td>
<td>3.04</td>
</tr>
<tr>
<td>Salary</td>
<td>1.50</td>
<td>1.25</td>
</tr>
<tr>
<td>Business Etiquette</td>
<td>2.83</td>
<td>2.00</td>
</tr>
<tr>
<td>Communication Method</td>
<td>3.70</td>
<td>3.31</td>
</tr>
<tr>
<td>Leisure Time</td>
<td>4.75</td>
<td>4.83</td>
</tr>
<tr>
<td>Working Skill</td>
<td>4.67</td>
<td>4.06</td>
</tr>
<tr>
<td>Goods and Materials</td>
<td>2.92</td>
<td>4.71</td>
</tr>
<tr>
<td>Religious Differences</td>
<td>4.83</td>
<td>3.06</td>
</tr>
</tbody>
</table>

Source: Own Construction

Combining the table 4.3 with interviews to managers, the result shows how the barriers influence in the case project are summarized below:

**Language Barrier:** According to the interview we find that language barrier is a common barrier in the project. All of four managers whom we have interviewed think it could happen anytime. The result of questionnaire shows that the probability of this barrier is 4.58 which is a high number, which means the Chinese employees also think
it is easy to happen. But the impact of language barrier is only 1.98 which is close to the minor degree according to the questionnaire. The HR manager Mr. Xu and chief engineer Mr. Wang said that they often met language barrier in the work time, but it would not do much damage to the project. The cost and schedule would not increase so much because of the language barrier.

**Engagement:** Based on the questionnaire, the probability of engagement is 2.88 which is close to middle and the impact is 3.04 which is close to moderate. The HR manager Mr. Xu said the engagement problem has always been a problem, and it depends on the local employees, but he thought that the probability of the barrier is not so frequency. Both the HR manager Mr. Xu and the chief engineer Mr. Wang thought that this barrier would take moderate loss due to the low working efficiency which would make the schedule delay. Schedule delay means they have to pay more money to the workers. But the HR manager Mr. Xu thought that the local human resource cost is not high, so the impact of the barrier is also acceptable.

**Salary:** The HR managers Mr. Xu said that the CMICG have many experience of international construction projects, so before the project starting they have some policies to solve this problem. The result is satisfactory. The questionnaire also shows that the probability is 1.50 and the impact is 1.25, which means the probability is low and the impact is negligible. The salary problem may be the least important problem they have met.

**Business Etiquette:** According to the questionnaire, the probability of business etiquette is 2.83 which close to the middle and the impact is 2.00 which is also minor. The project manager Mr. Liu told us the Chinese managers used to do business with Europeans, so it is not a problem for them. But he also said for the Chinese workers, they need time to adapt it. The main problem is that the local officials would ask for bribes, sometimes the amount is huge. The barrier would not make the process delay, although it would lead to cost increasing.

**Communication Method:** The HR manager Mr. Xu, chief engineer Mr. Wang and
the project manager Mr. Liu all said they had received some complaints. For Chinese workers, the probability of communication method is 3.70 which is close to middle. The impact of this barrier is 3.31 which is also moderate. When Chinese workers communicate to local workers, it is easy to cause arguments because of the differential communication method.

Leisure Time: The probability of leisure time is 4.75, and no doubt it is a high number. In the questionnaire the Chinese workers also think the impact of the barrier is 4.83 which is critical. The HR manager Mr. Xu and chief engineer Mr. Wang said they often have arguments with local workers about leisure time, because they always think that they have worked enough and they need have a rest. But in fact they just start their work one or two hours ago. There was even a strike because of the demand of working overtime. The strike and delay makes a huge loss for the project, and the managers also thought it is a serious barrier. However, it is not always the case everywhere. For example, as our case company has some projects in South East Asia, the CEO told us people there prefer to use their leisure time to work to earn extra salary in there.

Working Skill: According to the questionnaire, the probability of this barrier reaches to 4.67 in high level, so the Chinese workers think that this barrier would happen from time to time along the project processing. Besides, according to the questionnaire the impact gets 4.06, which is also serious. The project engineer Mr. Liu told us this problem is very common in the project especially when hiring more novice workers. Chief engineers Mr. Wang also told us that the local employees even cannot do any work before they have training. The barrier would lead to the low work efficiency, and cost and schedule would increase largely.

Goods and Materials: The project managers Mr. Liu told us maybe this is the most serious barrier they had met, the point of impact have reach to 4.71 which is critical. Mr. Liu said the local is lack of almost all conditions which is needed to complete project. The CEO Mr. Lu told us that almost all equipment and materials must be
imported from China and Europe, and project has to shutdown sometimes because of the lack of materials. Importing materials need also to pay high importing tax. Mr Liu said the traffic also let the logistics cost increase. The questionnaire also shows that the probability is 2.92, which means it not always happened but it could not be avoided. As a critical barrier, if it cannot be solved, the project would fail.

**Religious Differences:** The Christianity and the local religion do not have too much religion taboo, so religion is not a big problem for the company. But HR manager Mr. Xu said that there is a problem because religious activities are too frequent, due to the religion diversity. Religious activities would occupy the working time. As a result, the probability of the barrier is 4.83 which is high. However, the time which the local use to work is lower than expected, so the impact of it is moderate (3.06).

### 4.2.3 The solutions for barriers used in the case project

Along with the identification and evaluation of the barrier, we also interview the managers about how they deal with each barrier when they have met in the process of the project. The solution differs from one to another.

**Language Barrier:** The project manager Mr. Liu told us there are three main methods that are used to solve the barrier. The first is hiring local managers. There are less language barriers between Chinese managers and local managers, because both their English is good. The second method is hiring French translators from China, who know how to translate Chinese to French, and it would make the communication with local workers easier. The chief manager Mr. Wang told us the third way is using body language, which can solve some simply problems.

**Engagement:** The HR manager Mr. Xu said the common solution of the barrier is training and punishment. Mr. Xu the local workers working attitude have improved after training, although is still not satisfactory. The only punishment is deducting money, but the project managers Mr. Liu told us the result is not good. He said if deduct little money, workers don't care; if deduct a lot, the locals may accuse the
company, even strike.

**Salary:** The project manager Mr. Liu told us they have a mature method to solve this barrier. The HR manager Mr. Xu said that the basic salary of local employees and Chinese employees is the same, but the Chinese employees can get allowances for business trip. The CEO Mr. Lu said that this method can make the local employees satisfied because they have the same salary as the Chinese employees. Meanwhile, the allowances for business trip can help Chinese afford their family in China.

**Business Etiquette:** The project manager Mr. Liu said that the company has to pay more patience to low efficiency of the local officials. Sometimes they have to bribe officials to get the information and policy which they want. The CEO Mr. Lu told us he thought the bribery is not illegal, but they have to do in order to make the project process smoothly. Mr. Lu said that usually if officials ask for money when negotiating, the company will satisfy their needs. But if the official comes just for money rather than doing anything good for the project, the company will reject it.

**Communication Method:** The project manager Mr. Liu told us they solve this barrier from two sides. One is that they teach the Chinese managers about the communication method of local workers, in order to help them accept the method. Another is that they have created an advice collected department, so if the local workers have any problems they can report to the advice collected department. The HR manager Mr. Xu said the key to solve this problem is to reduce the chances of direct conflict.

**Leisure Time:** The project manager told us they tried to tell the local people if they work time longer they can get more money, but most of the local workers do not want to work more. They work for the bread and drink, and they strike when the company wants the workers having extra work. The project manager said they choose to accept this barrier, and they pay more money for the Chinese workers to let them work overtime to ensure the project schedule.

**Working Skill:** The project manager Mr. Liu told us they want to hire more workers from China to solve this problem although their salary would be higher. But the local
government has a policy if you have more Chinese workers, which means, you must hire even more local employees. So the HR manager Mr. Xu told us they must find a method to improve the local workers’ skill. The chief manager Mr. Wang said that the company has a technical training when they hire the local employees. When the local workers start to work, the Chinese workers also will teach them how to do although there are some language barriers. The project manager Mr. Liu said as the skilled workers can have a high salary, some local workers would be happy to improve their skill to earn more money. The CEO Mr. Lu said that the higher salary also can help company to keep the skilled workers.

**Goods and Materials:** As the most serious barrier, the CEO Mr. Lu said that the company has many ways to solve this problem. The project manager Mr. Liu said that they bought all the equipments come from China and they have their own electric generator, so that they can keep the electric power when the local is lack of electricity. The CEO Mr. Lu said most of the materials come from China and Europe, when some of material could be gotten from the neighbors. The HR manager Mr. Xu said that in fact the daily goods such as clothes and wash-towel is a problem, so that the company asks the Chinese employees take them from China by themselves. Mr. Xu also said that the food is expensive and the company has to accept it. For the logistics, the company outsources it and asks the logistics company must compensate their damage in case of the logistics delay. The chief mangers Mr. Wang said no matter which method they have chosen, the cost would be high.

**Religious Differences:** The HR manager Mr. Xu told us all of Chinese employees would have training before they went to Congo, Rep and the religion taboo training is included in it. All of the managers thought that religion taboo is not a serious barrier, and the Chinese just need to remember what they cannot do. For example, The CEO Mr. Lu says: “as a foreigner there, we need to respect other people’s religious habits, so we don’t celebrate event at 13 every month”. The HR manager Mr. Xu told us there are more barriers caused by the religion activities. Except for the legal holiday, there are some religion activities. Although they are not the legal holiday, you cannot
ask the local people to work on these dates. The project manager Mr. Liu told us they choose to accept this barrier, because they do not want to fall in troubles about religion. The cost to deal with such troubles will much more than giving them vacations.

We can summarize the influences of barriers caused by cross cultural differences and relevant solutions as in table 4.4

Table 4.4 Cross-culture barrier and their solutions in case study

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Influence</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Barrier</td>
<td>Conflict</td>
<td>Language training</td>
</tr>
<tr>
<td></td>
<td>Low working efficiency</td>
<td>Hiring translator</td>
</tr>
<tr>
<td>Engagement</td>
<td>Low working efficiency</td>
<td>Hiring skilled workers</td>
</tr>
<tr>
<td></td>
<td>Schedule delay</td>
<td>Working attitude training</td>
</tr>
<tr>
<td>Salary</td>
<td>Conflict</td>
<td>Same base salary</td>
</tr>
<tr>
<td></td>
<td>Low working efficiency</td>
<td>the allowances for business trip</td>
</tr>
<tr>
<td>Business Etiquette</td>
<td>Extra cost</td>
<td>Etiquette training</td>
</tr>
<tr>
<td></td>
<td>Schedule delay</td>
<td>Avoiding some bribery</td>
</tr>
<tr>
<td>Communication Method</td>
<td>Conflict</td>
<td>Understanding each culture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Create the advice collection department</td>
</tr>
<tr>
<td>Leisure Time</td>
<td>Schedule delay</td>
<td>Accept it</td>
</tr>
<tr>
<td>Working Skill</td>
<td>Schedule delay</td>
<td>Hiring skilled workers</td>
</tr>
<tr>
<td></td>
<td>Extra cost</td>
<td>Improve the salary when the workers’ skill improve</td>
</tr>
<tr>
<td></td>
<td>Low working efficiency</td>
<td></td>
</tr>
<tr>
<td>Goods and Materials</td>
<td>Project shutdown,</td>
<td>Buying goods and materials from China and Europe.</td>
</tr>
<tr>
<td></td>
<td>Extra cost</td>
<td></td>
</tr>
<tr>
<td>Religious Differences</td>
<td>Schedule delay,</td>
<td>Religion taboo training</td>
</tr>
<tr>
<td></td>
<td>Conflict</td>
<td>Accept religion activities</td>
</tr>
</tbody>
</table>

Source: Own Construction
5. Analysis & Discussion

In order to manage the barriers caused by cross culture differences in international construction project, in this chapter we analyse and discuss the problem from the following four parts. At first we find the process for cross-cultural management according to the theory and the interviews. Then we figure out the barriers caused by cross cultural differences and evaluate them. The solutions to the barriers will also be discussed at the fourth part.

5.1 Cross cultural management in international construction project

In the international contracted projects, the culture difference is objective. It could lead to loses. But it could also be a bridge. Understanding each others can help people to use the positive of each culture, and the managers also can make a good relationship with local people by understanding the local culture. It is a useful way to create trust among each others. As a result, it is important to find a way of managing barriers caused by cross cultural differences, to decrease loses, and enhance benefit.

Trompenaars and Voerman (2009) have proposed a four-step process of cross cultural management (pp.11). Associating with Wild and Wild’s theory and the situation in the case, we develop a procedure to manage the barriers.

The first step is to identify the barriers according to the eight components of culture proposed by Wild and Wild (2012), which are aesthetics, values and attitudes, manners and customs, social structure, religion, personal, communication, education, and physical and material environment. In this step, we will find what the barriers are and how the barriers influence the project. Then we will make evaluation to each barrier. As mentioned in the previous part (pp.22), each barrier has two dimensions, impact and probability. This step aims at supporting finding solutions for the barriers. The third step is finding the solution of each barrier based on the evaluation. In the
theory part (pp.13), we have found four basic methods to deal with the barriers: localization, cultural infiltration, avoiding culture clash and culture complement. Localization can help the company adapt to the local culture. Cultural infiltration means using the culture of company to influence the local culture, and then the conflict could be reduced. When they conflict could not be solved, avoiding culture clash is the best choose. Culture complement focus on understanding each other, it can reduce the impact of the barriers caused by cross culture differences. Last is to see whether the method is useful, or the barrier can be solved. If the answer is yes, the procedure is complete. But if it is no, we should go back to do reevaluation and find a new solution.

To summarize the process, the whole procedure for cross cultural management is shown in figure 5.1.
Figure 5.1 The procedure of cross cultural management

Managing barriers caused by cross cultural differences

If there is barriers in each aspect of culture

YES

What are the barrier and its influence?

Evaluation of the barrier
--Impact
--Probability

Solution of the barrier
--Localization
--Culture Assimilator
--Cross Culture Conflict Avoidance
--Acculturation

NO

Whether the method is useful

YES

Complete

Source: Own Construction
5.2 Identify barriers caused by cross cultural differences

In the cross-cultural management procedure, the first step, which is also the basic step for whole issue management, is to find what the barriers caused by cross cultural differences are. In order to identify the barriers in international construction projects, we find the barriers according to the eight components proposed by Wild & Wild (2012). Following we will analysis and discuss the barriers identified through literature review and interviews.

Language Barrier: According to the literature review (pp.12) and managers’ opinion, this barrier should be included in personal communication. In international business, because both sides use the secondary language, how they can understand each other depends on the ability of using English. Moreover, the workers’ foreign languages are not as good as managers. That means the barrier could be more serious than we thought. Although body language could solve a part of barrier, it would cause more problems. Sometimes different body movements have different meaning in different cultures.

Engagement: According to the finding and Wild & Wild (2012), engagement is a reflection of the value and attitude. The locals’ working attitudes always trouble the company. It brings loss because the locals do not care about the schedule; some of them even only work few days in one project, much less than demanded. We can find that foreign employees, for example, Chinese workers in the project, care more about the schedule compared to locals. However, as referred in the finding, it is hard to hire more foreign employees. There are two reasons, one is even paid high, the number of workers who are willing to work overseas is limited; the other is due to the policy, which ask the company to hire enough local workers. If the company could not solve this barrier, the schedule would be easy to delay.

Salary: The people think how much salary they should have often depends on their value attitude. The values between developing and developed countries are greatly different (Muriithi and Crawford, 2003). Imbalance of economic development will
lead to the different salary level among different countries from the interview. The developing countries’ average salary is usually lower than developed countries. If the locals’ salary is the same as the companies’ employees, it would be a huge burden of the company; if the locals’ salary is lower than the companies’ employees, the locals would think it is too low to work. This barrier could directly influence the emotion of their employees and indirectly their work efficiency. So this barrier should be included in value and attitude part.

**Business Etiquette:** We have found this barrier in literature (pp.16) and findings. The manners would be influenced by the local culture. According to the interview, the company has business all over world, and they could find many different and interesting business etiquette. Business etiquette is a way which local people use to show their own culture. We could know that the bribery problem is usually terrible in the developing countries by. Even some officials think it is a reasonable way of fundraising.

**Communication Method:** Communication method is different because of the different manners. According to the theatrical part, different people coming from different countries have their own communication methods (Wild and Wild, 2012). Combining the theory and finding, this barrier should be included in manners and customs. Sometimes the conflict arises just because of the different methods. For example, as referred previously, Chinese do not like the direct communication but the Western prefer that.

**Leisure Time:** According to finding, how to evaluate this barrier depends on the locals’ life manners (pp.31). In our case study, this barrier is very important in Congo. However, as Congo used to be a colony of France, Congolese workers reject, even are adverse to use leisure time for work. Asking Congolese workers to work overtime will disrupt the relationship with them. But the company would pay for default if project cannot be finished on time.
**Working Skill:** Working skill could be influenced by education level (pp.31). International construction needs many skilled workers. Many developing countries have made great progress in compulsory, but only the compulsory education could not offer skilled workers (pp.31). The lagging of high education is one of the reasons why there is lack of skilled workers. In our opinion, another reason may be the average life span in developing countries is low so the workers have to retired early, their working living would be much shorter.

**Goods and Materials:** As we found in previous part, this barrier is a usual problem in international construction projects because the local countries are usually developing countries. The poor infrastructure and the lack of the good and materials often bring lot of trouble and losses in the international construction project (pp.32). The lack of goods and materials does not only influence the project, but also the daily life of the employees working overseas. Living for a long time in poorer countries, even the poorest countries of the world is a challenged for them. There is no doubt that this barrier is a physical & material environment problem.

**Religious Differences:** Combing literature review and finding, maybe religious differences is not the most important but the most dangerous barrier because it can threat the workers’ lives sometimes. It is worth noting that the company would meet more problems caused by religious differences in Muslim countries, because there are too many taboos. Some religious problem also could not be solved by law. Besides, based on finding, in a country with a variety of religions, the different festivals would occupy lots of working time (pp.33).

**5.3 Evaluation of barriers caused by cross cultural differences**

Combining the finding and the theories, in this part we analyse and discuss why the barrier is important or not, depending on the impact and probability of each barrier. The result of this step will directly influence the selection of solutions for each barrier.
in the next step.

**Language Barrier:** According to the findings (pp.36), language barrier could be thought as a high probability but minor impact barrier. In the case company, English is the second language both for the Chinese employees and locals. That is why the probability is high in this project. Maybe if the company and the local people use the same language the probability could be lower, but we have not research it in our study. Though the probability of the barrier is high, the impact is just minor. It means this barrier would not take so much extra cost. There is a possible reason that they have different work to do in the project. They just have to do the work distributed to them. They do not need too much communication about work. Hence, the language barrier may cause more problems for workers’ daily life than for work.

**Engagement:** Through findings (pp.36), it can be known that the probability of working attitude is middle. The reason is that working attitude of the locals is not always a problem. Some of them also work hard. According to the questionnaire and interview, the impact of this barrier is moderated, and the reason is the working attitude of worker could influence the project directly. Though only a part of locals do not finish their job well, the schedule would be delayed.

**Salary:** As we get from findings (pp.37), the probability of this barrier is low and the impact is also negligible. Thanks for the good policy of the case company, it looks like that salary is not a problem in this project. But it does not mean salary is not a problem in international construction project. The companies of contactor often come from the developed countries, but the project is often in the developing countries. That means average income in the country of project is often lower than the companies of contactor. How to make the locals accept the different salary is a problem for many companies. If this problem cannot be solved, it would influence the emotions of locals and make the schedule delay.

**Business Etiquette:** The findings show that business etiquette could be thought as a
barrier with middle probability and minor impact. In Congo the business etiquette performs like this in European, except for the bribes. However, business etiquette varies from country to country. This barrier should depend on which country the project is in. For example, if the project is in Saudi Arabia, the companies should study the Muslim business etiquette.

**Communication Method:** The communication method easily happens between Chinese employees and locals and the worst result of communication method is strike. This barrier has a middle probability and a moderate impact. The communication method is not a serious problem, but it can make the Chinese mangers confused or feel offended. Though the Chinese managers thought they tried their best, the conflict caused by the barrier would lead to extra cost.

**Leisure Time:** This barrier has both a high probability and a critical impact. The reason of high probability may be the locals do not want to work. They take care of their leisure time more than their jobs. The leisure time looks like a small problem, but the impact could not be ignored. It is so serious that the company cannot solve the problem anyway. But according to the finding, this barrier would not happen in all countries. So this barrier should not be thought as a serious barrier in all projects. It depends on the locals’ attitude.

**Working Skill:** Working skill has a directly connection to the local education level. The probability of this barrier is high and the impact is also serious. Though the illiteracy rate of Congo is relatively low in West Africa, skilled local workers are still rare. The working skill is also a common problem that most of the construction projects in developing countries have to meet. Due to the poor education, it is hard to hire skilled local workers. No matter hiring more workers or training locals would improve the cost. The project even faces the risk of shut down for the lack of skilled workers. Hence, it is the main barrier which the company worries about.

**Goods and Materials:** This barrier is the most important in our case company, the
probability is high and the impact is critical. This problem also would be met in many developing countries. But lack of almost all conditions which are needed to complete project as Congo is unusual. The impact of this barrier should be influenced by the materials of local.

**Religious Differences:** For the case company, the religion taboo is not a big problem, so they only need to solve the problem about religion activities. According to the findings, the impact of the barrier is moderate even though the probability is high. To our analysis, the religion should not be ignored. Most of others barriers would not threat the employees life safety, but religion could. In some areas religion is the guild-lines beyond the law, so if the company has the projects in these areas it must do more quantification about religion.

**5.4 Solutions for barriers caused by cross cultural differences**

In the theory part (pp.13), we have found four ways to solve barriers caused by cross cultural differences. They are localization, culture assimilator, cross cultural conflict avoidance and acculturation. Associating with the situation of international construction projects, we analysis and discuss the solutions for each barrier based on our literature review and findings.

**Language Barrier:** Hiring local manager is a good method as we get from interview (pp.39). There is not language barrier between local managers and local workers. Hiring professional translators also could be useful. However, in a project, the number of manager and translator is limited. Most of staffs are workers. In our opinion company also can train the Chinese studying about local language simply, which would not cost too much and be useful. Workers can also use body language when communicating. As a result, localization is the best way deal with this cross-cultural barrier. In fact, this barrier could not be avoided but could be controlled.
**Engagement:** According to the interview, the company prefers to hire more skilled workers to solve this problem, because the skilled workers’ working attitudes are usually better. Training can also help to build a good working attitude, although the result is always not satisfactory. In our opinion, perhaps giving the people reward whose work attitude is good could be a good method. Even though we conclude many methods to reduce its influence, this barrier still cannot be eliminated completely. The company should choose the most suitable method considering the situation of certain project. All the method we focus on change, changing the company or changing the locals. So culture assimilator and acculturation could be useful to solve the barrier.

**Salary:** Our case company has a mature method to solve this barrier. They could let the local employees believe that their salary is fair. Although they know that their salary is lower, they can accept that Chinese employees’ salary is higher. The locals can understand why the Chinese get more money because they have to work far away from their hometown. Another reason should not be ignored is that the salary of locals whom work in the international construction projects are higher than the local average (pp.39). This barrier always exists but could be avoid easily.

**Business Etiquette:** For any company of contactor, adapting local business etiquette is necessary. According to our interview, business manners is not a serious problem and easy to be avoided. The real problem is bribery. The solution of our case company is to accept the asking for bribes of official who could influence project, and reject the others’ requirement. The company could not solve this barrier completely, but they can choose culture assimilator and acculturation to avoid culture clash.

**Communication Method:** Adapting the communication method of local people looks like a common method. In our opinion this method needs time rather than cost. According to our case company, creating an advice collected department is useful (pp.40). It can reduce the directly communication to reduce the conflict, but the locals’ suggest could be passed to the managers. Both of the two method focus on culture assimilator.
**Leisure Time:** According to finding, the case company does not find a good method to solve this barrier, so their method is to accept the barrier (pp.40). In our opinion, it is a serious problem in our study, but we also can find some methods to solve it. In fact any problem which can influence the working efficiency could be solved by hiring more workers, but it will greatly increase the cost. In the construction projects, usually schedule delay means huge damage of cost. So the best way is to keep a balance between the cost and the schedule. According to our finding we could know that the locals have simple lives and there are not too many thing worth to buy in Congo, Rep. So we also suggest that the company could reward the locals some goods which are precious or cannot bought in Congo, rather than money for the extra work. If the locals have the desires to get unusual goods, maybe they would accept the extra work. Our case company chooses avoiding culture clash, but in our opinion cultural infiltration also could become important with the project processing.

**Working Skill:** Hiring skilled workers is the most ideal method but it is not easy to do in developing countries. Hiring the skilled from the countries of company is hard, and the company should keep enough local workers due to the policy. Companies can use the way of centralized training, the employees could have special course to improve the work skills. Another way is the skilled workers could train the local workers when they work, the locals could improve their skill when they are working. In fact, all the solutions look like improving cost and ensuring the schedule. Training the locals means the company want to change the situation, so in our opinion cultural assimilator and acculturation are the methods which are used.

**Goods and Materials:** In our case company, this barrier only could be solving by increasing the cost (pp.41). In fact if you have money, almost all of materials for projects could be bought. In our opinion, a company could not change the industrial base and infrastructure of a country, so it only can pay for more money to avoid this barrier. In the case, logistic outsourcing is also a useful way to solve this barrier. Combing our opinion and finding, cross-cultural conflict avoidance could be using to solve this barrier.
Religious Differences: The religious differences could hardly be solved, so the company should take ways to avoid possible cultural conflicts caused by these. We could know that from the finding, training the employees about religion taboo is necessary (pp.41), because it could reduce the conflict due to the religious differences. If the locals have any requirement about religion, our case company chooses to accept it. All in all, company tries its best to avoid this barrier. So the barrier should be solved by the cross-cultural conflict avoidance.

The barriers caused by cross cultural differences and the solutions of them are summarized in Table 5.1.

Table 5.1 How to deal with the cross cultural barriers

<table>
<thead>
<tr>
<th>Culture Component</th>
<th>Barrier</th>
<th>Solutions of Barrier</th>
<th>How to solve the problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal communication</td>
<td>Language Barrier</td>
<td>Localization</td>
<td>• Hire professional translators</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Do some simple French and English training to Chinese employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Use body language when communicating</td>
</tr>
<tr>
<td>Values &amp; Attitudes</td>
<td>Engagement</td>
<td>Culture Assimilator</td>
<td>• Hiring skilled workers from China</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acculturation</td>
<td>• Training</td>
</tr>
<tr>
<td></td>
<td>Salary</td>
<td>Culture Assimilator</td>
<td>• Establish punishment and reword policies</td>
</tr>
<tr>
<td>Manners &amp; Customs</td>
<td>Business Etiquette</td>
<td>Culture Assimilator</td>
<td>• Give the same base salary to Chinese employees and local employees, then given the travel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acculturation</td>
<td>allowance to the Chinese employees</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Learn local business etiquette</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Try to avoid unnecessary bribery</td>
</tr>
<tr>
<td>Category</td>
<td>Assimilator</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Communication Method</strong></td>
<td>Culture</td>
<td>· Train workers about the communication methods of each other.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Set up an advice collection department in order to reduce direct communication</td>
<td></td>
</tr>
<tr>
<td><strong>Leisure Time</strong></td>
<td>Cross Cultural Conflict Avoidance</td>
<td>· All overtime work is voluntary, and who working overtime will get extra payment.</td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Working Skill</td>
<td>· Hiring skilled workers from China</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Assimilator</td>
<td>· Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Establish punishment and reword policies</td>
<td></td>
</tr>
<tr>
<td><strong>Physical &amp; Material Environment</strong></td>
<td>Goods and Materials</td>
<td>· Buy construction materials with high price from local or Europe.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cross Cultural Conflict Avoidance</td>
<td>· Bring necessary equipment from China</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Making construction materials by itself if possible</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Logistics outsourcing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Buy property insurance</td>
<td></td>
</tr>
<tr>
<td><strong>Religion</strong></td>
<td>Religious Differences</td>
<td>· Give training for employees to acknowledge the taboos of different religions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cross Cultural Conflict Avoidance</td>
<td>· Give vacations according to the religion</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own Construction
6. Conclusion:

There are two research questions in our study:

- What are the barriers caused by cross-cultural differences in international construction projects?
- How to manage the barriers caused by cross-cultural differences in international construction projects?

To solve the two questions, we choose the mixed-method research, which both qualitative and quantitative method would be used in our study. The primary data of the case study would be collected by two methods: interview and questionnaire. Then we combine the literature and interview to conclude nine mainly barriers, as well as the evaluations and solutions of these barriers.

6.1 Results & Conclusions

In our study, to verify the result we get from theories, we conduct a case study and get nine barriers. They are language barrier, business etiquette and religious differences, engagement, salary, communication method, leisure time, working skill, and goods and materials. Through reviewing articles on this topic, we summarize three barriers caused by cross-cultural differences based on the theory of Wild and Wild (2010), which are language barrier, business etiquette and religious differences. The rest six barriers are all gotten from interviews.

Besides, to find how to solve the barriers, we find four basic solutions for these barriers, naming localization, culture assimilator, cross cultural conflict avoidance and acculturation from the literature review. We summarize the solutions for each barrier from interviews. Then we evaluate each barrier by questionnaire from two dimensions: probability and impact. Combing the theory and the finding, we conclude a four-step process of cross-cultural management. Firstly is to identify the barriers caused by cross cultural differences. We get nine barriers in our study, which are language
barrier, engagement, salary, business etiquette, communication method, leisure time, working skill, goods and materials, and religious differences. Next step is to evaluate each barrier. Then we find the proper solution for each barrier according to the evaluation. The last step is to see if the method is useful or not.

### 6.2.1 Theoretical Significance

Our study has found nine barriers caused by cross cultural differences from the six components: personal communication, value & attitude, manners & customs, education, physical & material environment and religion. We conclude the procedure of cross-cultural management and how to deal with the barriers base of the theoretical and our findings. In the further research others could do the research as our method. Besides, we contribute the evaluation for each barrier which has been few done before. Our research can be used as a reference for the cross-cultural management research in international contracted projects later on.

### 6.2.2 Management Implication

It is also useful for the company to do international construction projects. For the enterprise, they should know where the barrier comes from so that they can find the way to avoid the barrier. Avoiding the cultural conflict can also help the corporation keep high efficiency in the daily operation. It can bring huge economic benefits for the corporation.

In our study, we have created a procedure of cross-cultural management, including identification, evaluation and solutions for the barriers, which could help the company to build a complete cross-cultural management system. Besides, we have found some barrier, made evaluation and figured out relevant solutions for the barriers according to literature review and the experience of the case company. We suggest that when the company does an international construction project it could use the procedure of cross-cultural management which we created. The procedure could help the company what it should do step by step.
6.2.3 Social Implication

Reducing the barrier in cross-cultural management is not only the company’s mission but also social responsibility. The cross-cultural management also could help the cultural communication, and it is a method for different cultures to understand each other. It could enhance the friendship of people who have different cultures. In fact, international construction project is a method that developed countries help developing countries to do infrastructure. Reducing the cross-cultural conflict could help the counties to create a good relationship.

6.3 Further Research

In the further research, more countries could be included in the study. West Africa is the least developed area in the world, if the companies have projects in some more developed countries, the conflict which focus on would be changed. And our study only focus on one company and one county, if there are more companies and more countries, the result could be more convincing. In the further research, someone could do a system research of the cross-cultural management in international construction projects, and then when others do the same research they could have a more mature framework.
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Appendix I Questionnaire (Chinese)

中机建设集团吉利水厂跨文化问题调查表

1. 你认为当地雇员的工作态度出现问题的可能性呢？（例如：当地人工作比较懒散）
   A) 低（低于10%）
   B) 中（10%~49%）
   C) 高（50%以上）
   这个问题对项目有什么影响？
   A) 非常严重的影响，有可能导致项目失败
   B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进步一的要求
   C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
   D) 轻度影响：成本会轻微增加/工期会稍微延长
   E) 无影响：不会对工程带来任何负面影响

2. 你认为当地雇员对于时间认知发生问题的可能性？（例如：当地人非常看重休息时间）
   A) 低（低于10%）
   B) 中（10%~49%）
   C) 高（50%以上）
   这个问题对项目有什么影响？
   A) 非常严重的影响，有可能导致项目失败
   B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进步一的要求
   C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
   D) 轻度影响：成本会轻微增加/工期会稍微延长
   E) 无影响：不会对工程带来任何负面影响
3. 你认为当地人对于工资问题发生不满的可能性？（例：当地人不满意中国员工和当地员工的工资差异）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）
这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进步一的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响

4. 你们遇到商务礼仪等问题的可能性？（例：当地人非常在乎商务礼仪，并且以人的穿着和驾驶的座驾的好坏来判断人。）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）
这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进步一的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响

5. 你认为当地员工和中方经理在沟通交流上发生问题的可能性？（例：当地员工有什么不满都直接报告给经理，并且态度十分激烈）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）
这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进一步的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响

6. 当地的宗教信仰影响项目的可能性？（例：宗教活动会占用工作时间）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）

这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进一步的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响

7. 中方的工人和当地员工发生交流问题的可能性？（例：中方工人和当地员工无法因为语言不通造成无法理解相互的意思）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）

这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进一步的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响
8. 当地工人的工作技能影响项目的可能性？（例：当地工人的工作技能达不到工程要求造成工程问题）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）

这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进一步的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响

9. 刚果因为物资匮乏影响到工程的可能性？（例：工程原料的缺乏导致工程停止）
A) 低（低于 10%）
B) 中（10%~49%）
C) 高（50% 以上）

这个问题对项目有什么影响？
A) 非常严重的影响，有可能导致项目失败
B) 严重的影响，成本会大量增加/工期会大量延长，会遇见更进一步的要求
C) 中等影响：成本会增加/工期会延长，会遇见一些重要的要求
D) 轻度影响：成本会轻微增加/工期会稍微延长
E) 无影响：不会对工程带来任何负面影响
Appendix II Questionnaire (English)

The questionnaire of barriers caused by cross-cultural differences in Djiri water plant project of China Machinery Industry Construction Group Inc

1. Do you meet any working attitude problem of local employees? (i.e. Local employees work lax.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
   B) Serious: if the barriers event occurs, the program will encounter major
cost/schedule increase, and secondary requirements may not be met.
   C) Moderate: if the barriers event occurs, the program will encounter moderate
cost/schedule increase, and important requirements would still be met.
   D) Minor: if the barriers event occurs, the program will encounter small
cost/schedule increase.
   E) Negligible: if the barriers event occurs, it will have no effect on the program.

2. Do you meet any time attitude problem of local employees? (i.e. The local people
   think rest time is very important.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
   B) Serious: if the barriers event occurs, the program will encounter major
cost/schedule increase, and secondary requirements may not be met.
C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.

D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.

E) Negligible: if the barriers event occurs, it will have no effect on the program.

3. Do you meet any salary problem of local employees? (i.e. The salary is different between local employees and Chinese employees.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
   B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.
   C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.
   D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.
   E) Negligible: if the barriers event occurs, it will have no effect on the program.

4. Do you meet any business etiquette problem when you did business event? (i.e. Local people focus on etiquette specially and evaluate people by their clothes and cars.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
   B) Serious: if the barriers event occurs, the program will encounter major
cost/schedule increase, and secondary requirements may not be met.

C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.

D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.

E) Negligible: if the barriers event occurs, it will have no effect on the program.

5. Do you have any communication problem between Chinese managers and local employees? (i.e. local people have dissatisfaction directly to the managers, and attitude is very fierce.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
   B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.
   C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.
   D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.
   E) Negligible: if the barriers event occurs, it will have no effect on the program.

6. If the local religion will influence the project? (i.e. The religion event occupied work times.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)

   How it can influence the project?
   A) Critical: if the barriers event occurs, the program will fail.
B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.

C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.

D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.

E) Negligible: if the barriers event occurs, it will have no effect on the program.

7. Do you have any communication problem with local employees in daily work? (i.e. The Chinese employees and the local people cannot understanding each other because of the language problem.)

A) Low (less 10%)

B) Middle (10%~49%)

C) High (50% or more)

How it can influence the project?

A) Critical: if the barriers event occurs, the program will fail.

B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.

C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.

D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.

E) Negligible: if the barriers event occurs, it will have no effect on the program.

8. If the skill levels of local workers will affect the project? (i.e. The skill levels of local workers is unsatisfied leading to the quality problem of project.)

A) Low (less 10%)

B) Middle (10%~49%)

C) High (50% or more)

How it can influence the project?
A) Critical: if the barriers event occurs, the program will fail.
B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.
C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.
D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.
E) Negligible: if the barriers event occurs, it will have no effect on the program.

9. If the lack of material in Congo have affect the project? (i.e. The lack of material make the project have to pause.)
   A) Low (less 10%)
   B) Middle (10%~49%)
   C) High (50% or more)
       How it can influence the project?
       A) Critical: if the barriers event occurs, the program will fail.
       B) Serious: if the barriers event occurs, the program will encounter major cost/schedule increase, and secondary requirements may not be met.
       C) Moderate: if the barriers event occurs, the program will encounter moderate cost/schedule increase, and important requirements would still be met.
       D) Minor: if the barriers event occurs, the program will encounter small cost/schedule increase.
       E) Negligible: if the barriers event occurs, it will have no effect on the program.
Appendix III Interview Questions

(1) 对 CEO 刘先生的采访问题 Questions for CEO, Mr. Liu
1. 公司的基本概况？
   What’s the basic situation?
2. 公司在刚果（布）项目的基本概况？
   How is the new release in Congo?
3. 今天安排参加视频会议的经理们的概况？
   How is it going of the video conference for the managers?
4. 你对国际承包业务的看法？简要说说合作双方分别能得到什么好处？
   What’s your opinion of the international contracting business? What’s benefits can the cooperators gain in general?

(2) 视频会议的提问部分 （这些问题我们向所有经理一起提问，他们会根据自己是否遇到问题来作答，这部分的回答会专注于研究的项目）
Questions referred in video conference (The questions are prepared for all the managers and will be answered according to personal situation. And the answers will focus on the researched items)
1. 是否遇到因为个人交流的跨文化的障碍？例如我们在理论研究中发现会有语言障碍这个问题
   Have you met transnational culture barriers during communication?  （Like the language barriers we have found in our theoretical research）
2. 是否遇到因为习惯和方式上的跨文化的障碍？例如我们在理论研究中发现会有商务礼仪这个问题
   Have you met transnational culture barriers caused by different habits and customs?  （Like the language barriers may happen in commercial social contacts）
3. 是否遇到因为宗教不同的跨文化的障碍？例如我们在理论研究中发现会有宗教差异这个问题
   Have you met transnational culture barriers caused by religious issues?  （Like the
religious differences we have found in our theoretical research

4. 是否遇到因为艺术品味跨文化的障碍?
Have you met transnational culture barriers caused by differentiated art appreciation?

5. 是否遇到因为价值和态度上的跨文化的障碍?
Have you met transnational culture barriers caused by different values and attitudes?

6. 是否遇到因为社会结构上的跨文化的障碍?
Have you met transnational culture barriers caused by different social structure?

7. 是否遇到因为教育上的跨文化的障碍?
Have you met transnational culture barriers influenced by education issue?

8. 是否遇到因为物理环境或者物资环境的跨文化的障碍?
Have you met transnational culture barriers influenced by surrounding physical and fiscal environment?

(3) 自由讨论部分主要是以经理们在上一部分回答的所遇到的障碍的基础上，进一步的讨论每种障碍对于项目的影响以及公司在本项目的解决方法。这部分的讨论不只是专注于研究的项目，经理们可以更多的发表自己在多个项目中总结的解决方案。

In the free talk stage, discussion will be further developed based on previous managers’ answers to the barriers they have met and the influence and solutions for this research will be completed. For this part, the highlights will not merely be the researched items, but more available measures can be raised by the managers.