



How does Culture and Gender Diversity Impact Communication in Project Teams

Authors:

Ewa Ceglarska

Lei Li

Kai Chen

December 2008

Tutors:

Timurs Umans

FE 6240

MBA International Business

Acknowledgment

Kristianstad, December 2008

This dissertation completes our studies at Kristianstad University. We are very grateful that we had an opportunity to meet each other and form a team. We went through plenty of emotions while writing this challenging and close to our heart dissertation. We enjoyed the process of designing the LEK experiment which we can call our own.

We would like to thank Timurs Umans for his never-ending support, his kind encouragement and helpful assistance and concern during the whole process of writing this dissertation. We are very grateful for all his help and suggestions.

Also we would like to thank to Annika Fjellkner for her advices with regards to the English language. We appreciated all her time and effort put into improving our dissertation.

We could not have written this dissertation without the help of the people who participated in our experiment as they offered us a great insight into the subject. Thanks to you all.

Finally we would like thank to each other for motivating ourselves when needed. We are grateful to have met and we will surely miss each other.

Ewa Ceglarska

Kai Chen

Lei Li

Abstract

Globalization leads to a high degree of interdependence and interaction of employees who often need to work in teams composed of members with varying gender, culture, abilities, skills, expertise, knowledge and so on. This dissertation will explore the interrelation between communication and the factors such as gender and culture that impact the communication process.

In order to find out how culture and gender diversity influences the communication in a project team, an experiment combined with an interview was conducted.

The results indicate that gender diversity appears to lead to negative communication and culture diversity indicates that there might be a positive impact on communication.

This research was limited to the literature sources that were taken into consideration and the definitions used to describe the concepts of communication, culture, gender and diversity. Also the experiment was performed with a small sample of students, which could bias the results.

A practical contribution of this of this dissertation is the insight of how to communicate across cultural and gender borders. Theoretical contribution of this dissertation is an attempt to open a “black box”.

Keywords: Culture diversity, gender diversity, team, communication

Table of Content

1. Introduction	1
1.1 Background.....	1
1.2 Problem.....	3
1.3 Purpose	4
1.4 Research question	4
1.5 Limitation	4
1.6 Outline	5
2. Method	5
2.1 Choice of methodology	5
2.2 Research philosophy	6
2.3 Research approach.....	8
2.4 Choice of theory	8
2.5 Summary.....	9
3. Literature review	9
3.1 Communication	9
3.1.1 Definition of communication	10
3.1.2 Stages and types of communication.....	10
3.2 Teams	12
3.2.1 Definition of team	12
3.2.2 History of the development of team.....	13
3.2.3 Business reasons for using teams.....	13
3.2.4 Stages of team building and team types.....	14
3.3 Diversity in teams.....	16
3.3.1 Gender diversity, communication in teams	16
3.3.2 Cultural diversity, communication in teams.....	18
4. Empirical method	21
4.1 Research strategy	21
4.1.1 Experimental method	22
4.1.1.1 Experimental outline.....	22

4.1.1.2 Warm-up game	22
4.1.1.3 Choice of task	23
4.1.2 Interview and the Belbin Test	23
4.2 Data collection method	24
4.2.1 Observations	24
4.2.2 Interviews	24
4.2.3 The Belbin Test	25
4.3 Time horizon	26
4.4 Population	26
4.5 Sample selection	27
4.6 Operationalization	28
4.6.1 Operational definitions	28
4.6.1.1 Culture	28
4.6.1.2 Gender	29
4.6.1.3 Communication	29
4.6.1.4 Team roles	31
4.7 Data analysis	32
4.8 Credibility of the Research Findings	33
4.8.1 Reliability	33
4.8.2 Validity	34
4.8.3 Generalisability	34
5. Analysis	35
5.1 Experiment data	35
5.1.1 Experiment observations	35
5.1.2 Experimental analysis	38
5.2 Interview Data	54
5.2.1 Selection	55
5.2.2 Interview Design	55
5.2.3 Interview Results	55
5.2.4 Analysis of the interview	65
5.3 The Belbin Test data	70
5.3.1 Result of the Belbin test	70
5.3.2 Conclusion of the test result	72
5.4 Cross sectional analysis	73
5.4.1 Horizontal comparison	73
5.4.2 Vertical comparison	78
5.4.2.1 Experiment comparison	78
5.4.2.2 Interview comparison	81
5.4.2.3 The Belbin Test comparison	83

5.5 Conclusion of the analysis	85
6. Final conclusion.....	86
6.1 Summary of the dissertation	86
6.2 Conclusion	86
6.3 Contribution.....	87
6.3.1 Practical.....	87
6.3.2 Theoretical.....	88
6.4 Self criticism.....	88
6.5 Future research	88
 REFERENCES.....	 90
 Appendices	
Appendix I Guideline.....	95
Appendix II Questionnaire.....	96
Appendix III The Belbin Test.....	98

1. Introduction

The first chapter of this dissertation begins with a description of the background information, which leads into the topic of cultural and gender diversity. We then present the research purpose and question and possible limitations. The chapter ends with an outline of the structure of the dissertation.

1.1 Background

With the fast developing technology and growing global economy, international business is in a transition. Companies more often depend on international business operations. Globalization leads businesses to work across borders to meet environmental demands. This increases the complexity of the modern workplace which requires a high degree of interdependence and interaction of employees who often need to work in teams.

Employees who form these teams become increasingly diverse, adding more and more new workers who are not the traditional white males. Organizational teams are likely to be composed of members with varying gender, culture, abilities, skills, expertise, knowledge and so on. The interaction between culture and gender creates even more diversity. Some researchers claim that teams made up of diverse individuals from different cultural backgrounds and opposite sexes can bring the best talent to an organization and enhance organizational effectiveness (Cox *et al.*, 1991). They can be a fuel to the accomplishment of strategic goals.

Yet, many diverse teams go on to achieve great results while the other teams never get out of the stumbling blocks. The difference between the two depends on the processes that steer these teams. Communication is an essential part that lay the foundation for effective team processes.

Even though, all of us have communicated with others since our infancy and it is the most important skill that any human being will ever have to learn, the process

of transmitting information from an individual or team to another is very complex and many sources of potential error can occur along the way. In any communication at least some of the "meaning" is lost in the transmission of a message from the sender to the receiver where a lot of the true message differs from the one intended. This is common among people of the same culture. Communication in the cross-cultural situations where language is an essential issue becomes even more complex. There are many problems associated with communication and why communication does not necessarily result in understanding. Scholars have found that people from different cultures perceive events and act upon them in different manners (Adler, 1997). They also organize and present information differently (Tuleja, 2005). Effective communication is naturally based on the exchange of information. Yet, when people who communicate do not share the same system of meanings the communication process becomes more challenging and unknown effects come into play. Understanding the effects of culture and gender on individual behavior within a team is of a high importance to the company that wants to operate successfully.

Therefore, culture is deeply seated in the communication process. Trompenaars (1997) claimed that "[t]he essence of culture is not what is visible on the surface, [i]t is shared by ways teams of people understand and interpret the world" (Trompenaars 1997, p. 3). Culture is not something that is easily acquired but it is a slow process of learning values, understanding behavior and being able to follow communication patterns in a certain team.

Besides cultural issues, gender is another big issue that business organizations are faced with nowadays. More women than ever in history work outside the home. Nowadays women in the workplace appear more or less equal with men. "They now account for about half the number of civil service employees and one-third of professionals and middle managers" (Belle, 2002, p. 151). More and more female employees entering the workplace make the communication within working teams more complex, because of the different mind sets and behavior habits between

male and female.

For these reasons, cultural and gender diversity and its impact on communication becomes an increasingly important issue with many facets of relevance to business. “It is at the heart of many organizational operations and international relations” (Harris and Moran, 2000, p. 76).

Although the existing literature is concerned with the impact of gender and cultural diversity on communication it does not really offer a solution of how to communicate effectively. There are no universal truths that can be applied anywhere, under any circumstances.

Since there is lack of findings in the area of how cultural and gender diversity affecting communication, it is interesting to explore the topic and bring a new additional perspective in this field of research. We think it is particularly interesting to explain how participants of a team communicate across cultural and gender borders. We believe that our findings will add a practical view to the companies in order to help their diverse workforce to communicate more effectively.

Moreover, our dissertation will contribute to the academic world since it complements existing literature and provide a further understanding in the field of communication.

1.2 Problem

Each of the developments - diversity and the use of teams - has been studied a great deal, but unfortunately - separately, with particular attention paid to its relation to organizational effectiveness. Therefore, the combination of the two is still under investigation. Researchers focus on the implications of changing workforce demographics for organizations and on characteristics of organizational settings. Relatively few studies have been conducted on cultural and gender diversity within work teams. The process of how gender and cultural diversity

influence the performance of teams remains in the “black box”¹ (Lawrence, 1997) and we will perform a thorough research and explain the foundations of effective teams.

1.3 Purpose

The purpose of this dissertation is to explore how diverse teams operate and function. Studying teams is a very complex process as there are no measures that can be easily applied. Our analysis will be based on observations as a main tool to capture the processes that occur in diverse teams. We will try to explain how cultural and gender diversity will affect the communication processes in project teams and will bring a new light into this research field.

1.4 Research question

How does culture and gender diversity impact the communication in project teams?

1.5 Limitation

Since the topic of this dissertation is still in the “black box”¹, some parts may lack theoretical support or miss the potential impact of other attributes. These attributes affect communication process, and it is difficult for researchers to distinguish the influence from culture and gender factors. Furthermore, most of the reference this paper based on is from United States, thus it can bias our perception of the theories. Also the experiment was conducted within a small sample due to the limited resource and time. Additionally, the participants are students, although they all study business, they are still different from the real business teams, and this may affect the practicability of this dissertation.

1. Black box: in this dissertation as Lawrence (1997) points out it is a relationship between demographic variables and organizational outcomes. Researchers often leave the relationship loosely specified and unmeasured, creating a "black box" despite the important, sometimes critical, role of this concept.

1.6 Outline

The structure of this dissertation is subdivided into six chapters. The first chapter provides the reader with background information and introduces the research question of this dissertation.

Chapter two presents the method used for the research.

Chapter three contains the theoretical framework of the dissertation. The review of the literature tackles topics such as communication, history of teams and culture and gender diversity in teams.

Chapter four presents empirical method where the design of the experiment, interview as well as the Belbin test is presented. Then operationalization and credibility of research findings follow in this chapter.

Chapter five tackles the analysis of the experiment, the interview as well as the Belbin test. In this chapter cross sectional analysis is performed followed by conclusions of the analysis.

Subsequently, in chapter six the summary final conclusion is given together with contributions, self criticism and future research perspectives.

2. Method

In this chapter, the methodology adopted by this dissertation is presented. Firstly, the research philosophy and the applicable research approach is described, then comes the type of method that is used.

2.1 Choice of methodology

The goal of this dissertation was to see how cultural and gender diversity impacts communication in teams. Therefore, we studied researches within the field of diversity especially on the cultural and gender diversity, communication and team

theories. All the researchers within the field seemed to measure communication only on its outcome, few did investigation into the processes. So we carried out an experiment among business students in order to observe the process of communication. In the experiment we assumed business students behave as business workers in the workplace.

2.2 Research philosophy

A clear idea of research philosophy and the overall design of the research approach and research strategy, which are conducted through the whole process of research, are extremely important to achieve the objectives of the dissertation.

Figure 2.2 shows the research process ‘onion’ and its particular items. The research ‘onion’ illustrates the main layers during a research process with its sections research philosophy, research approach and research design.

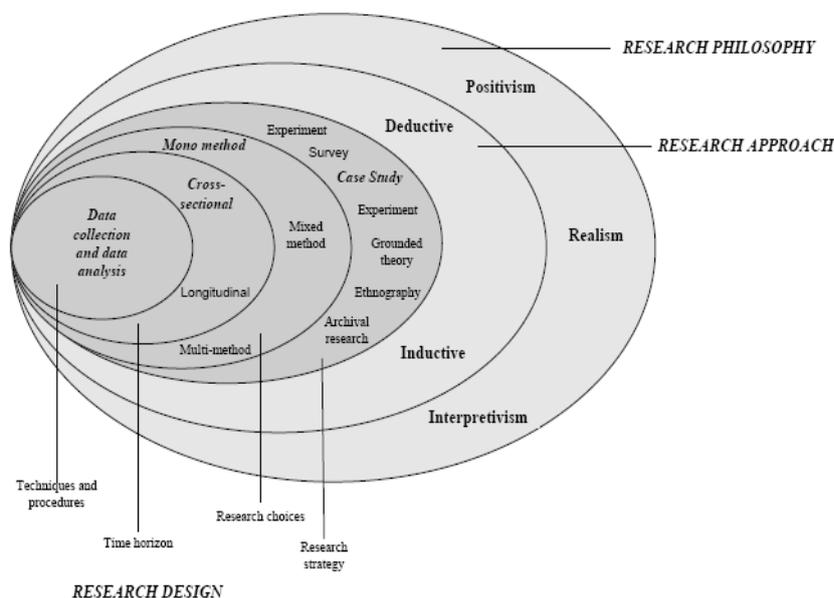


Figure 2.2: The research ‘onion’ (source: based on Saunders *et al.*, 2007, p.102)

Research philosophy depends on the way knowledge is developed (Saunders *et al.*, 2007). Saunders identified three types of research, which are positivism

philosophy, interpretivism philosophy and realism philosophy.

Saunders (2007) sees the positivist philosophy as “Working with an observable social reality whereby the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientist” (Saunders et al., 2007, p. 83). By adopting this philosophy, the researcher is expected to take on the role of a highly objective analyst along with expectations of the use of a highly structured methodology as well as usage of a quantitative approach to statistical analysis.

However, Saunders (*ibid*) also suggested that too much complexity exists in a business environment for a series of law-like generalizations and therefore a more suitable philosophy was highlighted which is named interpretivism philosophy. This philosophy challenges the issue of generalizations since quite often the business environments can be unique, and it is impossible to generalize as they are in a particular set of circumstances and therefore it is not always applicable to different situations.

The last one is realism philosophy, which according to Saunders “[i]s based on the belief that a reality exists that is independent of human thoughts and beliefs” (Saunders et al., 2007, p. 84). This claims that there is possibility that social forces and processes influencing individuals, and particularly without being aware by them and hence having an impact on their interpretation of their behavior. Therefore, this philosophy is quite often used when studying human subjects as it shows understanding for people’s perceptions of socially constructed interpretations and meanings.

Having considered all the philosophies, for the purposes of this paper both positivism and interpretivism philosophy have been selected since there is a need to remain objective and use a highly structured methodology, and our research is carried out within a sort of unique circumstance, so it is difficult to just generalize it.

2.3 Research approach

According to Saunders *et al.* (2007), there are two different types of research approaches: deductive and inductive. “[y]our research should use the deductive approach, in which you should develop a theory and hypothesis and design a research strategy to test the hypothesis, or the inductive approach, in which would collect data and develop theory as a result of your data analysis” (Saunders *et al.*, 2007, p. 84).

Major differences between deductive and inductive approaches are:

Deduction emphasis: (1) scientific principles; (2) moving from theory to data; (3) the need to explain causal relationships between variables; (4) the collection of quantitative data; (5) the application of controls to ensure validity of data; (6) the operationalization of concepts to ensure clarity of definition; (7) a highly structured approach, researcher independence of what is being researched; (8) the necessity to select samples of sufficient size in order to generalize conclusions.

Induction emphasis: (1) gaining an understanding of the meanings humans attach to events; (2) a close understanding of the research context; (3) the collection of qualitative data; (4) a more flexible structure to permit changes of research emphasis as the research progresses; (5) a realization that the researcher is part of the research process; (6) less concern with the need to generalize (Saunders *et al.*, 2007).

In our dissertation, a deductive approach was utilized since there are different theories of culture diversity and intercultural communication, and they have provided basic ideas for this paper.

2.4 Choice of theory

Through extensive research on the topic of cultural diversity, gender diversity, communication and teams, we have encountered several theories and models offering its explanation. These explanations are based primarily on the general

consensus of various researches, but also on the personal opinions which are the most helpful in the development of a new model. The investigation of this paper is based on the theories of culture, which is mainly referred to Hofstede's (1980) work, and the theories about gender, we looked upon different articles in order to gain different perspectives in this field, as well as the team theory is also an important part for this paper. The Belbin Test was used to see the roles which team members played.

2.5 Summary

Above the research method adopted by this dissertation was presented. Having considered all the philosophies, for the purposes of this paper both positivism and interpretivism philosophy have been selected as the most appropriate since there is a need to remain objective and use a highly structured methodology. There are already different theories on cultural diversity and intercultural communication, and they have provided basic ideas for this paper, and these theories lead this paper to use a deductive approach. The research of this paper was mainly based on the theories of culture, gender and team.

3. Literature review

This chapter presents the definitions of communication, team, gender and cultural diversity. The theories in this chapter provide the framework for this dissertation and are used as a basis for the development of the proposed theory.

3.1 Communication

As a human being communication is one of the most important facets of social life. More than ever before in human history people come into contact with people who are from other cultures or of another gender. Technology makes it possible to travel faster and further, the international labor force is more mobile, and in many places the workforce is becoming more diverse as many people increasingly find

themselves working in international teams at home and abroad. Intercultural communication is in the heart of organizational strategy and is vital to growth and prosperity (Gibson, 2002).

This chapter starts with the typologies of communication based on existing literature and then the communication process is divided into pieces and five stages of the communication process are deeper explored.

3.1.1 Definition of communication

One has to recognize that whatever the future may hold, countries and people differ. In order to understand them, we have to understand their way of life and approach. Charles Conrad (1994) cited in Byers (1997, p.4) defines the communication as a “[p]rocess through which people, acting together, create, sustain, and manage meanings through the use of verbal and non verbal signs and symbols within a particular context.” This definition will be used mostly in our research as it emphasizes people acting together which brings us to the definition of a team.

3.1.2 Stages and types of communication

Communication as a process is very difficult to measure. It is through observing and understanding how people communicate with each other through words, symbols and behaviors that it is possible to break down the communication process (Byers, 1997). According to Hakansson, *et al.* (2003) four aspects of communication can be derived, such as: continuity, complexity symmetry, and informality. These aspects help to observe the communication process as well as interactions within a team. According to Bachrach and Aiken (1977) most of the team work is spent on exchanging information and coordinating tasks. These activities are critical for an effective communication process which is composed of five stages namely: encoding, sending, receiving decoding and feedback (Gibson, 1996). Gibson proposes that those intercultural differences in communication whether between diverse genders or cultures mainly occur in the first two stages namely encoding and sending when we try to communicate with others. This is where the message is constructed and transmitted and this is where

costly miscommunication (Ridhway, 1997) constantly happens, in the stages of transmitting the message. People from different cultural backgrounds experience problems while communicating because of language barriers. According to Hofstede (1980) mastering another language allows people to transfer to another mindset. Language is about transferring feelings and accepting a different context and not only about words. He believes that nearly all successful interculturalists are multilingual (Powell, 2006). Understanding the language allows people to participate in a culture rather than being observers of it. However, even those from the same language speaking countries experience miscommunication.

Figure 3.1 explains why miscommunication happens. The sender message is never identical to the received message because communication is not direct but rather indirect (Adler, 2002).

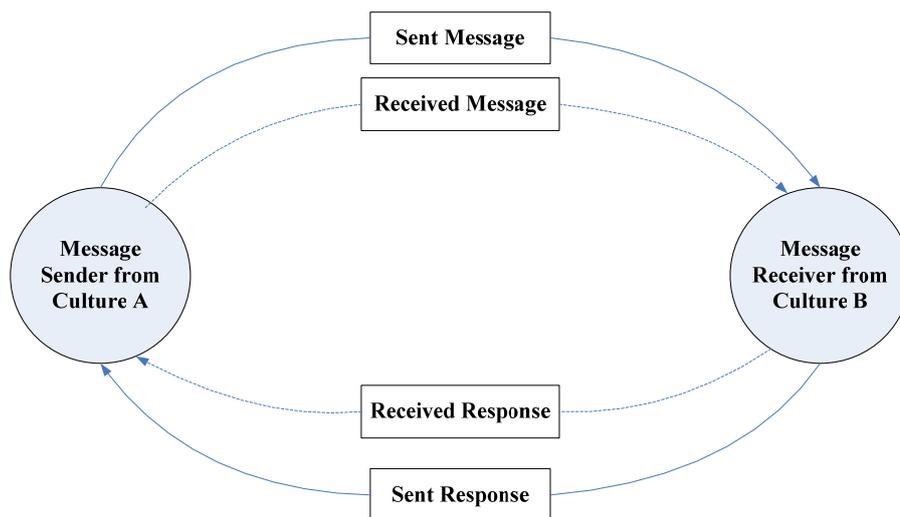


Figure 3.1 Communicating across Cultures (based on: Adler, N.J. International Dimensions of Organizational Behavior, 4th ed. Cincinnati OH: South-Western Press. p. 74, 2002).

There are several types of communication such as intrapersonal communication that occurs inside the individual. As described by Adler and Rodman (1994) intrapersonal communication is that “little voice that lives in your mind” (Adler and Rodman, 1994, p.9). Next, we can distinguish interpersonal communication with another person, small team communication whenever a small number of people come together for a purpose, public communication and the

communication in the organizational context (*ibid*). This dissertation will focus on the communication within a small team.

Learning to understand the differences among people is a way to improve communication across cultural and gender borders. This in turn can change disintegration, conflict and failure into cooperation, cohesion and progress in our workplaces where we interact daily with others. That leads to the next chapter which elaborates on cultural and gender diversity and communication in teams.

3.2 Teams

Teams have always been a part of existence, as humans are fundamentally social creatures who involve in the interpersonal relationships. Therefore, most of people's behavior occurs in teams. The relations people enter take place in variety of contexts, such as family, friends, marriage, acquaintances, work, clubs, neighborhoods, and churches. They may be regulated by law, custom, or mutual agreement, and are the basis of social teams and society as a whole. Therefore, teams play a great role in society and can play even greater role in the future as they are used more and more in all kinds of fields also in the business world. A definition of a team will be presented in next section in order to gain understanding of work-team processes.

3.2.1 Definition of team

“A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they are mutually accountable” (Katzenbach and Smith, 1993. p. 78). Turner (1987) identifies a team as “one that is psychologically meaningful for the members to which they relate themselves subjectively for comparisons, and they adopt norms and values from this team. A member of a team accepts membership in this team and it fluencies the member's attitudes and behavior” (Turner, 1987, p. 177).

3.2.2 History of the development of team

To understand recent trends of work in teams an historical overview for the development of teams is important. The field of social psychology was the first to focus on teams (Tindale, 1998). Triplet in 1898 carried out the earliest studies to research the performance-enhancing characteristics of working in teams. Later Ringleman in 1913 and Travis in 1925 studied the effects of social context on the individual performance followed by Shaw in 1932 who demonstrated that teams solve problems in a better way than individuals. In 1950 Later Kurt Lewin studied the behavior in teams and he is considered as a founder of “team dynamics”. However, in the 1960s the focus of the research changed with regards to teams. Negative implications were assigned to teams at that time. Research showed that multiple individuals working alone were more productive and more creative than individuals working in interacting teams (Taylor, Berry and Block, 1958). Lorge and Solomon (1955) argued that team superiority in problem solving was due to an increased number of people working on the problem. Clearly positive aspects assigned to team work began to vanish away.

Yet, last decade with its rapid environmental changes changed the view on using teams at the workplace once again. Teams have received an increasing amount of interest because of a variety of factors. These variables include the use of work teams and task forces within businesses, the acknowledgement of the value of using team work to develop higher-level learning and problem-solving skills as we will discuss in the next chapter.

3.2.3 Business reasons for using teams

“It is well-known that there is an international trend toward the use of teams as a basic structure in organizations today” (Huczczko and Hoffman, 1999. p. 4). To use teams can concentrate skills that are needed for specific projects and gain a lot more efficiency.

For some union leaders the motivation to support worker participations programs, including team concept, is embedded in a long standing belief that the workplace needs to be run more democratically (*ibid*). Under Taylor’s traditional Scientific

Management (1911) form of work organization, it is the management of the organization which creates the ideas, and controls the means and methods of all aspects of how the organization is to be run. The only function for the worker is simply to carry out the decisions made by the management (Bluestone and Bluestone, 1992).

With the lower costs but higher quality demand on products and services in the changing business environment, organizations are experiencing dramatically increased pressures for performance. Many managers hold the belief that using teams can deal with performance pressures for cost, quality and innovation (Huczczko and Hoffman, 1999).

However, many managers (especially middle level and supervisory level) hold an opposite attitude toward teams in organization. They fear it will result in thoughts that many professional and managerial positions are unnecessary and a loss of their power, status, and control. Some managers do not have trust over the teams. They believe some will take advantage of teams and will not make decisions in the best interest of the company (Huczczko and Hoffman, 1999).

3.2.4 Stages of team building and team types

Teams are not always functional from the beginning. Team members need time to become familiar with each other's strengths and weaknesses. During this process, the communication between team members may vary a lot from stage to stage, so it would be clearer to define which specific stage a team is in. The following stages have been identified in team building (Tuckman, 1965):

- A. FORMING - The "honeymoon" stage where team members are just becoming acquainted. Typically there is harmony at this time, but too much harmony too soon may mean that the team may not accomplish much later.
- B. STORMING - This is when conflicts begin as team members negotiate work assignments and express disagreement over who is to do what.

Frustratingly, this process can take some time, but it is vital for the team to learn to function.

C. **NORMING** - After a period of negotiation and discussion, the team reaches a stage where ground rules of conduct are established and members learn to work together. This is when teams begin to be productive, and a sense of team pride develops.

D. **PERFORMING** - The team has settled down into a functional team and most of the work gets done. This stage can actually be relatively short in terms of a project life cycle, as little as 25% of the total time.

There are four types of teams, namely: advice team, production team, task team and project team (Earley and Gibson, 2002). Advice teams like boards, committees, councils are either formed for a short or long period of time. The outputs of advice teams are decisions, selections, suggestions and recommendations. The integration within this kind of team is low compared to production team and project team. Production teams usually are used to arrive at manufacturing processing, retail sales, customer services, and repairs. Services are needed more than once, so the process of producing must be continuously repeated; task teams are highly different from each other, they are formed to fulfill tasks and perform events or to repeatedly when the new requirements appear or they can be easily formed. Therefore, the output are competitions, matches, expeditions, concerns, surgical operations, missions and so on. Compared to the other three, the lifespan of project teams (e.g. research teams, planning teams, working parties, task forces) is totally different. Usually one cycle is the lifespan. Team members have direct access to the source of a project and their aim is plans, designs, reports, presentations and so on. Project teams vary to each other and are not so integrated as they are mostly mission orientated. In our dissertation project team will be our research target.

Within teams people have certain roles. Team role is a tendency to behave, contribute and interrelate with others in a particular way (Belbin, 2004). We define the roles of team members according to the theory of Belbin Team Roles (*ibid*). There are 9 roles indentified according to personal skill inventory in this theory. They are: shaper, coordinator, plant, resource investigator, monitor/evaluator, implementer, team worker, completer and completer finisher.

3.3 Diversity in teams

Diversity includes a wide spectrum of facets, such as: gender, race and ethnic differences, age, religion, socio-economic status, and ability (Seyman, 2006). Increasing diversity of workforce and the increasing use of teams are two trends that are noticeable nowadays. The entry of people from different cultural backgrounds have diversified the workforce and provided incentives for creativity and competitive advantage (Milliken and Martins, 1996; Watson, Kumar, and Michaelsen, 1993). An increasingly popular hypothesis is that diversity can give you a “richness” that cannot be provided by the homogenous workforce (Jackson, 192. p.310). It is obviously very hard to describe richness as such. Some managers believe that a diverse workforce can outperform a homogenous one of comparable talent and that benefits of forming international teams are undisputable. Others say that cultural diversity represents problems such of lack of being part of the team (Millilken & Martins, 1996) which on the other hand leads to the lack of the cooperative behavior (Cox, 1991). We define diversity as a mixture of people with different team identities within the same social system. Recent reviews on the teams and teams show an increasing interest in the area of cultural and gender composition (Early and Masakowski, 2000). In our research, the culture and gender diversity would be the main issues.

3.3.1 Gender diversity, communication in teams

In the field of organizational studies, there is a big emphasis on the effect of gender relations on work group dynamics (Acker and Van Houten, 1974). Gender

is formed in the human society, especially affected by cultural factors. Gender is not a simple concept of being a men or women. It is about behavior, thinking and communication in a feminine, masculine way or combination of both (Stets, Jan and Burke, 1996). E.g. someone can be a man, but its gender is feminine. Gender, as one of the most important variables in the workplace, has gained much attention in the research field, due to the increasing number of female workforce entering organizations (Umans *et al.*, 2008). As Metcalfe and Afanassieva (2005) stress “the gender agenda is now a burgeoning area of research within the sociology of work and business literatures” (Metcalfe and Afanassieva, 2005, p. 397). Based on the constitutional principle that every citizen has both a right, and an obligation to work, women’s participation in paid employment increased rapidly during the years following the Second World War (Grapard, 1997). As a result of the changes occurred in the workplace during the last decades, women’s participation in the economic activities and in most fields of social life has increased dramatically. These transformations have led to a high level of feminization of some occupations, including those which were regarded as typically masculine, such as management (Wajcman, 1996). As *Fortune* claimed, “The best reason for believing that more women will be in charge before long is that in a ferociously competitive global economy, no company can afford to waste valuable brainpower simply because it’s wearing a skirt”. And this tendency is proved by the growing number of female participants all over the world. Gender stereotypes emphasize the male-female relationships in the workplace, influencing the ways that each gender would behave and the ways in which their behavior will be interpreted (Williams and Best, 1982). The meta-analysis conducted by Wood (1987) indicated that gender diverse teams tended to have a better performance better than the gender homogeneous teams.

It was claimed that the different ways of behavior between men and woman in gender mixed teams may be especially influenced by a group’s gender balance (Johnson and Schulman, 1989). Gender diversity impacts the team’s performance

in higher education since women tend to perform better than men (Byrne, Flood, and Willis 2001), implying that with an increased number of females could bring better performance to the group. However a gender homogeneous team will be restricted with opinion diversity thus reducing performance in a complex assignment in the complex environment (Dess and Beard 1984). However, research shows that gender diversity could influence behavior, communication and individual experience within teams, while it does not affect group performance (Smith Lovin and Brody, 1989). According to Wood (1987), gender-balanced groups would probably have more positive interaction including communication and conflict reduction, compared with predominantly male or predominantly female teams. Furthermore, Stringer (1995) states that gender-balanced teams are more consensus-seeking, that could improve communication within groups and reduce the conflict. According to Mannix and Neale (2005), the extent of the diversity in the team could positively influence effectiveness in problem solving. On the basis of these theories, we propose that:

Proposition 1 Gender diversity in teams will have a positive effect on the communication.

3.3.2 Cultural diversity, communication in teams

To thrive in the 21st century we need to practice cross cultural sensitivity and skills every day in dealing with diversity issues. But before a discussion on cultural diversity and communication can start we should begin with understanding the meaning of culture in its broadest sense. Hofstede described the term culture as “Collective Programming of the mind which distinguishes one team from another “(Hofstede 1980, p.25). His studies identified and validated four independent dimensions of national culture differences: Power distance (PD), Individualism versus Collectivism (IC), Masculinity versus Femininity (MF), and Uncertainty Avoidance (UA) (*ibid*). These dimensions demonstrated that there are national differences that affect the behavior of societies and organizations and are persistent over time. Then we have E. Hall who reminded us that:

Each cultural world operates according to its own internal dynamics, its own principle, and its own laws – written and unwritten. Any culture is primarily a system for creating; sending, storing and processing information... communication underlies everything. Culture can be linked to an enormous, subtle, extraordinary complex computer. It programs the actions and responses of every person and these programs can be mastered by anyone wishing to make the system work (Harris 2004, p. 562 quoted from Hall, E.T, 1990).

Cultural diversity is a vitality issue; it is the second after the gender diversity most visible change in the workforce (Jackson S, 1992, p 22).

In the article by Oya Aytemiz Seymen (2006), he pointed out four different views about the impact of culture diversity: 1) Views favoring the support of a cultural diversified or multicultural organization, in this stream, it is believed that a culturally mixed workforce holds a potential competitive advantage for organizations. According to defenders of this view, cultural diversity is received as a necessary, useful, Natural and cheery fact enabling an organization to feel really happy about pluralism and utilizing different human resource superiorities. (2)Views supporting the idea that superiorities and drawbacks of cultural diversity should be taken into account separately. According to this view, management of cultural diversity is the whole of the action which elevates organizational systems and applications and potential fruits of cultural diversity to the zenith, while minimizing its drawbacks. (3) Views stressing the necessity of blending cultural diversity with a dominant organization culture. Some authors see cultural diversity management as an attempt to create a common culture in which individuals from different nations and different cultures in an organization can comfortably work together and where differences are not felt. Similarly, many multinational businesses have been trying to generate a powerful organization culture so as to attain a competitive advantage. (4) Views dealing with management of cultural diversity extensively as a human resource program or strategy. There are studies

which emphasize the necessity of getting a multicultural workforce by providing in-service training programmes, with the help of those programmes, how people from different cultures view work, how or by what they are motivated, what their attitudes are, what they value, can be learned (Segmen, 2006).

Throughout the term culturally diverse teams and its impact on communication we express culture as a difference in communication (Hall, E.T. and Hall, R.M., 1990). Many cultural differences come into play that affects intercultural communication.

“Team member diversity can be defined as the distribution of differences among team members on any characteristic people might use to describe how they and another person are different” (quoted by Greer L, 2008 from Harrison & Klein, 2007; Mannix & Neale, 2005). The topic of culture diversity in teams has been addressed in numerous studies which proved that diversity of ethnical or national backgrounds impacts teamwork. “Diversity can provide teams with a wider range of viewpoints and a broader skill base” (quoted by Greer L, 2008 from Cox, Lobel, & McLeod, 1991; Walsch, 1998; Wiersema & Bantel, 1992). Performance is best within highly national heterogeneous and homogeneous teams, whereas moderately heterogeneous teams are outperformed. (Earley, Mosakowski, 2000). As a result and compared to more homogeneous teams, diverse teams are likely to disagree more about the content and issues of a task (i.e. task conflicts), but also about more personal issues that are unrelated to the task (i.e. relationship conflicts) as well as about their understanding of topics such as delegation and allocation of resources (i.e. process conflicts) (Greer L, 2008). In studies of learning teams, Watson and colleagues generally came to the conclusion that during the early stages of team life, ethnically diverse teams perform less effectively than non-diverse teams (Watson *et al.*, 1998). On the other hand, there seems to be more empirical evidence showing the opposite. Researchers who claim negative effects of cultural diversity on process and outcomes maintain that cultural diversity in teams result in interpersonal problems and communication difficulties

(Triandis, 1960), misunderstandings and threats to team cohesiveness (O' Reilly, Cardwell, and Barnett 1989). Research conducted by Shachaf (2008) showed that cultural diversity had a positive influence on decision making and a negative influence on communication. Generally, many researchers have come to the conclusion that cultural diversity has a negative effect on team process such as communication (Triandis, 1960) and result in emotional and competitive conflicts (Kirchmeyer and Cohen, 1992). Hence, these theories lead us to the following proposition:

Proposition 2 Cultural diversity in teams will have a negative effect on communication.

4. Empirical method

4.1 Research strategy

An experiment was conducted as the most suitable strategy for this dissertation. Due to the fact that communication is an abstract notion, it is quite difficult to observe and measure it by other approaches. Experiment is the easiest and clearest to observe, and it is more interesting too. An experiment usually involves the definition of a theoretical hypothesis and the selection of samples from a known population (Saunders *et al.*, 2007). By conducting an experiment we were able to observe the factors we intended to study which are culture's and gender's impact on communication. The creation of the experiment was inspired by other similar experiments conducted in Poland. We named the experiment LEK as these are the first letters of our names and in Polish the name means cure. Therefore we hoped the experiment could help to develop a cure for a better communication between genders and cultures in 21st century. Besides experiment, an interview was also conducted as well as the Belbin Test to help us gain more from different perspectives

4.1.1 Experimental method

The process of communication itself requires a vast repertoire of skills in intrapersonal and interpersonal listening, observing, speaking, analyzing, and evaluating. These skills can be measured by using observations as a tool in order to understand *how* and *why* people think and act as they do. The outcomes of the observations create powerful handles for improving communication. Due to these reasons we decided that an experiment is an appropriate method to observe communication in gender and culture diversified teams which are presented in the next chapter.

4.1.1.1 Experimental outline

The participants were divided into three teams. At the start of an experiment we introduced ourselves and explained the purpose of the experiment. We mentioned that the results of the experiment would help us with the MBA dissertation and that the experiment has to do with team work.

We stressed that the videos of the experiment was for scientific purpose only and if somebody did not agree to take part in it could still leave. We mentioned that taking part in the experiment will involve filling in the questionnaire and taking the Belbin Test. No use of toilet was allowed while the experiment took place.

The whole experiment took around 1.5 hour. The three assignments such as building the space ship interview and undertaking Belbin test were carried out separately but within the same day in the school library in a study room. We were not in the room while the process of building the space ship occurred to make the participants feel more free and comfortable. The processes of making the space ship and the following interviews were shot for the purpose of our later observations. Next chapter presents a deeper description of the experiment.

4.1.1.2 Warm-up game

We started with short introductions of everybody by themselves such as their

name, country of origin, study field, hobby etc. Then we went on with a warming up game called “first thought game” for about 10 minutes. We started with the word and each person had to quickly say the first word came to his/her mind after hearing the word. We played in the game with them for approximately 3 rounds. This game was intended for them to get used to the camera which appeared very helpful as we later observed the videos.

4.1.1.3 Choice of task

The assignment for each team was to build a space ship using the offered materials which included A4 white paper, color paper, tape, straw, clips, scissors, string, ruler, color pen, eraser and so on. We tried to confuse the participants a little bit by offering some unnecessary tools as we wanted them to communicate to a bigger extent. There’s was no criterion for the space ship except three requirements: should have three windows, three curtains and three people inside windows; should stand still for at least 15 seconds after finish; should be more than half a meter high. Each team was given one copy of clear guideline describing all of the points above.

Money was offered amounting in 200 SEK per team if the task of building the stable space ship was accomplished within 10 minutes. Every following minute would cost each team 40 SEK. The financial reward was introduced for motivational purposes. Money is considered as a strong motivator as it can stimulate people’s working desire to some extent. This part took around 15 to 20 minutes.

4.1.2 Interview and the Belbin Test

Immediately after the experiment, each of the team members was asked to stay for an interview. While one participant was being interviewed the other three moved to another room to fulfill the Belbin Test with some coffee and cookie. In the interview we shared different roles. One of us asked questions (both open and close) related to communication which were prepared as a questionnaire. The

second one took down all the answers from the interviewee as more as possible. And the third one focused on taking records of the non-verbal communication between the interviewer and interviewee. We put the questionnaire and the guideline in Appendix (See Appendix I). That way all the team members were interviewed and took the Belbin Test. These two parts of the experiment together took about 1 hour.

4.2 Data collection method

Since we wanted to explore how does cultural and gender diversity impact the communication in small size project team, we decided to use data collection in form of observations, interviews and the Belbin Test.

4.2.1 Observations

This is a qualitative research method with the aim of finding answers to our research questions. Since the purpose of this paper is to investigate the process of communication inside the teams, rather than of the outcome of each team, so the only approach for us to study is to observe what was going on during the whole process, in which way the team members behaved, how they interacted with each other, which types of language they used when they spoke to others and all these kinds of details. Analysis is based on the observations we had.

4.2.2 Interviews

Saunders *et al.* (2007) distinguish three major forms of interviews as followed:

- Structured interviews
- Semi-structured interviews
- Unstructured interviews

Structured interviews are also called standardized interviews which are used to carry out quantitative research by presenting exactly same questions in exactly same order to interviewees. All the questions in a structured are tend to be

close-ended which means interviewees have several options for each questions. This form of interview might be hard to discover beliefs, feelings or perception of the respondents, which are not already given as a possible answer (Burns, 2000). As for our experiment, we intended to look deeply into how people express their feelings instead of gaining data. Therefore we did not apply structured interviews to our research.

More semi-structured interviews are carried out compared to structured interview, because semi-structured interviews are more flexible at questions. They are likely to have both open and close questions. Researchers can focus on the crucial issues of investigations. Interviewees answer questions by their own thoughts which are easier to gain non-number information. Nevertheless, this approach has also disadvantages. It is difficult to access the comparability of the information. Therewith, the interpretation of the reality presents an important part in the analysis (Burns, 2000).

The third form of interview has the most flexibility on questions which can be changed or adapted during the process when needed. By applying this form, researchers prefer to keep the interaction between them and the interviewees as natural as possible. However, this form of free-flowing conversation requires a certain level of aplomb and experiences in qualitative research (Burns, 2000).

We chose semi-structured interview due to the limited time to watch how people act and communicate while they were interviewed by us. So, we taped the process of interview and made sure all important detail are gained. With both closed and open-ended questions more answers regarding the communication process were gathered by us from the interviewees. Furthermore, the questions of the interviews were printed out to ensure that the same questions were covered by different interviewees. This made the analysis process easier by comparing on the same questions and structuring the interview within the limited time.

4.2.3 The Belbin Test

Besides cultural and gender diversity, personality is also an important factor to impact communication. As we know, personality is hard to measure and define, so we chose the Belbin Test to identify each participant's team role. The roles can reflect personalities that we believe impact communication. Belbin Test was conducted by Meredith Belbin and his team Henley Management College in the UK in 1981. The team studied the behavior of managers from all over the world. They identified 9 team roles from different clusters of behavior. Belbin (1981) found that Team Role composition of a team could spell its success or failure. As for the experiment, it is also important to identify the team roles of participants to explore how much influence they have on communication. Everyone in the teams was required to accomplish the Belbin Test after interviewed.

4.3 Time horizon

As mentioned by Saunders *et al.* research can be designed in a form of “snapshot” or “diary” (Saunders *et al.*, 2007). The snapshot can be used in the cross sectional studies where Diary on the other hand can be referred to the longitudinal studies where change and development is studied over a period of time . The usage of the two depends on the research question.

The research conducted by us fits cross sectional time horizon criteria as we study particular phenomena at a particular time. We seek to explore the communication field deeper and check how factors such as culture and gender impact the communication process. We conduct an experiment and perform interviews over a one day period. This is therefore a cross sectional time horizon.

4.4 Population

To obtain a purpose of this study, it was necessary to choose three appropriate teams to perform the experiment. We have selected 12 business students from Kristianstad University, Sweden. Individuals were picked randomly and did not know each other to a great extent. The countries from where the students came

from were chosen randomly. We chose China for the culturally homogenous team because two members of this paper come from China and could perform the observations in further detail. We chose females as a gender homogenous team.

4.5 Sample selection

For the purpose of our research, we selected 12 business students as our experiment participants. Since we are studying business and our dissertation is also about business, it is more appropriate to recruit business students, because they have the basic knowledge in this area and they will probably work in the business field in their future career.

The 12 participants are from China, Germany, Korea, Lithuania, Ukraine and Sweden and they are divided into three teams. The first team is gender homogeneous but culture diverse, and consists of four girls, who are from China, Germany, Korea and Lithuania. We also selected two European and two Asian, to see if it is easier for people from similar culture to communicate with each other. The second team is gender diverse and culture homogeneous, four participants are from China, two females and two males, the reason for this selection is because there are two Chinese members in our dissertation team, there was no problem to understand them when the participants communicate in native language-Chinese, since we would like to observe how people from the same culture and with the same native tongue communicate. The third team is both gender and culturally mixed, we pick up two males who are from Korea and Sweden, two females from Germany and Ukraine. The nationalities of team members were chosen randomly.

- Team A: Gender homogenous, culturally mixed (4 females from 4 different countries)
- Team B: Culturally homogenous, gender mixed (4 Chinese students, 2 males and 2 females)

- Team C: Gender mixed, culturally mixed (4 different countries, 2 males and 2 females)

Table 4.5 Choice of teams

	No. 1	No. 2	No.3	No.4
Team A	Korean, F	German, F	Lithuanian, F	Chinese, F
Team B	Chinese, F	Chinese, F	Chinese, M	Chinese, M
Team C	Swedish, M	Ukrainian, F	Korean, M	German, F

4.6 Operationalization

To start this chapter we would like to quote Rubin and Babbie (2000) and their two definitions of conceptualization and operationalization. According to them “[c]onceptualization is a mental process whereby fuzzy and imprecise notions (concepts) are made more specific and precise” (Rubin and Babbie, 2000, p. 16). In our theoretical review we discussed the concepts of communication culture and gender diversity thoroughly. They further point out that “[o]perationalization is one step beyond conceptualization. It is a process of developing operational definitions” (Rubin and Babbie, 2000, p. 16).

4.6.1 Operational definitions

Our operational definitions will refer strictly to the specific definitions taken from the extensive literature review in terms of cultural, gender and communication.

4.6.1.1 Culture

Culture means “Collective programming of the mind which distinguishes one

team from another” (Hofstede, 1980, p.25). Four dimensions such as Power distance (PD), Individualism versus Collectivism (IC), Masculinity versus Femininity (MF), and Uncertainty Avoidance (UA) help to measure how cultural diversity affects communication. (*ibid*) These dimensions demonstrate that the national cultural groupings affect the behavior of teams and societies and are persistent over time (Powell, 2006).

4.6.1.2 Gender

Gender means an individual's "psychological type". An individual can be regarded as either masculine or feminine. Sex, on the other hand, means physical male or female. Encyclopedia Britannica (2007) defines that gender identity is "an individual's self-conception of being male or female, which is distinguished from biological sex. However, in our experiment gender only refers to physical definition of sex. We want to make it clear by applying gender instead of sex.

4.6.1.3 Communication

We follow the definition of communication by Charles Conrad (1994) who defined the communication as a “process through which people, acting together, create, sustain, and manage meanings through the use of verbal and non verbal signs and symbols within a particular context. It is important to clearly set five variables that will allow us to observe the communication process properly.

Communication climate

Communication Climate reflects communication in both the organizational and personal levels. On one hand, it includes items such as the extent to which communication in the organization motivates and stimulates workers to meet organizational goals and the extent to which it makes them identify with the organization. On the other hand, it includes estimates of whether or not people's attitudes toward communicating are healthy in the organization (Clampitt, 1988). And in our experiment, we observe communication climate from following

aspects: the willingness of team members to communicate; the atmosphere within the whole team; the manner and attitude of team members when they communicate with each other.

Communication frequency

Communication frequency indicates how often the people working in a team interact with each other. When we look at this index for the analysis of our research, we check both verbal and non-verbal communication, how often do they talk with each other to express their opinions, and how often do they just use their body language and face expressions to show the agreement or disagreement with others

Integration

By integration of people in a team we mean allowing each member of a team to contribute to the given assignment. It is to understand each other opinions. Communication should be integrated right into the core processes of a team in order to improve speed and efficiency. An integrated team will achieve improvements by developing the space ship and by adopting the behaviors to support and reinforce visible collaboration. This in turn should lead to the eliminations' of waste, duplication and unnecessary procedures and processes. We will look at determination to achieve the goal, excitement, encouragement and willingness. We will see if the why becomes why not and the cannot becomes can. The problems and ideas should be elaborated upon an not hidden. To discuss them will be no a blame but rather a reason to compromise. These skills will be observed in each team.

Interaction

In the interaction process we checked who talks to whom in a team in our experiment. For example, in the gender homogeneous culturally mixed team, the girls from European negotiated more to each other than to girls from Asia. And

the Asia girls were more likely to listen to the orders from someone else instead of talking to them. Moreover, we observed non-verbal communication in this process which contains eye contact, body language or posture, gesture, facial expression, etc.

Conflict

Webster's dictionary defines conflict as a sharp disagreement or opposition of interests or ideas. Whenever people work in a team together, conflict is inevitable. Hereby, we use the term "conflict" to see if team members had conflicting views, different opinions, and their attitude towards these conflicts, and the way they solved the problems. The reasons for conflict will be checked looking at criteria of:

- Poor Communication: the different styles of communication may impact the misunderstandings between participants.
- Different Values: teams are made up of individuals who see the world differently due to culture and gender diversity. Conflict may occur when there is a lack of acceptance and understanding of these different values.
- Personality Clashes: teams are made up of differing personalities. Members need to understand and accept each other's approach to work and problem-solving, otherwise conflict is possible.
- Differing Interests: conflict may occur when individuals pursue their personal goals.

All of the above criteria were used to construct the final interview in which we asked questions whether respondents agree with various statements. For example: Were you satisfied with the team work? The answers ranged on the scale of 5 from *definitely yes* to *definitely no*. We used the interview to conduct the research in a proper manner. It allowed us to observe the reactions as oppose to just respondents filling in the answers by themselves.

4.6.1.4 Team roles

Team roles may be important in the communication process. We intended to

measure if roles have any influence on the way people interact. To explore how much influence team roles have on communication, Belbin Test was used. It identified 9 team roles from different clusters of behavior. The composition of a team could impact communication to the extent of overall success or failure of the team work. In the experiment identification of the team roles of participants was evaluated. Everyone in the teams was required to accomplish the Belbin Test after being interviewed. Belbin proposed nine team roles required for successful teams:

Action	Social	Thinking
Completer Finisher	Coordinator	Motivator Evaluator
Implementer	Resource Investigator	Plant
Shaper	Team Worker	Specialist

Figure 4.5 Belbin's nine team roles, Available at: <http://www.belbin.com/rte.asp?id=3> [accessed on 2008-10-27]

4.7 Data analysis

Before we could start our analysis we had to sort and unitize our collected data from the experiment (Saunders *et al.*, 2007). During the experiment process, we took a video of the space ship building and proceeded with interviews. Moreover, one of us focused on observing the participants behavior, which was to ensure nonverbal communication was observed, while the other two were asking questions. The printed questionnaire was an important part for the data analysis and made the interview more interesting and specific.

It is not easy to gain data from observations, interview and Belbin Test. Therefore, we created five measurements to analyze communication namely: communication climate, communication frequency, integration, interaction and conflict. Based on these five measurements, communication was ranked stars from one to five.

4.8 Credibility of the Research Findings

We have described the method we used to obtain a profound data base for further analysis. When conducting the experiment and the oral questionnaire a number of data quality issues such as reliability, validity and generalisability have to be emphasised. In reality there are many problems associated with empirical evaluations. This is due to the transfer of the developed theory through empirical testing into reality. Some observations and questions are very difficult to operationalize and so the picture can be easily distorted.

4.8.1 Reliability

According to Saunders (2007) “[r]eliability is a degree to which data collection will yield consistent findings, similar observations would be made or reached by other research or there is a transparency in how sense was made from the raw data” (Saunders, 2007).

The main problem which concerns reliability is whether different participants would reveal the same behaviour during the experiment and if they would provide the same answers to the oral questionnaire. The first problem appears with questions that can be misinterpreted by the participants and given answers will not reflect reality. Also the participants could also change their opinion after some time from the experiment. Second possible bias exists with regards to interviewers. It is possible that while conducting the experiment we as interviewers may create bias with their tone of voice, comments and non verbal communication, although we tried to ask the questions in neutral way.

Due to limited time we were unable to repeat the experiment on different

participants. Due to the above mentioned the reliability of our tests is rather low.

4.8.2 Validity

Saunders claims that “validity is concerned with whether the findings are really what they appear to be about” (Saunders *et al*, 2002, p.101). High validity is expected when the operationalization is correct and the intended variables are measured.

The validity of the experiment could be threatened by the fact that we might have had an influence on the interpretation of their observations. However, we tried to keep the validity of the experiment at a very high standard as we controlled and prepared for the experiment to a high degree.

As far as the oral questionnaire is concerned its purpose was to find out how people felt after the experiment. To reach our aim we conducted the oral questionnaire. We then could easily see participant’s reactions to the questions. We decided to invite the participant separately to the room to avoid team pressure and to avoid influencing each other answers. Also, the validity of the data can be possibly influenced by the sensitivity of the topic and the fact that people wanted to choose the most appropriate answer and not the most truthful one.

Although the validity could have shortcomings we feel that the through extensive controlling the oral questionnaire negative factors were eliminated.

4.8.3 Generalisability

We can talk about generalisability if the study can be generalized to a larger population and the extent to which it can be done. To generalize the study, the sample has to represent the whole population (Saunders *et al*, 2007).

Due to a small sample of the experiment and the oral questionnaire, the result could not be generalized and we were unable to definitely state whether the propositions were supported or not. The selection the participants does not meet the generalisability criteria as we cannot assume that 12 individuals are

representative for their culture. However, the behaviour at the experiment can to some extent support or reject the propositions as we believe that people from similar cultural background and gender would act in similar ways.

5. Analysis

This chapter consists of three sections: raw data from the experiment, interview and the Belbin test. A detail analysis of each of the three data is then presented in the cross sectional analysis. Last conclusions of the analysis are elaborated upon.

5.1 Experiment data

The observations from the experiment are presented below, followed by a careful examination at the end.

5.1.1 Experiment observations

Team A: this is a gender homogenous, culturally mixed team consisting of four females from four different countries: participant No.1 from Korea, participant No.2 from Germany, participant No.3 from Lithuania and participant No.4 from China. As we observed from the video tape, this team had a very good start; they did not waste any time to wonder. And they easily come up with an agreement of how the spaceship should be like. And during the process, No.3 participant who is from Lithuania became the team leader voluntarily, and she explained her method of how to make this ship which was quite accepted by other participants, and they understood her idea rather well. Their idea is brilliant and simple but meets all the requirements. They decided to use the paper to make a round column as the body of the space ship, and twisted another paper into a cone as the top part of the ship. Afterwards, they divided the assignment and each team member took care of some parts. No.1 took charge of the spacemen, she drew and cut them into the shapes of spacemen; No.2 made the ship body and the top part as well; No.3 carved the windows and she also coordinated the whole process as a responsible

leader; No.4 made the curtains and some other details. During the whole process, it is very obvious that the two European girls had more communication with each other, and two Asian girls focused more on their work with less talk. All the team members did not have any conflicts or disagreements, everything went rather smoothly, and the communication was effective and efficient. Finally, they made the ship with the time of 13minutes, which is three minutes over our defined time, according to the rule; they still got some amount of the bonus.

Team B: it is a culture homogeneous but gender diverse team, and the four team members are all from China, participants No.1 and No.2 are female, while No.3 and No.4 are male. When we told them they would get the bonus if they could finish the task in time, they were really surprised and excited about it. They started the task with a small discussion, and during that, there were different voices about how the ship should look like, and how to make it. Finally, they followed the idea that was shared by two participants, “the minority obeys the majority’s idea” is a very traditional notion embedded in the Chinese culture. They decided to make the “spaceship” into a “ship”, with a big “tent” sticking to the two sides of the ship, which really looks like a traditional Chinese boat. Like what the first team did, they also divided the task into several parts, and everyone took some responsibility. As we found in the tape, participant No.1 was making one side of the tent, she stuck two pieces paper together and used a straw as the bone to support it; No.2 folded a piece of paper into the shape of a ship, which every Chinese kid learns from the art class at school; participant No.3 focused on drawing “spacemen”, while participant No.4 also helped with the other side of the tent. When we watched the video tape, it is very interesting to find out that, participant No.2 and participant No.4 both tried to be the team leader, which happened to be one female and one male. They were both talkative and had many ideas, and they tried to give others advices, while others were not quite responsive, they only focused on what they were doing. So sometimes they were more like self-talking. The female leader and the male leader did not agree with each others’

ideas very much; it seems they had a “competition”. When they thought they had finished, they read the guideline and found out that they did not make the windows, and that made them quite panic, and then participant No.2 became a real leader, she came up with the idea and made it. In the whole process, they did not have much communication, most of the time they were just working instead of talking, and it is obvious to see that male and female communicated more than that between the same genders. Although the communication in this team was less than the first one, but it is also quite effective, team members understood each other very well, and their “spaceship” is more complicated and delicate, but they did not make it in time, since it took 16minutes, and according to our rule, they could not get any bonus.

Team C: it is a very interesting team, which is both culture and gender diverse. The four team members are: participant No.1, male, from Sweden; participant No.2, female, from Ukraine; participant No.3, male, from Korea and participant No.4, female, from Germany. This rather diversified team is doomed to be difficult for all the team members; they even had a quite difficult start. They discussed together for a couple minutes without any achievements, they did not come up with a clear idea of how to make this spaceship, especially about how to make the three spacemen. And participant No.2, who is from Ukraine had a very creative idea, she suggested that three of the team members could pretend to be the spacemen, showing their face through the windows of the ship, and of course it was rejected by others, since it was not feasible. And participant No.1 came up with the idea which was the same with team1 had, which was to make a column as the ship body, but participant No.2 jumped up and claimed she had a great idea, she was twisting a piece of paper into column while she was speaking. Her idea was to make four columns as the legs of the ship, and others followed. After finishing four legs, they met another bottleneck; they did not know how to carry it on. Some members proposed some advices, but none was accepted by others. At this moment, participant No.2 came up with another extremely creative idea, she

thought the spaceship should stay in the “space” instead of standing on the table, therefore, she insisted to hang it up with a string. She did not wait for others’ approval, and started her “space project”; others followed again without any other choice. While it was going on, others realized that this did not meet the game rule, and they finally decided to land the spaceship again, although participant No.2 was a little a bit unwilling. Participant No.1 checked the time, and reminded others that time was limited, and it made the whole stressed, they made the curtains and drew the “spacemen” quite roughly. Even though, they weren’t able to make it in time, and therefore they could not get any reward. As we observed from the tape, the communication within this team did not go very fluently, although they did not have any conflicts, but they did not understand each other quite well. And obviously, participant No.2 is the team leader, but she was too creative for this project. Besides her, other team members did not have enough effective interaction with each other.

5.1.2 Experimental analysis

In this chapter we analyze the process of our experiment, focusing on the communication within the three different teams, and to measure how the culture and gender factors impact the communication.

Table 5.1.2 (1) Star Ranking

1 ★	2 ★	3 ★	4 ★	5 ★
Very bad	Bad	Satisfactory	Good	Very good

Our analysis is based on the five measurements which are elaborated as communication climate, communication frequency, integration, interaction and conflict in the former chapter, and we rank teams with stars in each category. As showed in the above table, in the category of communication climate, five-star

suggests that the atmosphere is very harmonious, and the willingness of team members to communicate is rather strong, and the way they talk is appropriate and polite. Four-star reflects the climate is generally good, but there might be some little problems. Three-star is given when the communication climate is satisfactory, but there exist some obvious problems. Two-star for this category suggests the communication is in a bad atmosphere, members don't want to interact, one-star is given for the communication which is totally unacceptable. In the category of communication frequency, five-star means the frequency in the team is very high, team members communicate most of the time. Four-star suggests that the frequency is high, members communicate a lot. Three-star reflects the frequency is satisfactory but not very high. Two-star is given when the frequency of communication is low. And one star reflects that there is barely any communication in the team. For the interaction category, five-star is given the interaction between members is extremely good, every member would like to communicate with each other. Four-star means the interaction is rather good, but the interaction is not mutual enough. Three-star suggests the interaction is satisfactory, but the interaction is confined within smaller groups inside the team. Two-star is given to the team which has a bad interaction. One star suggests that there is no interaction between members at all. In the category of integration, five-star suggests the team has a perfect integration, members cooperate with each other extremely well, and the process of team work flows fluently. Four-star is given when its integration is rather good, although still some little problems. Three-star reflects a satisfactory integration, but there are many problems existing. Two-star suggests that the team doesn't integrate so well, members can not work together and help each other. One-star means there is no integration in the team, members don't cooperate at all. As to the category of conflict, the rank is totally opposite, five-star is given the team rarely has conflicts, or very little conflicts but well-solved. Four-star suggests there are some conflicts, but they do not affect the performance of the whole team. Three-star reflects the conflicts in the team are quite obvious but members still afford effort to solve it. Two-star shows that the

conflict is rather big, and members failed to solve it. One-star is given to the team whose members are not willing to work together at all, and the conflict is impossible to solve.

Team A: As we described above, this is a gender homogeneous and culture diverse team, with four female members from China, Germany, Korea and Lithuania.

Communication climate

According to what we observed from the video tape we took, this team had a very good communication climate. From the very beginning, every team member participated in the mission actively, they discussed how the spaceship should be like, and each one spoke out their ideas, soon they came up with the agreement of how to make the ship, and also a team leader, participant No.3 who is from Lithuania. After they divided their task, each member was responsible for some parts; the interaction between each other was obviously reduced. And more often the communication was between team leader and each team member. Every member asked the leader for opinions when finished one step, and the leader kept giving suggestions on how they should carry it on. As we can tell from the video, participant No.3 was a competent leader with good leading skills, she made a very easy and relaxing atmosphere with her humor, and everyone was willing to communicate with her sense of humor. And we also see that the two European girls communicate more easily and fluently, while the communication between European girls and Asian girls was more stressed and more formal. According to Triandis (1960), culture diversity in teams results in interpersonal problems and communication difficulties (Triandis, 1960), although in our case, there was not any problems, but it is clear that, people from same or similar cultures may communicate better. Besides, it is obvious to see that two European girls talked much more than the Asian girls, according to Hofstede's (1980) theory that people with western culture background are more open and direct to express themselves, while people from the eastern countries are more humble and implicit. Generally

speaking, the whole team interacted fairly well, everybody was willing to share ideas and express themselves in an appropriate way within a relaxing atmosphere. And we raked them four stars for the communication climate.

Communication frequency

In this part we focused on the frequency of interaction between the team members. As we described above, the members in this team were quite willing to communicate with each other, and also they communicated very often. At the beginning, they had a discussion about the procedure, and during this short meeting, everyone acted positively, although they were not familiar with each other before, they talked and laughed all the time, probably it is because all of them are girls, and they felt easier to get relaxed and act more naturally. After they divided the task, they still kept the communication, but it became more monodirectional, which means the communication is between two people instead of team, and mostly between the team leader, participant No.3 and the other team members. And we can see that, the frequency between No.2 and No.3 who are both from Europe was much higher, and No.1 and No.4 who are both from Asia rarely had communication with each other. Furthermore, the conversation between European and Asian girls was usually started by the former ones, while Asian girls had more nonverbal communication, such as smile, nodding; European girls were more likely to offer advices and encouragements, while Asian girls often asked for suggestions and agreements. According to our observations European females are more independent and more active while Asian females are more dependent and passive. Yet, the communication within this team was kept very well during the whole process, and remained a high frequency, but the communication in the later stage was confined to one on one interaction, hence we gave them three stars for the ranking.

Integration

To analyze integration, we looked into the following aspects: if the team members

share the same goal when they worked together in the team; if the members understood each others' ideas within the team; if they cooperated with each other during the task; how they compromised with each other when they had different opinions. The goal of team was quite clear at the very beginning and that was to accomplish the spaceship as soon as possible. This goal was shared by every team member. As the process went on, they realized that it was difficult to finish the task within the given time. There were also two different goals, as participant No.2 wanted to make the ship meet all the requirements we gave them, and participant No.3 insisted to make it as soon as possible so that they could finish in time. The two Asian girls did not express their opinions clearly. Next we came to see if they understood each other, since they all spoke fairly good English, so there was no language problem. During their discussion, everyone expressed their ideas about how to make a spaceship, and they easily got the ideas of each other. When they separate the task, they knew exactly what they should do, and what others were doing, which made this team very efficient. And the cooperation within the team was also quite satisfying. Although they divided the task, when some member met some problem, others managed to help her, also we can see the collaboration from some very small details. For example, someone was using the sticky tape, and the other one would help her to cut it with the scissors. As to the compromise of each other, actually we found that there were seldom different voices, since this team had a very strong team leader. She always persuaded other members to follow her ideas, except participant No.2 objected her idea about finishing with the given time without quality, and the leader compromised. Finally they made a qualified spaceship with three minutes over the given time, but they still got some reward. All in all, the integration of this team was rather good, and working atmosphere was quite harmonious, therefore, we ranked them four-star for this index.

Interaction

In the interaction process all the females were open towards each other. They were

facing each other while discussing how to tackle the project. Some cultural differences were observed while looking at the process of the communication among the members of the gender homogenous team which we elaborate upon.

During the brainstorming stage, the interaction appeared that every member participated in the discussion actively and expressed their opinions. However, clearly the female No. 3 from Lithuania took a lead. She spoke to everyone as a leader. Others followed and mostly they agreed to what she suggested. Leader asked question for approval. Female No.2 from Germany made suggestion that supplemented the point of Lithuanian female. In Germany and Lithuania people stress personal achievements and individual rights (Hofstede 1980). Team work is important, but everybody has the right of his own opinion. In the individualistic countries people tend to have more loose relationships than countries where there is collectivism where people have large extended families such as China and South Korea. According to Hofstede (1980) South Koreans are comfortable in teams, as a collectivist society. The individual's desires are subordinated for the goals of the team. The larger the team the more comfortable participants feel.

Medium individualistic culture brought German and Lithuanian females to tighter cooperation while deciding upon what has to be done. At the same time two Asian females listened carefully without saying much. They relied on the instructions from superiors.

After the tasks were divided, the interaction was sharply reduced, most of the conversations were initiated by participant No.2 from Germany and No.3 from Lithuania. After discussion everyone started to work separately. The interaction was much more visible between No.2 and Mo.3 than between them and Asian females.

Chinese female No.4 followed what Lithuanian suggested. German female never talked to Chinese. Chinese female No. 4 was always watching what has been discussed, while South Korean No. 1 carried on with her task. Chinese female

didn't say much, waited for the order to follow and when she has received the task to be performed she made it. South Korean female behaved similar. She looked at the leader when she spoke up. On the other hand when South Korean female tried to say something while the process of building the part she was cut off. Hofstede (1980) ranked South Korea quite highly on his Uncertainty Avoidance scale of cultural dimensions. Criticism of experts is minimal, so the acceptance of the status quo is preferred. Also new ideas and innovations in the High uncertainty avoidance culture need time to be introduced.

Clearly Asian girls were more likely to listen to the orders from someone else instead of talking to the team members. Chinese and Korean females were just doing what was expected from them, did not listen, just busy performing the task. While Lithuanian and German discussed the problem, thought of the next step and talked to each other nonstop. Chinese asked Lithuanian for advice, asked what color should she use. Clear confirmation needed from the team member. Lithuanian female had a lot of eye contact with German. When South Korean female finished drawing which was her task, she became involved and wanted to help as much as possible at the end. Finishing touch definitely belonged to her as her culture is placed high on the nurturing end of the scale of national culture (Kim, 2000).

Due to the fact that interaction was quite feasible, we rank them a three-star.

Conflict

In this part, we checked how fluent the communication was in the team work, if they had met any conflicts and how they dealt with it. In fact there was no obvious conflict in this team, except participant No.2 and No.3 had difference on the quality or the time as we mentioned in the former part. Participant No.3 as the team leader reminded other members of the time limit five times as we counted from the video. When she said "this is the last one, faster!", participant No.2 responded "No stress!". While the two Asian girls did not express any discontent

towards that. As we all know that German people are famous for their strict requirements of quality, and in our case, participant No.2 who is from Germany insisted to make the ship meet all the set requirements, even though they could not make it in time, this is very typical German character. And the Asian girls expressed their discontent with silence, because Asian people usually express themselves in a indirect way, especially when they have different opinions. Anyway this small conflict was well solved with the compromise of No.3, and they finished the task with a good quality but extra time. So generally speaking, the conflict in this team was trivial and solved fairly well, so we gave them a rank of four-star.

Table 5.1.2 (2) Star Ranking of Team A

	CC ²	CF ³	INTG ⁴	INTR ⁵	CON ⁶
Team A	4 ★	3 ★	4 ★	4 ★	4 ★

Team B: this is a culture homogeneous and gender diverse team, and two male and two female participants are all from China.

Communication climate

Overall speaking, the communication climate in this team was quite relaxing and the communication was quite informal, since every team member is from the same country and speaks the same native language. We found that, at the very beginning, participant No.1 moved her chair to another place. Since all the chairs were put in the certain places, so that the video camera could take the best film.

² CC: Communication climate

³ CF: Communication frequency

⁴ INTG: Integration

⁵ INTR: Interaction

⁶ CON: Conflict

Only in this team, people changed their seats, which suggested that team members behaved rather relaxed and felt at ease in this team. At the brainstorm stage, the communication appeared a little bit chaotic. Everybody was talking and nobody was really listening to others, which is a typical Chinese cultural phenomenon. When people especially young people discuss in a informal circumstance, they are usually more anxious to express themselves than to listen to other voices. The chaos lasted for around 1 minute, till participant No.4 said “your ideas are too complex, I know how to make it”. He explained his idea. But participant No.2 and 3 rejected it, because they insisted that “spaceship” should look like a ship. So they decided to make a ship, since this idea was approved by the majority, and they divided the task as well. When they began to work on their own tasks, the team suddenly became silently, everybody just focus on their own piece and seldom asked for advices from other members. While they were producing the spaceship, they started a chat unrelated to the task, but about daily life and study, which showed us again how relaxing the atmosphere was in this team. When we made the observations from the video, there was something surprised us. As we mentioned in team A, Asian people usually express their opinions in an indirect way, especially when they object someone, but in this team, participant No.4 criticized other members sometimes in a quite straight way, even a little impolite. Hereby we conclude it to the personality reason. Generally, the communication in this team was informal, which we can also tell from the language pattern they used. The atmosphere was very relaxing. But team members did not communicate as much as Team A did, so we put them in the rank of three-star.

Communication frequency

Compared to the team A, the verbal communication frequency was much lower in this team. They started the task with a team discussion; every member was active and spoke out their own ideas. Afterwards, they came up with idea of how to make the spaceship, and divided the mission, and after that, it is obvious to see the whole team became so quiet. Everybody was concentrating on their own jobs. The

same as team A, this team also had team leader, not only one, but two, participant No.2 and No.4, which are one female and one male, they both tried to coordinate the team pace, give advices and instructions. During the whole process, the conversations were mostly started by them two. There was a quite interesting phenomenon for us to see, which was when they gave suggestions to the team members, others did not respond actively. When they agreed, they just nodded, or with a sound “en”, Chinese people usually say that word when the answer is positive, and when they did not agree, they just pretended not to hear it and continued with what they were doing. We ascribe this to the reason that since they are all from the same country, they don't have to consider the “national image”. When people are from different countries, especially when they are unfamiliar with each other, they usually behave and talk in a very formal and polite way, so they won't ruin their national images. And another interesting thing was, participant No.1 and No.3 had a free chat about study which had nothing to do with the task, it is a very typical way of accosting for Chinese young people when they don't know each other. From the tape, we can also see that, the conversation between opposite genders were much more than that between same genders. Generally speaking, the verbal communication was quite limited in thus team, they had more nonverbal communication, but overall, the communication frequency was relatively low, so we rank this team a two-star.

Integration

Like what we have done with the analysis in team A, we still focused on the following aspects: the team goal; the understanding among team members; the cooperation within the team. As a project team, they definitely had a specific goal to achieve, that was to finish the mission and got the reward, and during the whole process, this was always the aim for all the team members to fight. Since all the team members are from China, so no doubt that they communicated with each other in Chinese, and there was no language problem at all. Although they understood each other's language perfectly, it doesn't necessarily mean they

understood each other's ideas. At the discussion stage, they came up with a method of making the ship, but when they put it into "production", some member made it totally different from what others expected. As we have mentioned in the last paragraph, during the process of making, members seldom had communication, so when they discovered the mistake, it was already too late to do anything. We suggest that since they are from the same country, they were rather sure of understanding each other, and it was unnecessary to confirm every step with other members, but it turned out that they did not really understand each other. Of course, most of time, they understood each other very well; sometimes they did not even need language, just a gesture or a blink could make everything clear. As to the cooperation, it was just like what we presumed, it was quite unsatisfactory, every team member just focused on their work, they did not ask for advices or agreements, let alone offer help to others. This is embedded in the Chinese culture, once a Chinese sociologist said that Chinese people are born with the lack of team spirit. Considering all these factors, we found out that the integration in this homogeneous team was not as good as we expected, and we can only offer them a three-star.

Interaction

At the brainstorm stage, the interaction in the team was quite mutual; every member participated in the discussion actively and expressed their opinions. After they divided the task, the interaction was sharply reduced. Most of the conversations were initiated by participant No.2 and No.4, but they did not get any positive responses and the reason we have analyzed in the former chapters. And we found out that the interaction was more between male and female than that between the same genders. It was probably because they thought it was easier to communicate with opposite genders, as there is a Chinese proverb saying that: men never feel tired when they work with women. Even though, the interaction was really limited, so we rank them a three-star.

Conflict

In this team we observed conflicts between participant No.2 and No.4. As we described above, both participant No.2 and No.3 tried to be the leader of this team, and they held different ideas of how to complete the assignment. At the first place, participant No.4 proposed a method, but rejected by No.2 and No.3, and they two came up with another idea which was adopted by the team. During the process of making, No.4 tried to give some advices to No.2, but with a demanding tone, which sounds a bit offensive. Hence No.2 did not have any response and just continued with her own way. Since then the interaction between them stopped. Obviously, No.4 did not mean to aim at No.2, since he spoke to others with the same type of demanding tone, which sounds quite impolite, especially when people don't know each other well. So we ascribe this to the personality factors. And when it came to the end, the time was very limited, and No.2 was so stressed that she urged No.1 to hurry up with her work. What surprised us was she suddenly snatched the part which No.1 was doing, and said "let me fix it!", No.1 was apparently shocked, but she did not say anything, since she sat back to the camera, we cannot see the expressions on her face, assembly offended. We think that because they are from the same country, they don't have to worry about the reputation, therefore they did not care so much about the manners of talking and behaving, they just concentrated with the achievement of the goal. But sometimes it could bring the disharmony to the whole team, which would affect the performance of the team. In views of all these facts, this team did have some conflicts and wasn't able to solve it, thus we rank them as two-star.

Table 5.1.2 (3) Star Ranking of Team B

	CC ⁷	CF ⁸	INTG ⁹	INTR ¹⁰	CON ¹¹
Team B	3 ★	2 ★	3 ★	3 ★	2 ★

Team C

This is the both gender and culturally mixed team: Swedish male, Ukrainian female, Korean male and German female.

Communication climate

There was a discussion on how the spaceship should look like before they started. Ukrainian girl spoke her idea immediately after they started. Swedish boy and German girl firstly agreed with her. Korean boy didn't have eye contact with her, instead he looked at the guideline but he agreed with what she said. The communication atmosphere was good at the beginning except the Ukrainian girl who was too addicted to her own thought to listen to her team members. The Ukrainian girl acted very independently and had a lot of body languages to force the others. She immersed in her own world of imagination and thought deeply. She insisted on her idea from the beginning to the end. When they meet problem, she tried to think out ways to solve instead gave another proposal. However, she was still very willing to communicate with the others to express her ideas. Actually she's good at conversation. However, she didn't communicate well with team members. Compared to her, the Swedish boy did not want to communicate with his members so much. He did not agree with Ukrainian girl but he did not

⁷ CC: Communication climate

⁸ CF: Communication frequency

⁹ INTG: Integration

¹⁰ INTR: Interaction

¹¹ CON: Conflict

reject her strongly. Just as he said “it doesn’t matter. But it’s a good idea to have the face”. Later, he only discussed with the German girl when the Ukrainian girl insisted on hanging the space ship. He was a good listener and can see if the suggestion was feasible or not. He was quiet most of the time. When he spoke he tried to be polite. As the only Asian boy, No.3 acted in typical Asian style. He did not discuss actively but involved in the discussion. He is rational and thought carefully before speak and didn’t have eye-contact with the speaker so much. He pointed out carefully that the spaceship should stand by itself after he read the guideline. His communication within the team was quite good. When he spoke, the whole team can listen to him. As to the German girl who didn’t think so much as the Ukrainian girl, followed the right suggestion that she thought was right. Compared to the two boys, she paid more patience on Ukrainian girl even after the advice was rejected by the team. She laughed a lot which created a comfortable atmosphere.

During the whole process, there were a lot of conflicts between each other. The Ukrainian girl insisted on herself and didn’t listen to team members so much. The others always criticized her. They didn’t agree on her and didn’t communicate well with her. Later they cut off the rope and this frustrated the Ukrainian girl. To us, it’s because they did communicate enough. In our opinion, there was even a conversation which looked like blame from No.1 to No. 3. However, the attitudes towards each other were quite good. Therefore, we ranked two-star for communication climate.

Communication frequency

By communication frequency, we checked both the verbal and nonverbal communication. They communicate with each other very often especially the Ukrainian female. However, as a team their communication frequency was not so satisfied because the Ukrainian female and the other three seemed separated even she involved in the process very well. When they discussed on how the space ship

should look like, the Ukrainian female used both conversations and gesture and the others listened to her. But when her idea was rejected by the other three, she kept silent and the other three communicated without her. Then she suggested to put the space ship into the air by hanging it with the rope. The German female just smiled to express disagreement. The Korean kept quiet and the Swedish continued on what was on their hands. They didn't communicate with her in this stage. We can see clearly from the video that when the Ukrainian stood up to express herself, the team came to an agreement again. They interacted well with each other for a moment. However, shortly after the Korean also stood up the same situation appeared again: the Ukrainian and the others three were separated. They did not seem to be willing to communicate with her and did not even look at her. They helped each other when needed within the process. The Ukrainian female expressed unhappiness on the face. When it came to making the windows, they interacted very well. They communicated with each other very often and tried to compromise. We rank the communication frequency three-star.

Integration

Participants within this team are from different countries but it is not difficult to understand each other because they use the same language. During the whole process, they understood each other's ideas. Though the Ukrainian female's imagination beyond the other's expectation on the space ship, they still can understand what she meant. For the other three, it was obvious that they got each other's idea clearly. The Ukrainian female had a lot of new ideas and imaginations which were not accepted by her team members. She insisted on her design for the space ship and made adjustments to it every time when they refused it. Unfortunately, the unnecessary procedures led to conflicts and waste of time. In general, she didn't contribute to the given assignment as we can see from the video. The process itself was very slow and without efficiency compared to the other teams. They didn't pay attention to the time only one member of them mentioned it. They duplicated the legs again and again with interruption from

everyone within the team. A lot of unnecessary procedures were undertaken. However, their determination to achieve the goal was a main impetus to accomplish the assignment but they are not excited when they face this task and they didn't encourage each other when facing problems. An integrated team should achieve improvements by developing the space ship and by adopting the behaviors to support and reinforce visible collaboration. According to what we observed from the video, neither did this team develop the space ship well to adapt to the criteria nor did strongly collaborate during the process. Therefore, we rank two-star in this aspect for Team C.

Interaction

We refer to non-verbal communication and who talks to whom by the measurement of interaction. Therefore, we mainly focused on these two aspects in the analysis of this section. Due to the "outstanding" Ukrainian female, the whole team's interaction seemed very obvious to us. The Ukrainian tried to communicate with everyone to express her thought which proved unsuccessfully. The German female followed the right suggestions and made every step to accomplish the assignment. She mostly looked into the guide line and followed it strictly. She didn't talk to the others very much. He actually played a very important role in the process even though he didn't communicate to the others and defend for his own thoughts too much. The most non-verbal communication can be seen from the standing posture of the two team members: the Ukrainian and the Korean. All the three team's non-verbal communication was normal. But, two member's standing posture to express themselves and the Ukrainian facial expression when she expressed herself unhappy in this team was quite different from the other two teams. Considering the two aspects together, we rank three-star for interaction.

Conflict

Compared to the other two teams, this team had the most tough communication environment and much more conflicts due to the mixed culture and genders. Conflicts did not arise from many different opinions but from the Ukrainian female's unaccepted thoughts by the other three and her insistence on her proposals. The other three tried to explain and persuade the Ukrainian. They were not willing to communicate with her so much after several times. The Ukrainian did not want to accept the other's suggestions and lost in her own thought. She always thought about something and nobody agreed. The whole process was very slow and full of disagreements. The personality here played a key issue to cause the conflict. When they faced problems such as how to make windows, they can deal it together and help each other. For the above analysis, we rank the conflict one- star.

Table 5.1.2 (4) Star Ranking of Team C

	CC ¹²	CF ¹³	INTG ¹⁴	INTR ¹⁵	CON ¹⁶
Team C	2 ★	3 ★	2 ★	3 ★	1 ★

5.2 Interview Data

The interview method is introduced and the design of the interview is presented. The numerical data of each question is described. A careful examination is

¹² CC: Communication climate

¹³ CF: Communication frequency

¹⁴ INTG: Integration

¹⁵ INTR: Interaction

¹⁶ CON: Conflict

presented at the end.

5.2.1 Selection

The oral questionnaire in a form of interview was performed among the participants of the experiment. Each three teams consisting of four students participated giving the total amount of 12 students. Individuals who study business were picked randomly with the preference of not knowing each other very well.

5.2.2 Interview Design

The questions in the interview (see Appendix II) were of two different kinds; one kind was closed questions where participants could choose between various options and the other kind was open questions. In some closed questions the participants could choose in the scale of five from *definitely yes* to *definitely no* or from *very good* to *bad*. Some other questions such as the preference of work with certain gender and culture had a scale of three.

The questions in the interview were based on the experiment and how the participants felt about the communication process. The questions were based on the criteria that we have set ourselves based on the assumptions on how to measure communication. With the help of the interview we generalized about the cultures and gender impact on communication. We asked the question in a manner to get an impression of what participants felt during the experiment. All this was done to test if our two propositions were correct or not.

5.2.3 Interview Results

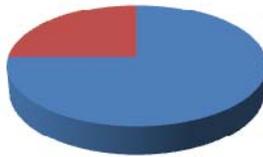
In this section, raw data of the interview is given consisting of the revision of each of the questions. Afterwards, an analysis according to the results of the interview is presented.

Communication climate

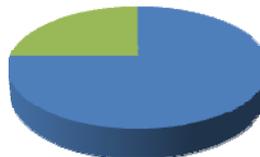
[Question 2] Were you satisfied with the team work?

■ Definitely yes ■ Yes ■ Hard to say ■ No ■ Definitely no

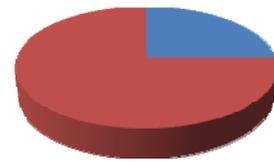
Team A
Gender Homogeneous
Culturally mixed



Team B
Gender mixed
Culturally Homogeneous



Team C
Gender mixed
Culturally mixed



This question was asked in order to determine if participants felt satisfied with their team work. Our assumption was that the culturally homogenous team B would be the most satisfied with the climate and overall atmosphere whereas the gender homogenous team A would be the least satisfied. These were the expected answers.

However, team A gender homogenous scored the highest and was the most satisfied with the team work. All the females answered *definitely yes* to the question except one from Lithuania who answered *yes*.

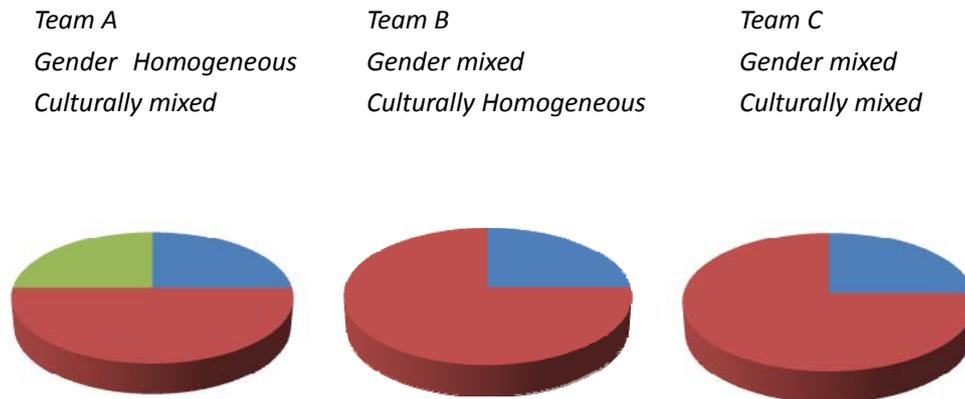
In team B one female said it was *hard to say* whether she was satisfied while the rest of the members answered *definitely yes*.

The last place as far as the satisfaction of the team work belongs to the gender and culture mixed team C. All the members answered *yes* to the above stated question and only one female from Ukraine stated *definitely yes*.

Integration

[Question 3] Could you express your opinion easily?

■ Definitely yes ■ Yes ■ Hard to say ■ No ■ Definitely no



This question was intended to check the integration among the team members in a sense of the ability to listen to the others as well as to express opinions easily.

The expected answers were that culturally homogenous team would have the least problems expressing their opinion since all the members share the same language.

The questionnaire indicates that culturally homogenous team B indeed proved to express their opinions easily. Everyone answered *yes* except one female who though she could *definitely* express her opinion easily.

In team C which was gender and culturally mixed its participants also answered *yes*, with an exception of the Ukrainian female who said she could *definitely* express her opinion easily.

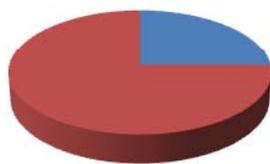
The least successful team was the team A gender homogenous who answered 50% *yes* and the remaining two were divided between *definitely yes*-opinion of the Chinese female and *hard to say*-opinion of the Lithuanian female.

Integration

[Question 4] Did others follow your suggestions?

■ Definitely yes ■ Yes ■ Hard to say ■ No ■ Definitely no

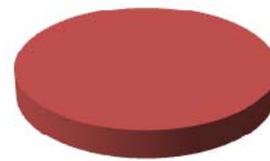
Team A
Gender Homogeneous
Culturally mixed



Team B
Gender mixed
Culturally Homogeneous



Team C
Gender mixed
Culturally mixed



In this question the integrations process was determined. We expected that culture homogenous team B would be the best while gender homogenous team A should have the least successful integration.

However, the questionnaire results show that Team A composed of gender homogenous was the best in taking into account what others have to say. All of them answered *yes* and the Chinese female answering *definitely yes* to this question.

Team C, culturally and gender mixed team, answered 100 % *yes* to this question.

Team B culturally homogenous encountered the biggest difficulties coping and listening to each other according to the answers of participants. 50%, of them one female and one male, said that others definitely followed their suggestions. On the other hand, one female said it was *hard to say* and the remaining male said *yes* others followed his suggestions.

Communication frequency

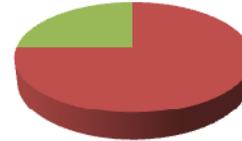
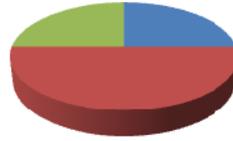
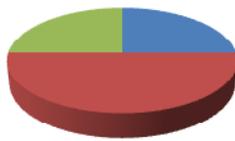
[Question 5] What do you think of the communication process in your team?

■ Very good ■ Satisfying ■ Hard to say ■ Barely satisfying ■ Bad

Team A
Gender Homogeneous
Culturally mixed

Team B
Gender mixed
Culturally Homogeneous

Team C
Gender mixed
Culturally mixed



This question was measuring the communication process and the satisfaction of working together. We expected the culturally homogenous team B to be the best and gender homogenous team A to have the worst communication.

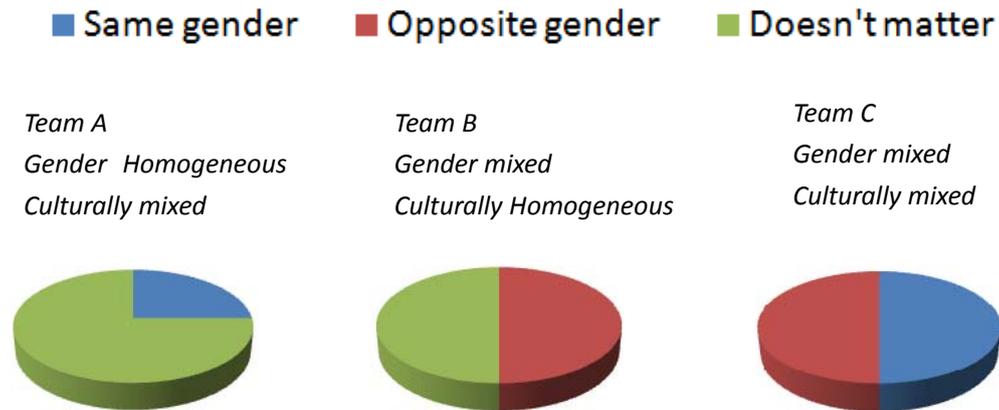
Both team A and B scored the same amount of points taking this criteria into consideration. In the gender homogenous team A two females namely Chinese and Lithuanian though the communication process was *satisfying*. The Lithuanian female elaborated further that she scored this question as *satisfying* only due to the language. She mentioned that language is a barrier to communication. If she had been able to speak the same language as her native she believes the process would be faster. Female from South Korea answered that the communication process was *very good* and the German female said it was *hard to say*.

In the culture homogenous team B, one female and one male elaborated that the communication process was *satisfying*. One female stated *hard to say* and the remaining male answered that the communication was *very good*.

Participants of team C culturally and gender mixed felt that the communication process was mostly *satisfying* and only one German female thought it was *hard to say*.

Interaction

[Question 9] Who do you prefer to work with?



By asking this question we were able to determine how participants felt about working with the people from the same gender.

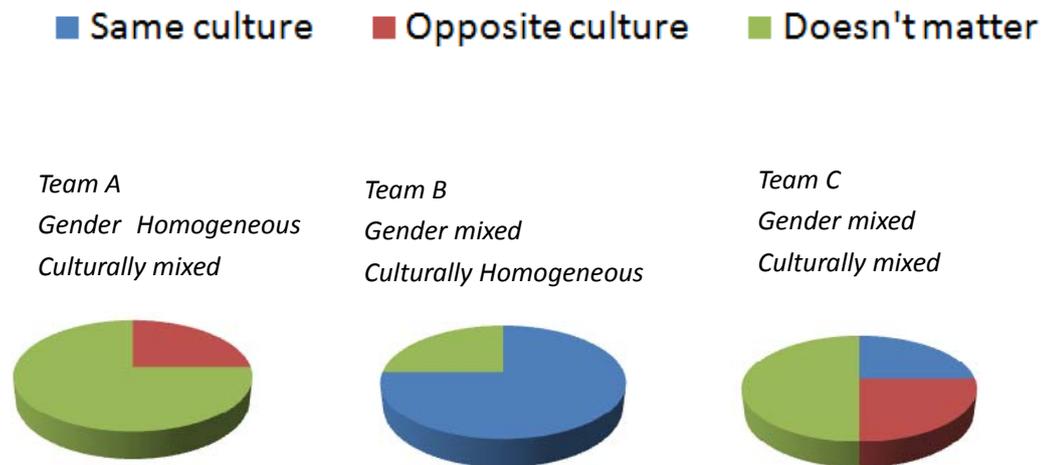
To the gender homogenous team A, this aspect seems *not to matter*. Only one female from China indicated that she would prefer to work with the *same gender*. Personality as a factor that matters the most was mentioned by the German female.

For culturally homogenous team B one male and one female *do not* mind who they work with gender wise, and the other male and female would rather work with the *opposite gender*.

In team C composed of mixed participants the Korean male and Swedish male stated that they would prefer to work with the *same gender*. The two remaining females of that team prefer to work with the *opposite gender*. The German female stated that males are more rational and for that reason she prefers working with them.

Interaction

[Question 10] Who do you prefer to work with?



By asking the above question we broadened our knowledge about if people rather work across cultural boundaries or rather with the same culture.

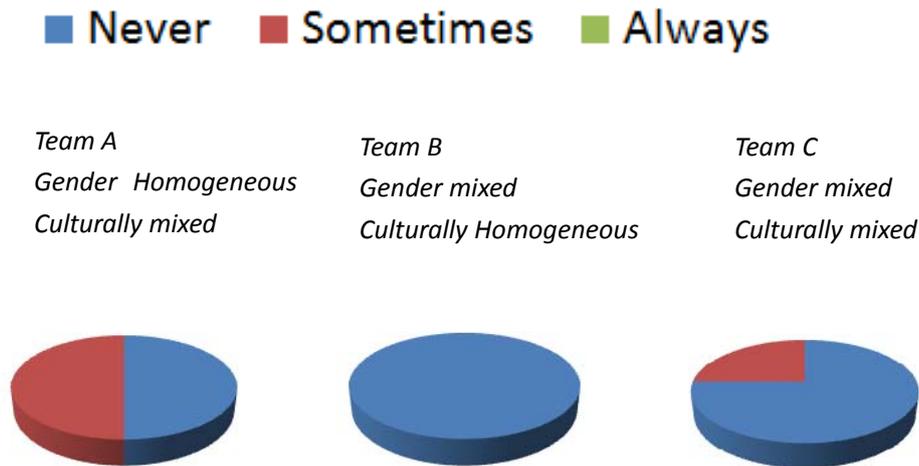
Team A gender homogenous, answered that it *doesn't matter*. Only one female from China prefers to work with the *opposite culture*. Also the time span was mentioned by a Korean female who said that in the long term then she would rather to work with the people from the same culture. She also indicated character as an important aspect.

In team B, composed of culturally homogenous participants, answers were that they prefer to work with people from the same culture. Only one male said it *doesn't matter*.

In team C half of the participants said it *doesn't matter*, namely the Swedish male and German female. One other member stated that *same culture* is preferable. That was the answer of the Korean male. However, the female from Ukraine answered that she prefers to work with someone from another culture even though it is more difficult yet more fun.

Conflict

[Question 11] How often do you ascribe mistakes, misunderstandings to the gender factor?



This question was asked in order to determine where the participants stood as far as ascribing mistakes due to the gender factor.

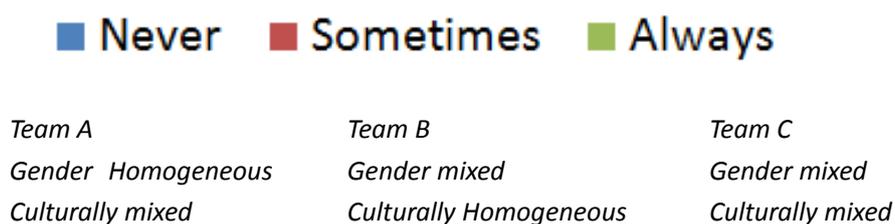
In culturally homogenous team B participants felt that they *never* do that.

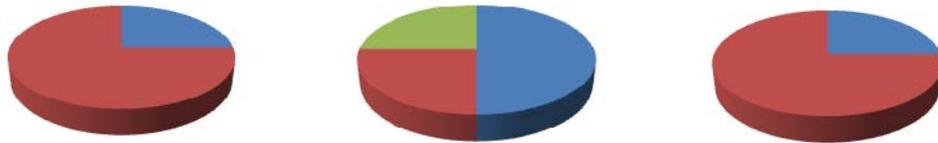
In culturally and gender mixed team three participants felt that they *never* do that. Only one female from Germany indicated that it happens *sometimes* to ascribe mistakes due to the gender factor.

In Team A gender homogenous, half of the team namely females from Germany and Lithuania indicated that it *never* happens. On the other hand Korean female and Chinese female said that it *sometimes* can happen.

Conflict

[Question 12] How often do you ascribe mistakes, misunderstandings to the cultural background factor?





This question was asked in order to determine where the participants stood as far as ascribing mistakes due to the cultural factor.

In both teams A gender homogenous and C culturally and gender mixed majority of participants said that it *sometimes* happens. In team A, only the Korean female said that it *never* happens and in the Team C, the Swedish male indicated that it *never* happens.

In team B, culturally homogenous, two males indicated that it *never* happens while the remaining two females had different opinions. One said that it *always* happens and the other one that it *sometimes* happens.

Communication climate

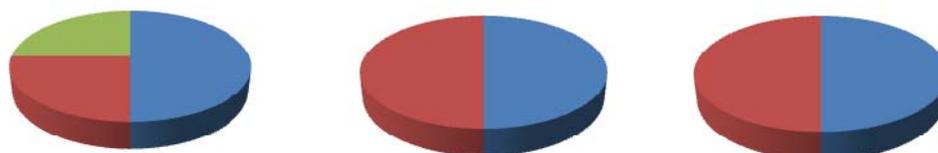
[Question 13] Do you think gender is a big issue for the communication in a team?

■ Yes ■ No ■ No idea

Team A
Gender Homogeneous
Culturally mixed

Team B
Gender mixed
Culturally Homogeneous

Team C
Gender mixed
Culturally mixed



In this question it was interesting to check whether according to the participants gender has an impact on the communication process.

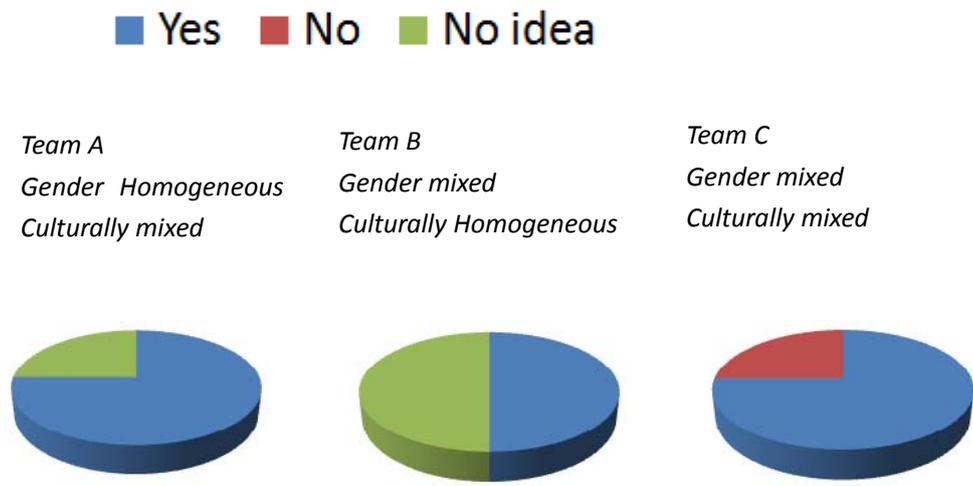
The answers did not vary across teams to a big extent. In team A gender homogenous Korean and Chinese females mentioned that *yes* gender is a big issue in the communication process. One female from Lithuania had *no idea* and one from Germany answered *no*.

In Team B and C the answers were the same. In team B culturally homogenous one male and one female answered *yes* gender matters in the communication process and one male and female answered that gender *does not matter*.

In Team C culturally and gender mixed two females from Ukraine and Germany answered *yes* gender has an impact on communication and two males from South Korea and Swede answered *no* it is not a big issue in the communication.

Communication climate

[Question 14] Do you think cultural background is a big issue for the communication in a team?



The question was meant to measure the cultural aspect and its impact on communication. In the gender homogenous team A three females answered that *yes* culture is a big issue in the communication process. One female from Lithuania had *no idea*.

Culturally homogenous team B shared the same view of admitting that culture had an impact on the communication. Two males said it is *not* a big issue while two

females said *yes* it is.

The last team C which is culturally and gender mixed said that *yes* culture is a big issue in the communication process. Only one male from Sweden answered *no*.

5.2.4 Analysis of the interview

In our comparison of the cultures' and genders' impact on communication we stated a number of factors that should be looked upon. We have introduced a couple of specific features that would help us to observe the communication. These features include: climate, integration, interaction, frequency and conflict. In our cultural proposition we presumed that people forming a team consisting of a culture mix would have a negative impact on communication process, while the team consisting of the gender mix would have a better communication. The oral questionnaire in the form of interview was conducted and the results give us a perception of what the participants felt about the communication process.

Checking the respondent's answers with regards to the communication climate (Q2) we noticed that gender homogenous, Team A scored the highest and was the most satisfied with the team work. Team members stated that the task was very funny, easy, interesting and fun. Three persons from the gender homogenous team said that there were no problems. The Lithuanian female mentioned that their team had a goal to achieve and that brought them together. Only language could be an obstacle to communication according to the interview with her. Perhaps due to the fact that she was a leader, it had an impact on her as maybe she could not express herself properly to reach the attention of people. However, this could not be noticed in our observations.

Gender and culture mixed, Team C scored second. In this team the Swedish male mentioned that due to the ideas of the Ukrainian female it took longer to start the task. He likes to discuss tasks first. The Korean male thought communication was quite good but stated that males think differently than females. For the Ukrainian female it was nice to work in a team, funny, great. Yet, we could observe her ideas

were not fully acceptable by other member. She likes to hear different ideas; however, she did not necessary follow them according to observations. When asked if there were any problems (Q6) and the responses were that it was smooth and no problems were indicated by the members. Only the German female indicated language as a possible source that could lead to problems in communicating. On the other hand, the Korean male said that it is important that everyone agrees with each other to make the process successful. Therefore, it was stated in the interview that the process was smooth and no problems were indicated by its members. According to our observations on the other hand, the process of communication was not smooth at all as the members had different opinions and personality clashes.

The last place was reserved for Team B, culture homogenous, where one female mentioned time as an important factor to accomplish the task. Another female thought the process went very well and that the team divided the tasks and cooperated easily. The males on the other hand shared other views. One thought it was interesting to perform the task, while the other said that it is crucial to plan. Three persons answered that there were no problems communicating. One male mentioned that maybe “a little problem” occurred because it is a temporary team. We could clearly see from the observations that this was the case as the females seemed more focused on the task and the males tried to plan as much as possible.

The answers did not correspond with our hypothesis, as we expected Team B culturally homogenous to be the most satisfied with the team work. Yet, this was not the case according to the participants’ answers.

When looking at the questions measuring integration (Q3,4) we noticed the culturally homogenous, Team B would have the least problems expressing their opinion due to the same language. The questionnaire proved that statement true, as people answered they could express their opinions easily in Team B which was culturally homogenous. Yet, we tackled the integration issue from another angle by asking question Did others follow your suggestions (Q4). Again, expected

answers were that culture homogenous, Team B was supposed to score the best while gender homogenous, Team A should have the least successful integration. However, the results showed that Team A, gender homogenous, was the best in taking into account what others have to say. Also team C culturally and gender mixed team answered that they followed totally the suggestions of others. However, from the observations this was not the case as members struggled to follow one member's suggestions and to compromise with her. In the interview members stated that everyone listened to what others have to say.

Team B, culturally homogenous encountered the biggest difficulties coping and listening to each other according to its participants. Perhaps this was due to conflict related to a personality clash between one male and one female that could be observed in the experiment.

The next question was asked about the communication and the participant's satisfaction about the communication process itself (Q7). Both gender homogenous A and culture homogenous B were most satisfied.

In gender homogenous Team A, a Korean female mentioned that the respect for others suggestions, is an important factor. The Korean female said that females start to talk about general things and male about specifics. So the way to talk to females or males is different. For a Lithuanian female the aspects of personality, motivation, and the same language are important. She stated that cultural and gender diversity has a positive impact because we learn from each other and different ideas and working styles are presented and needed to be compromised.

For the Chinese female the same aim is the most important factor affecting in the communication process. She thought that mixed teams perform worse because females share the same thoughts immediately and males do not. The German female mentioned personality and the motivation to complete the task as aspects that affect communication. She also said that it depends on the project. Different work styles can have good or bad impact on communication due to diversity.

In Team B, culturally homogenous, for one female it is important that team members can express their opinions. Also personality and cultural background can affect communication.

For the other female it is important to have a good leader and the same goal since that smoothens the communication among members. Both males answered that the same aim is what matters and affects communication the most. The female thought that gender can have a big impact; girls focus more on trivial things and a man make decisions which according to Hofstede (1980) proves to be true as China is a more masculine society. Another female in this team said that culture impacts the communication more than gender, it may be more difficult to understand. Males thought gender is not a big issue –it depends.

In Team C culturally and gender mixed for the Swedish male listening to each other “really listening” was the most important, even if you have different ideas. The Swedish male said that to him ethnicity is not a problem. However, it is easier to communicate with the same culture and language. He thinks Swedish people can also be different. Sweden is feminine society (Hostede, 1980) and stresses fairness and equality. Thus, due to these facts his opinion could form. For the German female it is important to be friendly, not demanding. Flexibility to listen is the key according to her. She said both gender and cultures affect communication.

The Ukrainian female said that gender and culture have a positive impact on communication. For her and the male from Korea, language was important in the communication process. The Korean male thinks that males are more simple and realistic and females are more passive, calm and peaceful. If they do not understand they wait. This creates problems in the communication across genders. As far as cultural diversity goes he mentions that Swedish people do not feel pressure, Koreans on the other hand always hurry. The opinions of the Korean male can be referred to Hofstede’s theory (1980).

Next the concept of gender and culture was elaborated upon (Q9,10). To the gender homogenous Team A this is not an issue. Yet, rather personality was a factor that matters the most, was mentioned by the German female. For culturally homogenous Team B one male and one female do not mind who they work with gender wise and the other male and female would rather work with the opposite gender. In Team C, composed of mixed participants both males stated that they would prefer to work with the same gender. On the other hand, the two remaining females of that team prefer to work with the opposite gender.

When we look at the culture (Q10) we asked if the participants would rather work with the same or opposite culture answers differed. Team A gender homogenous answered that it does not matter. In Team B, composed of culturally homogenous participants, answers were that they prefer to work with people from the same culture. In Team C half of the participant's answers were mixed.

The next questions regarded the concept of ascribing mistakes to the gender and culture. In culturally homogenous Team B participants felt that they never feel that they ascribe misunderstandings to the culture factor. When we asked about the gender as a factor of misunderstandings in culturally and gender mixed Team C, three participants felt that they never do that. In Team A, gender homogenous, half of the team, namely females from Germany and Lithuania indicated that it never happens. On the other hand the Korean female and the Chinese female said that it can sometimes happen.

The next question was about ascribing mistakes due to the cultural factor. In both Teams A, gender homogenous and Team C, culturally and gender mixed majority of participants said that it sometimes happens. In Team B, culturally homogenous two males indicated that it never happens while the remaining two females had different opinions. One said that it always happens and the other one mentioned that it sometimes happens.

The last two questions (Q13,14) regarded concept of gender and culture being a

big issue for the communication. The answers did not vary across teams to a big extent. In Team A, gender homogenous the Korean and the Chinese females mentioned that gender is a big issue in the communication process perhaps due to their cultural background. In Team B and C the answers were the same. In Team B, culturally homogenous one male and one female answered yes gender matters in the communication process and one male and female answered that gender does not matter. In Team C culturally and gender mixed 2 females answered that gender has an impact on communication and two males from South Korea and Sweden answered that is not a big issue in the communication.

Last question (Q14) measured the cultural aspect and its impact on communication. In the Team A, gender homogenous three females answered that culture is a big issue in the communication process. In culturally homogenous, Team B shared the same view of admitting that culture had an impact on the communication. Two males said it is not a big issue while two females said it is. The last Team C, which is mixed culturally and gender said that culture is a big issue in the communication process. According to all the participants therefore, culture plays an important role in the communication process.

From our theoretical review and studies of the interview we have increased our knowledge about the gender and culture impact on communication. The information we have gathered by doing the interview has helped us to see the point of view of the participants on the topic of our interest. From the studied dimensions there were many similarities but also many differences between teams which will analyze in the further chapter.

5.3 The Belbin Test data

The results of the Belbin test are presented. Afterwards, a brief conclusion is summarized according to the results.

5.3.1 Result of the Belbin test

This section presents the results of the Belbin test in the form of three tables. As showed in the following tables, 2 colored unites represent two team roles of the participants. Dark blue reflects the first main role while sky blue stands for the second main role.

Table 5.3 (1) The Belbin Test Results of Team A

Team A	SH	CO	PL	RI	ME	IMP	TW	CF
Korean & Female								
German & Female								
Lithuania & Female								
Chinese & Female								

In the gender homogeneous culturally mixed team, three out of four females are Team Worker as their first team role. The Chinese female who is the only Asian female in this team has Coordinator as her first role.

Table 5.3 (2) The Belbin Test Results of Team B

Team B	SH	CO	PL	RI	ME	IMP	TW	CF
Chinese & Female								
Chinese & Female								
Chinese & Male								
Chinese & Male								

As we can see form the table, people from the same culture tend to have similar roles within a team. No matter if female or male they proved to be mainly Implementers within Chinese team.

Table 5.3 (3) The Belbin Test Results of Team C

Team C	SH	CO	PL	RI	ME	IMP	TW	CF
Swedish & Male								
Ukrainian & Female								
Korean & Male								
German & Female								

In this team, every participant is from different country. Everybody seems to have totally different roles as his or her first team role. There is no obvious tendency in this gender and culturally mixed team. However, Coordinator appears to be the most occupied role. The Korean male who tested to be the only Plant among the 12 participants act very close to what a plant would be like as described by Belbin: Plants are independent, clever and original. They may be weak in communicating with other people. They are used to generate new proposals and to solve complex problems (Belbin, 2004).

5.3.2 Conclusion of the test result

Among all teams, there are two obvious phenomena that can be illustrated in general. Firstly, none of the twelve participants is Completer Finisher. The reason for that might be none of them took the task as serious as real working jobs. As we observed from the video, seldom did they notice the limited time. Secondly, Team Worker and Implementer tended to be the most occupied roles mostly as first team roles. Team worker is a common role in the experiment. We recognized this role as a basic one. Actually, one might not have only one role in team. People can act two or more roles. At the same time, Monitor Evaluator is mostly taken as second team role. Few roles of Resource Investigator, Shaper and Plant were taken. Only Team A has the role of Resource Investigator. Among all the participants only three of them proved to be Shaper and as second team role.

5.4 Cross sectional analysis

In order to compare all the three types of analysis, cross sectional analysis is performed. First we compare horizontally the results of experiment, interview and the Belbin test within each team. Second, we compare vertically three teams looking again at the results of the three research methods.

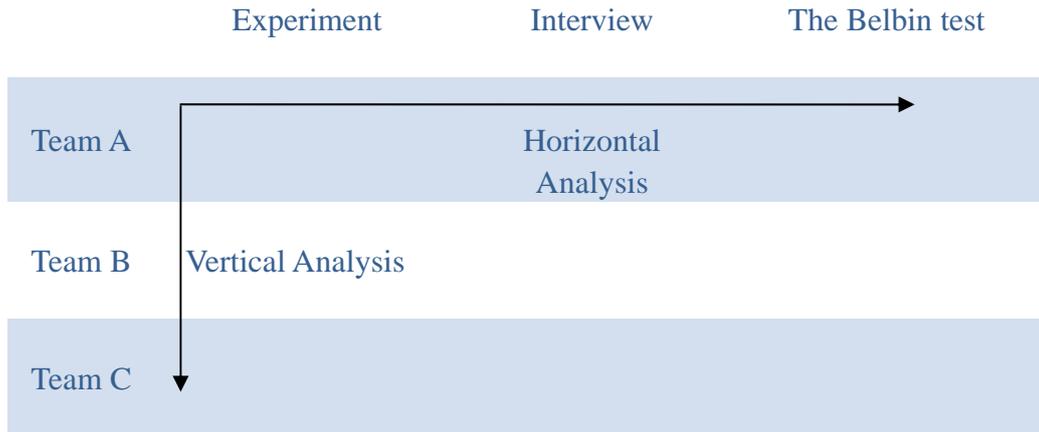


Figure 5.4 Cross Sectional Analysis

5.4.1 Horizontal comparison

In this section we performed an analysis by describing each of the teams using the tools to measure communication which are the experiment, the interview and the Belbin Test. Combining all the data gathered about each team could give us a clearer picture about patterns of communication in each team.

Table 5.4.1 (1) Gender homogenous, cultured mixed team

Team A	Gender	Roles ¹⁷		Nationality	Dimensions ¹⁸			
		First	Second		PD	IC	MF	UA
No.1	Female	TW	CO	Korean	60	18	39	85

¹⁷ See appendix III for Belbin team roles description

¹⁸ Geert Hofstede (1980) dimensions on national culture differences available at: <http://www.geert-hofstede.com>

No.2	Female	TW	ME	German	35	67	66	65
No.3	Female	TW	RI	Lithuania	45	50	65	67
No.4	Female	CO	ME	Chinese	80	20	66	30
Total					220	155	203	248

According to the experiment gender homogeneous and culture diverse team consisting of four female members from China, Germany, Korea and Lithuania had a very good communication climate. From the very beginning, every team member participated in the task actively. Discussion how the spaceship should be like was fierce, and each one spoke out their ideas, soon they came up with the agreement of how to tackle the project. The team had a clear leader No. 3 who did not appear to be a leader but a team worker according to the Belbin test. The rest of the members turned out to be team workers in this particular team and perhaps for that reason the communication climate was smooth.

Frequency of communication between the team members was also high yet, it was monodirectional. European girls talked much more than the Asian girls, which confirm Hofstede's (1980) theory that people with western culture background are more open and direct to express themselves, while people from the eastern countries are more humble and implicit.

The cooperation within the team was also quite satisfying, although the task was divided, when some member met some problem, others managed to help when looking at the experiment. Also according to the interview communication climate scored the highest and members were the most satisfied with the team work.

However, the team scored the least as far as the expression of opinion which did not translate into what we have observed. One girl mentioned that language is a barrier to communication. If she spoke the same language as her native she believes the process would be faster which according to Hofstede (1980) language is necessary to condition for understanding each other. To conclude the team has finished the task within the time period and was awarded with the financial reward.

Looking back at the literature review it is claimed that homogeneous in gender team will be restricted in input variety and opinion diversity thus reducing performance in a complex assignment or/and complex environment (Dess and Beard 1984). Moreover, experimental studies by Stringer (1995) have shown that gender-balanced teams are consensus-seeking, a characteristic that improves communication within teams and reduces conflict. According to these theories and our proposition this team should perform least satisfactory. However, there was an indication while comparing the three tools that that was not a case. Gender homogenous and culturally mixed team seemed to not to fit the proposed statement.

Table 5.4.2 (2) Culture homogenous, gender mixed team

Team B	Gender	Roles ¹⁹		Nationality	Dimensions ²⁰			
		First	Second		PD	IC	MF	UA
No.1	Female	IMP	TW	Chinese	80	20	66	30
No.2	Female	IMP	SH	Chinese	80	20	66	30

¹⁹ See appendix III for Belbin team roles description

²⁰ Geert Hofstede (1980) dimensions on national culture differences available at:
<http://www.geert-hofstede.com>

No.3	Male	IMP	SH	Chinese	80	20	66	30
No.4	Male	CO	TW	Chinese	80	20	66	30
Total					320	80	264	120

In this culture homogeneous and gender diverse team consisting of two males and two females from China the communication climate was relaxed and informal, perhaps due to the fact that every team member is from the same country and speaks the same mother language. Also according to the interview members ranked the process of communication as satisfactory. In the experiment was observed that everybody was talking and not actively listening to others. This can be ascribed to a typical Chinese cultural phenomenon, when people discuss in a informal circumstance while talking more than to listen to others. Perhaps this caused conflicts which occurred between participant No.2 and No.4. Participant No. 4 role was indeed coordinator while the opponent and the rest of the members were implementers. It could not be ascribed to language problems at all. However lack of listening and talking caused many confusions and distortions. Therefore, the cooperation was quite unsatisfactory according to our observations, every team member just focused on their work, they did not ask for advices or agreements, let alone offer help to others. This is embedded in the Chinese culture, once a Chinese sociologist said that Chinese people are born with the lack of team spirit. From the tape, we can also see that, the conversation between opposite genders were much more than that between same genders. Also in the interview half of the team stated that they prefer to work with opposite gender.

According to Triandis (1960), culture diversity in teams results in interpersonal problems and communication difficulties (Triandis, 1960). Although this team

was culturally homogenous clearly team composed of the people from similar cultures may not necessary lead to a better communication. According to our proposition this team should have performed best, however there was an indication while comparing the three tools such as the experiment, interview and Belbin test that that was not a case.

Table 5.4.2 (3) Culture, gender mixed team

Team C	Gender	Roles ²¹		Nationality	Dimensions ²²			
		First	Second		PD	IC	MF	UA
No.1	Male	CO	ME	Swedish	31	71	5	29
No.2	Female	IMP	CO	Ukrainian	23	51	13	57
No.3	Male	PL	CO	Korean	60	18	39	85
No.4	Female	TW	SH	German	35	67	66	65
Total					149	207	123	236

In this is the gender mixed and culturally mixed team composed of males and females from Sweden, Ukraine, Korean and Germany communication atmosphere was fine at the beginning. However, the insistence of the idea of one of the members disturbed communication process as the team could not focus on what needs to be done. Even though people in this team played many roles it did not

²¹ See appendix III for Belbin team roles decription

²² Geert Hofstede (1980) dimensions on national culture differences available at:
<http://www.geert-hoftede.com>

result in better understanding and better communication which is claimed by Belbin (2004).

During the whole process, there were a lot of conflicts between the members. Conflicts were due to many different opinions but from especially suggested by the Ukrainian female. The other three tried to explain and persuade the Ukrainian. Yet when asked about following each other suggestions we received 100 % yes as an answer from everybody. Also they scored very high during the interview while being asked the question about expressing their opinion easily. That was contradictory to our observations.

According to Hofstede cultural diversity complicates decision making (Powell, 2006) it complicates decision making. Others say that cultural diversity represents problems such of lack of being part of the team (Milliken and Martins, 1996) which on the other hand leads to the lack of the cooperative behavior (Cox, 1991).

According to our observations and the interview this seemed to be the case, as the team was ranked as the least successful in the communication process. Therefore, we could observe the indication of the above statements as true.

5.4.2 Vertical comparison

In this section we performed an analysis by comparing three teams through three perspectives, which are the experiment, the interview and the Belbin Test. The analysis of experiment is based on our own observation, and the interview is from the perspectives of the participants, while the Belbin Test is a scientific questionnaire, used to see which role each participant played in the team. Thus the results of the first two terms would be subjective, and the result of the test is more objective.

5.4.2.1 Experiment comparison

As elaborated in the former chapters, we used five criteria to measure the

communication within the team, which are: communication climate, communication frequency, integration, interaction and conflict. We ranked each category by stars for each team; the result is in the following table:

Table 5.4.2.1 Vertical comparison of teams' star ranking

	CC ²³	CF ²⁴	INTG ²⁵	INTR ²⁶	CON ²⁷
Team A	4 ★	3 ★	4 ★	4 ★	4 ★
Team B	3 ★	2 ★	3★	3 ★	2 ★
Team C	2 ★	3 ★	2 ★	3 ★	1 ★

In the communication climate category, we can see that team A which is gender homogeneous and culture mixed, got the highest rank, while the both gender and culture mixed team C got the lowest rank. And this result is somehow out of our expectation, because according to the theories, members in gender mixed team should be more willing to communicate and the atmosphere would be more harmonious, however the video showed us a totally different story. It is very easy to find out that both team B and team C had one participant with very distinct personality, and the atmosphere in the team was affected to some extent, because of the way of their thinking or behavior.

By the category of communication frequency, both team A and C had the rank of three stars, while team B appeared with less communication, ranked with two stars. According the video tape, members in both team A and C were quite active and exchanged their ideas with fairly high frequency, but it was a different picture

²³ CC: Communication climate

²⁴ CF: Communication frequency

²⁵ INTG: Intergration

²⁶ INTR: Interaction

²⁷ CON: Conflict

in team B, although they all speak Chinese, it seemed not a big incentive for them to talk. Since there are two Chinese in our own team, we analyzed it from our own experience, because they are from China, with the same education and culture background, in most of the cases, they are familiar with the way other Chinese behave. It is very easy for them to understand each other, sometimes a gesture or a face expression could transmit the information, so it was unnecessary for them to talk much to understand each other, therefore their communication frequency relatively lower than other two teams.

Observing from the video, we can see that participants in team A were most integrated, while team C had the worst integration. In team A, every member agreed with one way to accomplish the task, since they had the same goal, every one worked towards one direction, and they helped and supported each other. In team B, all the team members just focused on their own work, and seldom had communication with others. It looked more like individual assignment rather than a team work. In team C, because there was one participant who acted quite “outstandingly” and her behavior made this team appear quite interrupted and the process did not go smoothly.

In the category of interaction, team A got the highest rank again, and team B and team C got the same rank. We use *integration* to see who communicate with whom in the team, if it was interactive or only between the specific people. We found out that in team A, the team leader kept the interaction with every member, but the interaction between members was quite limited. In team B, the interaction was with quite low frequency, and mostly between male and female. In team C, the interaction between members was not bad, but it was not effective either, and it was often interrupted by one the members.

As to the last measurement-conflict, we can see obviously from the tape, team A had the fewest conflicts and solved it quite well, team C had the biggest conflict during the process, mainly between one members and other three members, and team B the conflict was just between two members, but it was not solved.

5.4.2.2 Interview comparison

In this part, we compared the results from interviews with each participant of three teams. In last chapter, the results depended on our own observation, but in this part, the results are from the opinion of participants, so it is very interesting for us to find out how they thought of their communication process.

In the interview, we designed the questions based on the five measurements of communication, which we have described in the former chapters.

The question “*were you satisfied with the team work?*” was aimed at the communication climate. And according to their answers, the members from team A were most satisfied with their team, while team C seemed not to be the perfect team for its members. This result was consistent with our observation from the video. Apparently, the members from team C also felt the atmosphere in their team was a little awkward. But in the Chinese team, there were three people said *definitely yes*, and only people said *hard to say*. This result was much better than what the video showed, we assume that is because of a notion “losing face” embedded in Chinese culture, they thought if they said other answers, it suggested that the team did not work well, which was quite embarrassing to them, and that is a kind of “losing face”.

The question “*could you express your opinion easily?*” was asked to measure the integration of the team. The result really astonished us, the members from team B and C thought it was easier to express themselves than the participants in team A. because Team B is a culture homogeneous team, it was easy for them to express opinions with the first language. The question “*did others follow your suggestions?*” was also for the analysis of integration, and the results showed that team members in team A more agreed with others in the team, while team C were less harmonious than other two teams. The results were in accordance with our observation.

We asked the question “who do prefer to work with” to find out if they would like

to work with same or opposite genders, same or different culture backgrounds. The results gave us such a picture, to the gender issue, three of the participants from team A chose *it doesn't matter*, and one chose *same gender*, as to the culture, there were also three who chose *it doesn't matter*, and only one preferred to work with people from *different cultures*. In team B, half of them prefer to work with *opposite gender*, and the other half chose *it doesn't matter*, and most of them prefer to work with people from the *same culture background*, and one only chose *it doesn't matter*. In team C, half of them like to work with same gender while the other half like to work with *opposite gender*, and two of them doesn't care about the culture background, while one of them preferred to work with people from *different cultures*, and one liked to work with people with *same culture background*. According to this result, team B seems to be the most satisfactory composition to its members, since team B meets every participant's preference, and team A was also a good team to its members, even though most of them doesn't care about gender and culture so much, while team C seems not to perfect for some of its members, since it is a both gender and culture mixed team, but some of its members preferred to work people with same gender or same culture background.

Questions about if they would ascribe mistakes and misunderstandings to gender or culture factors were designed to see their attitudes towards conflicts in teams. The results showed that, in team A, half them thought sometimes misunderstands occur because of gender, while half of them thought gender can never be the issue. But most of them thought different cultures could cause some problems sometimes, and only one insisted culture did not have anything to do with mistakes. In team B, all the participants thought gender is not the reason for mistakes and misunderstandings, as to the culture factor, two of them thought it was not the reason either, but one member thought sometimes culture could lead to mistakes, while one member assumed in most cases, mistakes and misunderstandings were caused by culture issues. In team C, most of the members

thought gender was not the cause of mistakes, only one thought sometimes gender may lead to misunderstands, but most of them believed that different culture backgrounds could lead to mistakes and misunderstandings sometimes, only one thought culture can never be the reason.

5.4.2.3 The Belbin Test comparison

As we have elaborated in the former chapters, Belbin Test was used to identify the team role of each team member. In this chapter, we compared the results of the test from each team, and tried to see if personality has any impact on communication.

The results showed us that in team A, there are four types of team roles, which are: Coordinator, Monitor Evaluator, Resource Investigator and Team Worker. And three of the team members took Team Worker as the first role, and only the Chinese participant played as a Coordinator as her first role. In team B, there are also four kinds of roles: Shaper, Coordinator, Implementer and Team Worker. And most of the first role was Implementer, only one member played his first role as Coordinator. And in team C, there were six types of roles, namely Coordinator, Plants, Shaper, Monitor Evaluator, Implementer and Team Worker, and team C was the only team that each member had different team role as their first role, they were Coordinator, Plants, Implementer and Team Worker.

According to the description of each role by Belbin (2004), A Team worker is the greasy oil between the cogs that keeps the machine that is the team running. They are good listeners and diplomats, talented at smoothing over conflicts and helping parties understand each other without becoming confrontational. And there were three Team workers in team A that is the reason why the communication climate in team A was the best according to our observation from the video.

The Implementer always follows others' ideas and put them into action. They are efficient and self-disciplined, and can always finish their tasks on time. They often take on jobs everyone else avoids or dislikes. However, they may be seen as

closed-minded and inflexible since they often lack of independent thinking. Implementer was played by three participants as the first role in team B, from this perspective, we can gain some insights into the communication process in this team, since an implementer usually follows others' ideas and they seldom have independent thinking, in other word, they only taking not giving, thus the communication frequency and interaction were ranked relatively lower. And there were two Shapers played as the second role in this team, Shaper focus on achieving ends and will 'shape' others into achieving the aims of the team. They may challenge, argue or disagree in the pursuit of achievement. Two or three shapers in a team, according to Belbin (2004), can lead to conflict. And the conflict between the two participants in team B was quite noticeable.

The situation in team C is very complicated. There were six roles in the team. According to Belbin (2004), the more different roles in the team, the better performance would be achieved by the team. But the video tape and their outcome showed us an opposite result, which confused us so much. When we went back to the video again, we realized that participant No.2 in the team was too outstanding, she created some ideas which were not so feasible for this specific task, and she insisted to carry it out, and her strong personality affected the pace of the whole procedure, and it probably confused other team members. The other possible reason can be explained by theory of team stages. Teams are not instantly functional. Team members need time to get acquainted and to become familiar with each other's strengths and weaknesses. During this process, the communication between team members may vary a lot from stage to stage. Team C probably in the stage of storming which identified by Tuckman "[t]his is when conflicts begin as team members negotiate work assignments and express disagreement over who is to do what. Frustratingly, this process can take some time, but it is vital for the team to learn to function" (Tuckman, 1965).

5.5 Conclusion of the analysis

After we analyzed the data collected from the experiment, the interview and Belbin Test. We came to the conclusion of our empirical research.

According to our observation of the experiment video, we drew the conclusion that the gender homogeneous and culture diverse team, named as team A had the most effective and frequent communication, while the communication process in team C-the both gender and culture mixed team was quite unsatisfactory. The result from the interview showed us a similar picture; the members in team A were satisfied with their team work most of the time. They gave positive answers to most of the questions. While team C seemed not to be very acceptable to its team members according to their answers. When we come to Belbin Test, the result was somehow surprising to us, both team A and team B only had four different types of team roles, and only two types of first role, while there were six different roles in team C, and every member had one different first role. Belbin (2004) indicated that the more roles one team has the better performance the team gives. But our research results brought a totally different perspective on the matter. We ascribed this to the following reasons: the specific stage the team is at, this team may perform better when it becomes more mature; the special task they had, since our task is a simple short-term project, the advantage of this team may not have time or chance to develop; some members have too strong personality which affected the whole team's performance.

Based on all these results from our research, our propositions were rejected. Gender diversity does not necessarily bring positive effects to the communication in teams, while culture diversity does not necessarily lead to the chaos when people from different culture background communicate with each other.

6. Final conclusion

This final chapter begins with a brief summary of the whole dissertation and methods used in this paper. Next, the conclusion and recommendations for future research are presented.

6.1 Summary of the dissertation

It is well-known that there is an international trend toward the use of teams as a basic structure in organizations today (Huszcao and Hoffman, 1999). Organizational teams are likely to be composed of members with varying gender, culture, abilities, skills, expertise, knowledge and so on. Cultural and gender diversity in organizations are the two main hot topics that are being studied. Their impact on communication becomes an increasingly important issue with many facets of relevance to business. However, between culture or gender and the outcome there is a “black box”, which, from our point of view is communication. We wanted to open the “black box”. In order to achieve that, an extensive literature review was performed in the fields of communication as well as culture and gender diversity. On the basis of the considered theories, we developed two propositions in order to challenge them within our empirical research. To test our propositions we decided to carry out an experiment, interview and the Belbin test among business students at Kristianstad University, Sweden. According to the analyzed results, we reject the two propositions.

6.2 Conclusion

The propositions were as follows:

- Proposition 1 Gender diversity in teams will have a positive effect on the communication.
- Proposition 2 Cultural diversity in teams will have a negative effect on communication.

The results of the experiment appeared to be the opposite to our propositions which were based on the literature review. Team B which was supposed to have the best communication according to the two propositions as shown above, turned out to be the modest team. Team A, contrary to our expectation, has the highest ranking based on our measurements of communication and it performed extremely well compared to the other two teams. What surprised us was the result of Team C. It indicates that gender and culture mixed team is least satisfactory. Looking at Team B and Team A, hereby we reject the two propositions.

We will now propose the reasons as to why the results did not meet the propositions. The main reason can be the stage of teams that they are in. There are four stages of team building, namely forming, storming, norming and performing. During this process, the communication between team members may vary a lot from stage to stage. Participants in Team C do not know each other, they are probably in stages of forming or storming. Since they come from different culture, they cannot function as a team instantly. They need time to get acquainted and to become familiar with each other's strengths and weaknesses. There is a tendency that both gender and culturally mixed team cannot perform well in the first two stages according to what we observed from the video. The other possible reason can be explained by personality. It could play a big role during the communication process. Therefore, it is difficult for us to ascribe the influences on communication from a culture and gender perspective only.

6.3 Contribution

6.3.1 Practical

A practical contribution of this dissertation is the insight of how to communicate across cultural and gender borders and how to form teams to reach the optimum satisfaction and efficiency.

According to the results of our empirical research, we can draw the conclusion

that, for a short term project, it would be better to choose team members from different cultural backgrounds with the same gender. Besides culture and gender factors, personality and roles of team members are big issues for consideration to make up a team as we concluded from the research.

6.3.2 Theoretical

As we mentioned in our paper, the existing theories usually focus on the outcomes brought by gender and culture diversities, but there are quite few theories looking into the process of how these diversities impact the communication, thereby leading to such outcomes. So this paper decided to take the first step into this field, and opened the “black box”.

6.4 Self criticism

Due to the lack of resources and time, we carried out the experiment with three teams only. In order to conduct a scientific experiment, it is necessary to enlarge the sample. The 12 participants were selected from business students in Kristianstad University, Sweden. We treated them as employees in the real business world which can be improved for later study. Since the topic of this paper is still in the “black box”, there are few theories to refer to and some parts of the paper may lack theoretical support. Besides, the personality of people may play a big role during the analysis of communication which creates difficulties to identify the influences from culture and gender factors.

6.5 Future research

As described in the limitation, the experiment was carried out using a small number of participants due to limited resources and time. It would be more explanatory if the samples were enlarged. Also the participants were chosen among business students’, which and it would be more practical if they came from the real business world.

There are also many other types of diversity such as religion, age and so on that could impact communication. Deep research can be conducted on these issues. Besides, personality is also an interesting topic to tackle.

REFERENCES

- Acker, J., and van Houten, D. R. (1974). Differential recruitment and control: the sex structuring of organizations. *Administrative science quarterly*. 19, p. 151-163.
- Adler, N. J., 2002. *International Dimensions of Organizational Behavior*. 4th ed. Cincinnati OH: South-Western Press.
- Adler, R.B. and Rodman, G., 1994. *Understanding Human Communication*. 5th ed. New York: Harcourt Brace.
- Babbie, E., 2005. *Badania społeczne w praktyce*. Warszawa: Wydawnictwo Naukowe PWN
- Bachrach, S.B. and Aiken M., 1977. Communication in administrative bureaucracies. *Academy of Management Journal*. 20 (3), p. 365-377.
- Belbin, M., 2004. *Management Teams-Why they Succeed or Fail*. 2nd ed. Oxford: Butterworth Heinemann.
- Belle, F., 2002. Women managers and organizational power. *Women in Management Review*. 17 (3/4), p. 151-156.
- Bluestone, B. and Bluestone, I., 1992. *Negotiating the Future: A Labor Perspective on American Business*. New York: Basic Books.
- Burns, R.B., 2000. *Introduction to research methods*. 4th ed. London: Sage.
- Byers, P.Y., 1997. *Organizational Communication-Theory and behavior*. Boston: Allyn and Bacon.
- Byrne, M., Flood B. and Wills, P. 2001. The relationship between learning approaches and learning outcomes. A study of Irish accounting students. *Accounting Education*. 11 (4), p. 27-42.
- Clampitt, P.G. and Downs C.W., 2004. *Downs Hazen Communication Satisfaction Questionnaire In C.W. Downs. Assessing Organizational satisfaction Strategic Communication Audits*. New York: The Guildford Press.
- Conrad, C., 1994. *Strategic Organizational Communication: Toward the twenty first century*. 3rd ed. New York: Harcourt Brace.
- Cox, T.H., Lobel, S.A. and McLeod P.L., 1991. Effects of Ethic Group Cultural Differences on Cooperative and Competitive Behavior on a Group Task. *Academy of Management Journal*. 34 (4), p. 827-847.
- Dess, G.G. and Beard, D., 1984. Dimensions of organizational task environments. *Administrative Science Quarterly*. 29, p. 52-73.
- Downs, C. and Hazen, M.A., 1977. Factor Communication Satisfaction. *Journal*

- of Business Communication*. 14(3), p. 63-74.
- Ealey, P.C. and Mosakowski, E., 2000. Creating hybrid team cultures: an empirical test of traditional team function. *Academy of Management journal*. 43 (1), p. 26-49.
- Earley, P. C. and Gibson C. B., 2002. *Multinational work teams A New Perspective*, Mahwah NJ: Lawrence Erlbaum associates publishing.
- Encyclopedia Britannica., 2007. Search word "gender" [online Encyclopedia], Available at: <http://www.britannica.com/EBchecked/topic/228219/gender-identity> [accessed on 13 November 2008]
- Fisher, A.B., When Will Women Get to the Top? *Fortune*. 21 September 1992, p. 44-56.
- Ford D., Gadde L.E., Hakansson H. and Snehota, I. *Managing Business Relationships*. 2nd ed. Manhattan NY: John wiley and Sons Inc.
- Gibson, C.B., 1996. *Do You Hear What I Hear? A Framework for Reconciling Intercultural Communication Difficulties Arising From Cognitive Styles and Cultural Values*. San Francisco, CA: Jossey-Bass.
- Gibson, R., 2002. *International Business Communication*. Oxford : Oxford University Press.
- Grapard, U., 1997, Theoretical issues in the transition from socialist regimes. *Journal of Economic Issues*. 31 (3), p. 665-683.
- Hall, E.T. and Hall, R.M., 1990. *Understanding cultural differences-Germans, French, Americans*. Yarmouth: Intercultural Press Inc.
- Harris, P.R. and Moran, R.T., 2000. *Managing cultural differences: Leadership strategy for a new world of business*. 5th ed. Burlington MA: Gulf professional Publishing.
- Harris, P.R., 2004. Success in the European Union depends upon culture and business. *European Business Review*. 16 (6), p 556-563.
- Hofstede, G., 1980. *Cultures consequence: International differences in work related values*. Beverly Hills, CA: Sage.
- Huczcz, G.E. and Hoffman, D., 1999. Reasons for and against the use of the team concept in joint settings. *Team Performance Management* [Online] 5 (1), p. 4-15. Emerald. Available at: <http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/1350050101.html> [accessed 16 November 2008]
- Johnson, R.A. and Schulman, G.I., 1989. Gender-role composition and role entrapment in decision-making groups. *Gender and Society* [Online] 3 (3), p.

- 355-72. Available at <http://gas.sagepub.com/cgi/content/abstract/3/3/355> [accessed 11 November 2008]
- Jones, M.L., 2007. Hofstede - Culturally Questionable? *Oxford Business Economics Conference*. [Online] 24-26 June, 2008. Available at: <http://ro.uow.edu.au/commpapers/370> [accessed 15 November 2008]
- Katzenbach, J.R. and Smith, D.K., 1993. *The Wisdom of Teams: Creating the High-performance Organization*. Boston: Harvard Business School.
- Kim, S.S., 2000. *East Asia and Globalization*. New York: Rowman & Littlefield Publishers Inc.
- Kirchmeyer, C. and Cohen, A. 1992. Multicultural groups: their performance and reactions with constructive conflicts. *Group and organization Management* [Online] 17 (2), p. 153-71. Available at: <http://gom.sagepub.com/cgi/content/abstract/17/2/153> [accessed 5 November 2008]
- Lawrence, B.S., 1997. The black box of organizational demography. *Organization Science*. 8 (1), p. 1-22.
- Lorge, I. and Solomon, H., 1962. Two models of group behavior in the solution of eureka-type problem. *Psychometrika* [Online] 20 (2), p. 139-148. Available at: http://econpapers.repec.org/article/sprpsycho/v_3A20_3Ay_3A1955_3Ai_3A2_3Ap_3A139-148.htm
- Mannix, E. and Neale, M., 2005. What differences make a difference? The promise and reality of diverse teams in organizations. *Psychology in the Public Interest*. 6(2), p.31-55.
- Metcalf, B.D. and Afanassieva, M., 2005. Gender, work, and equal opportunities in central and eastern Europe. *Women in Management Review* 20 (6), p. 397.
- Milliken, F.J. and Martins, L.L., 1996. Searching for common threads: Understanding the multiple effects of diversity in organizational contexts. *Academy of management review* [Online] 21(2), p. 402-433. Available at: http://www.accessmylibrary.com/comsite5/bin/aml2006_library_auth_tt.pl?item_id=0286-204064
- Porter, R. and Samovar L., 1995. *International Communication*. 4th.ed. Belmont CA: Wadsworth Publishing Company.
- Powell, S., 2006. Article with Geert Hofstede. *Human Resource Management Digest*. 14 (3), p. 12-15.
- Ringelmann, M., 1913. Recherches sur les moteurs animés. Travail de l'homme (Research on animate source of power: the work of man). *Annales de l'Institut National Agronomique*. 12 (2), p. 1-40.

- Rubin, A. and Babbie, E.R., 2000. *Research Methods for Social Work*. 5th ed. Belmont CA: Wadsworth Publishing Co Inc.
- Samuel, J. E., 1992. *Diversity in the workplace*. New York: Guilford Press.
- Saunders, M., Lewis, P. and Thornhill, A., 2007. *Research Method for Business Students*. 4th ed. Harlow: Pearson Education Limited.
- Seymen, O.A., 2006. The cultural diversity phenomenon in organizations and different approaches for effective cultural diversity management: a literary review. *Cross culture Management: An International Journal*. 13 (4), p. 296-315.
- Shaw, M.E., 1932. Comparison of individuals and small groups in the rational solution of complex problems. *American Journal of Psychology*. 44, p. 491-504.
- Smith-Lovin, L., and Brody, C, 1989. Interruptions in group discussion: The effects of gender and group composition. *American Sociological Review* 54, p. 425-35.
- Stets, Jan E. and Burke, P. J., 1996. Gender, Control, and Interaction. *Social Psychology Quarterly*. 59, p. 193-220.
- Stringer, D.M. 1995. The role of women in workplace diversity consulting. *Journal of Organizational Change*. 1, p. 44-51.
- structuring of organizations. *Administrative Science Quarterly*. 9(2), p. 152-163.
- structuring of organizations. *Administrative Science Quarterly*. 9(2), p. 152-163.
- Tajfel, H., 1972. *Social Categorization*. In *Introduction a la psychologie sociale*, p.272-302. Paris: Larousse.
- Taylor, F.W., 1911. *The Principles of Scientific Management*. Trade edition. New York : Harper and Brothers Publishers.
- Taylor, D. W, Berry, P.C. and Block, C.H., 1958. Does group participation when using brainstorming facilitate or inhibit creative thinking. *Administrative science quarterly*. 3, p. 23-47.
- Tindla, S.R., Heath, L. and Edwards, J., 1998. *Theory and Research on small groups*. New York: Plenum Press.
- Travis, L.E., 1925. The effect of a small audience upon eye-hand coordination. *Journal of Abnormal and Social Psychology*. 77, p. 109-110.
- Triandis, H.C.1960. Cognitive similarity and communication in a dyad. *Human Relations*. 13, p. 175-83.
- Triplet, N., 1898. *The dynamogenic factors in peacemaking and competition*. *America Journal of Psychology*. 9, p. 507-533.

- Trompenaars, F. and Hampden-Turner, C. 1997. *Riding the Waves of Culture. Understanding Cultural Diversity in Business*. London: Nicholas Brealey Publishing
- Tuckman, B., 1965. Developmental sequence in small groups. *Psychological Bulletin*. 63 (6), p. 384-99.
- Tuleja, E.A., 2005. *Intercultural communication for business*. Mason, Ohio: Thomson Corporation South-Western Thomson.
- Turner, J.C. 1982. *Towards a cognitive redefinition of the social group*. In *Social identity and intergroup relations*. H. Cambridge, England: Cambridge University Press.
- Turner, J.C., 1987. *Rediscovering the social group*. Oxford: Basil Blackwell.
- Umans, T., 2008. Ethnic and gender diversity, process and performance in groups of business student in Sweden. *Intercultural Education*. 19 (3), p. 243.
- Wajcman, J., 1996. Desperately seeking differences: is management style gendered? *British Journal of Industrial Relations*. 34 (3), p. 333-350.
- Watson, W.E., Johnson L., Kumar K., and Critelli, J., 1998. Process gain and process loss: Comparing interpersonal processes and performance of culturally diverse and non-diverse teams across time. *International Journal of Intercultural Relations*. 22, p. 409-30.
- Watson, W.E., Kumar K. and Michaelson, K.L., 1992. Differences in decision making regarding risk taking: a comparison of culturally diverse and culturally homogenous task groups. *International journal of Intercultural Relations*. 16, p. 53-65.
- Wood, W., 1987. Meta-analytic review of sex differences in group performance. *Psychological Bulletin*. 102, p. 53-71.

Appendices

Appendix I Guideline

Your task is to make a rocket with your 4 teammates by using the offered materials. Video of the process of experiment and interview will be recorded which will only be used for our dissertation and won't be presented in public. During the process you are not allowed to do anything else include going to toilet. You can only discuss within your team if you have any question. We will wait outside and count the time for you.

There will be 200kr reward for each team if you can make the rocket within 10 minutes according to the requirements below.

1. 3 windows, each window should has a curtain and a people inside
2. At least 0.5m high and can stand still for more than 15 seconds after finish

Ps: No criteria for the rocket.

Time limited:

Every extra minute over 10min will cost you 50kr, for example, you will get $200-50=150$ kr if you finish in 11 minutes.

Appendix II Questionnaire

Team number: _____ Participant number: _____

Your mother's nationality: _____ Your father's nationality: _____

Your nationality: _____

How do you identify yourself? _____

What is your native language? _____

Sex: _____

Age: _____

1. So how did it go with building the ship? Did you accomplish the task, received award?

2. Were you satisfied with the team work?

1. Definitely Yes
2. Yes
3. Hard to say
4. No
5. Definitely no

3. Could you express your opinion easily?

1. Definitely Yes
2. Yes
3. Hard to say
4. No
5. Definitely no

4. Did others follow your suggestions?

1. Definitely Yes
2. Yes
3. Hard to say
4. No
5. Definitely no

5. What do you think of the communication process in your team?

1. Very good
2. Satisfying
3. Hard to say
4. Barely satisfying
5. Bad

6. Did you experience any problems communicating?

If yes Why?

7. What do you think are the most important factors that can affect the communication in a team?

8. How was the interaction with other team members as the time passed by? Did you feel the time pressure?

9. Who do you prefer to work with?

1. People with the same gender

2. People with opposite gender

3. It doesn't matter

10. Who do you prefer to work with?

1. People with the same cultural background

2. People with different cultural backgrounds

3. It doesn't matter

11. How often do you ascribe mistakes, misunderstands to the gender factor?

1. Never

2. Sometimes

3. Always

12. How often do you ascribe mistakes, misunderstands to the cultural background factor?

1. Never

2. Sometimes

3. Always

13. Do you think gender is a big issue for the communication in a team?

1. Yes 2. no 3. No idea

14. Do you think cultural background is a big issue for the communication in a team?

1. Yes 2. n 3. No idea

15. How do you think gender and cultural diversity would impact the communication in a team?

Appendix III The Belbin Test

This version of the Belbin test has been taken from Teambuilding by Alistair Fraser and Suzanne Neville: The Industrial Society 1993.

Self Perception Inventory

To complete each section of this inventory, tick in the far left hand column the one, two or three sentences most applicable to yourself.

Then in the column on the right, apportion 10 points between those sentences that apply to you: one of which you feel sums you up well while the other only applies some of the time. In this instance you could give your first choice seven points and the remaining points to your second choice. In some instances you might decide that there are two sentences which apply to you equally - if this is the case, award five points to each.

You must allocate all 10 points in each section.

SECTION A

WHEN INVOLVED IN A PROJECT WITH OTHER PEOPLE:

Tick		Points
	1. I can be relied upon to see that work that needs to be done is organized.	
	2. I pick up slips and omissions that others fail to notice.	
	3. I react strongly when meetings look like losing track of the main objective.	
	4. I produce original suggestions.	
	5. I analyze other people's ideas objectively, for both merits and failings.	
	6. I am keen to find out the latest ideas and developments.	
	7. I have an aptitude for organizing people.	

	8. I am always ready to support good suggestions that help to resolve a problem.	
--	--	--

SECTION B

IN SEEKING SATISFACTION THROUGH MY WORK:

Tick		Points
	1. I like to have a strong influence on decisions.	
	2. I feel in my element where work requires a high degree of attention and concentration.	
	3. I am concerned to help colleagues with their problems.	
	4. I like to make critical discrimination between alternatives.	
	5. I tend to have a creative approach to problem solving.	
	6. I enjoy reconciling different points of view.	
	7. I am more interested in practicalities than new ideas.	
	8. I particularly enjoy exploring different views and techniques.	

SECTION C

WHEN THE TEAM IS TRYING TO SOLVE A PARTICULARLY COMPLEX PROBLEM:

Tick		Points
	1. I keep a watching eye on areas where difficulty may arise.	
	2. I explore ideas that may have a wider application than in the immediate task.	
	3. I like to weigh up and evaluate a range of suggestions thoroughly before choosing.	
	4. I can co-ordinate and use productively other people's abilities and talents.	

	5. I maintain a steady systematic approach, whatever the pressures.	
	6. I often produce a new approach to a long continuing problem.	
	7. I am ready to make my personal views known in a forceful way if necessary.	
	8. I am ready to help whenever I can.	

SECTION D

IN CARRYING OUT MY DAY-TO-DAY WORK:

Tick		Points
	1. I am keen to see there is nothing vague about my task and objectives.	
	2. I am not reluctant to emphasize my own point of view in meetings.	
	3. I can work with all sorts of people provided that they have got something worthwhile to contribute.	
	4. I make a point of following up interesting ideas and/or people.	
	5. I can usually find the argument to refute unsound propositions.	
	6. I tend to see patterns where others would see items as unconnected.	
	7. Being busy gives me real satisfaction.	
	8. I have a quiet interest in getting to know people better.	

SECTION E

IF I AM SUDDENLY GIVEN A DIFFICULT TASK WITH LIMITED TIME AND UNFAMILIAR PEOPLE:

Tick		Points
	1. I often find my imagination frustrated by working in a team.	

	2. I find my personal skill particularly appropriate in achieving agreement.	
	3. My feelings seldom interfere with my judgment.	
	4. I strive to build up an effective structure.	
	5. I can work with people who vary widely in their personal qualities and outlook.	
	6. I feel it is sometimes worth incurring some temporary unpopularity if one is to succeed in getting one's views across in a team.	
	7. I usually know someone whose specialist knowledge is particularly apt.	
	8. I seem to develop a natural sense of urgency.	

SECTION F

WHEN SUDDENLY ASKED TO CONSIDER A NEW PROJECT:

Tick		Points
	1. I start to look around for possible ideas and openings.	
	2. I am concerned to finish and perfect current work before I start.	
	3. I approach the problem in a carefully analytical way.	
	4. I am able to assert myself to get other people involved if necessary.	
	5. I am able to take an independent and innovative look at most situations.	
	6. I am happy to take the lead when action is required.	
	7. I can respond positively to my colleagues and their initiatives.	
	8. I find it hard to give in a job where the goals are not clearly defined.	

SECTION G

IN CONTRIBUTING TO TEAM PROJECTS IN GENERAL:

Tick		Points
	1. I think I have a talent for sorting out the concrete steps that need to be taken given a broad brief.	
	2. My considered judgment may take time but is usually near the mark.	
	3. A broad range of personal contacts is important to my style of working.	
	4. I have an eye for getting the details right.	
	5. I try to make my mark in team meetings.	
	6. I can see how ideas and techniques can be used in new relationships.	
	7. I see both sides of a problem and take a decision acceptable to all.	
	8. I get on well with others and work hard for the team.	

Scoring Key for Self Perception Inventory

Transfer your points allocation from the seven sections of the Self Perception Inventory to the appropriate boxes below. The pre-printed numbers in the grid refer to the question numbers of each section. For example if for Section A you scored seven points for question 6 and three points for question 1, you would allocate them in the columns RI and IMP respectively.

	SH	CO	PL	RI	ME	IMP	TW	CF
A	3__	7__	4__	6__	5__	1__	8__	2__
B	1__	6__	5__	8__	4__	7__	3__	2__
C	7__	4__	6__	2__	3__	5__	8__	1__
D	2__	3__	6__	4__	5__	1__	8__	7__
E	6__	5__	1__	7__	3__	4__	2__	8__

F	6__	4__	5__	1__	3__	8__	7__	2__
G	5__	7__	6__	3__	2__	1__	8__	4__
TOTAL								

The Belbin Team Roles

The personal skill inventory identifies eight team roles which are described below. There is also another team role called the Specialist which is not identified in the questionnaire.

SH Shaper

Characteristics

Highly strung, outgoing, dynamic

Shapers are highly motivated people with a lot of nervous energy and a great need for achievement. Often they seem to be aggressive extroverts with strong drive. Shapers like to challenge, to lead and to push others into action - and to win. If obstacles arise, they will find a way round - but can be headstrong and emotional in response to any form of disappointment or frustration.

Shapers can handle and even thrive on confrontation.

Function

Shapers generally make good managers because they generate action and thrive on pressure.

They are excellent at sparking life into a team and are very useful in teams where political complications are apt to slow things down. Shapers are inclined to rise above problems of this kind and forge ahead regardless. They like making necessary changes and do not mind taking unpopular decisions. As the name implies, they try to impose some shape and pattern on team discussion or

activities. They are probably the most effective members of a team in guaranteeing positive action.

Strengths

Drive and a readiness to challenge inertia, ineffectiveness, complacency or self-deceptions

Allowable Weaknesses

Prone to provocation, irritation and impatience, and a tendency to offend others

PL Plant

Characteristics

Individualistic, serious-minded, unorthodox

Plants are innovators and inventors and can be highly creative. They provide the seeds and ideas from which major developments spring. Usually they prefer to operate by themselves at some distance from the other members of the team, using their imagination and often working in an unorthodox way. They tend to be introverted and react strongly to criticism and praise. Their ideas may often be radical and may lack practical constraint.

They are independent, clever and original and may be weak in communicating with other people on a different wave-length.

Function

The main use of a Plant is to generate new proposals and to solve complex problems. Plants are often needed in the initial stages of a project or when a project is failing to progress. Plants have often made their marks as founders of companies or as originators of new products.

Too many Plants in one organization, however, may be counter-productive as they tend to spend their time reinforcing their own ideas and engaging each other in combat.

Strengths

Genius, imagination, intellect, knowledge

Allowable Weaknesses

Up in the clouds, inclined to disregard practical details or protocol.

CO Co-ordinator

Characteristics

Calm, self-confident, controlled.

The distinguishing feature of Co-coordinators is their ability to cause others to work to shared goals.

Mature, trusting and confident, they delegate readily. In interpersonal relations they are quick to spot individual talents and to use them to pursue team objectives.

While Co-coordinators are not necessarily the cleverest members of a team, they have a broad and worldly outlook and generally command respect.

Function

Co-coordinators are useful people to have in charge of a team with diverse skills and personal characteristics. They perform better in dealing with colleagues of near or equal rank than in directing junior subordinates. Their motto might well be “consultation with control” and they usually believe in tackling problems calmly. In some organizations, Co-coordinators are inclined to clash with Shapers due to their contrasting management styles.

Strengths

Welcome all potential contributors on their merits and without prejudice, but without ever losing sight of the main objective.

Allowable Weaknesses

No pretensions as regards intellectual or creative ability.

ME Monitor Evaluator

Characteristics

Sober, unemotional, prudent.

Monitor Evaluators are serious-minded, prudent individuals with a built-in immunity from being over-enthusiastic. They are slow deciders who prefer to think things over - usually with a high critical thinking ability. Good Monitor Evaluators have a capacity for shrewd judgments that take all factors into account and seldom give bad advice.

Function

Monitor Evaluators are at home when analyzing problems and evaluating ideas and suggestions.

They are very good at weighing up the pro's and con's of options and to outsiders seem dry, boring or even over-critical. Some people are surprised that they become managers.

Nevertheless, many Monitor Evaluators occupy key planning and strategic posts and thrive in high-level appointments where a relatively small number of decisions carry major consequences.

Strengths

Judgment, discretion, hard-headedness

Allowable Weaknesses

Lack of inspiration or the ability to motivate others

RI Resource Investigator

Characteristics

Extroverted, enthusiastic, curious, communicative

Resource Investigators are good communicators both inside and outside the

organization. They are natural negotiators, adept at exploring new opportunities and developing contacts. Although not necessarily a great source of original ideas, they are quick to pick up other people's ideas and build on them. They are skilled at finding out what is available and what can be done, and usually get a warm welcome because of their outgoing nature.

Resource Investigators have relaxed personalities with a strong inquisitive sense and a readiness to see the possibilities of anything new. However, unless they remain stimulated by others, their enthusiasm rapidly fades.

Function

Resource Investigators are quick to open up and exploit opportunities. They have an ability to think on their feet and to probe others for information. They are the best people to set up external contacts, to search for resources outside the team, and to carry out any negotiations that may be involved.

Strengths

A capacity for finding useful people and promising ideas or opportunities, and a general source of vitality

Allowable Weaknesses

Liable to lose interest once the initial fascination has passed.

IMP Implementer

Characteristics

Implementers are well organized, enjoy routine, and have a practical common-sense and self-discipline.

They favor hard work and tackle problems in a systematic fashion. On a wider front they hold unswerving loyalty to the organization and are less concerned with the pursuit of self-interest.

However, Implementers may find difficulty in coping with new situations.

Function

Implementers are useful because of their reliability and capacity for application. They succeed because they have a sense of what is feasible and relevant. It is said that many executives only do the jobs they wish to do and neglect those tasks which they find distasteful. By contrast,

Implementers will do what needs to be done. Good Implementers often progress to high management positions by virtue of good organizational skills and efficiency in dealing with all necessary work.

Strengths

Organizing ability, practical common sense, hard working, self-discipline.

Allowable Weaknesses

Lack of flexibility, resistance to unproven ideas

TW Team Worker

Characteristics

Socially oriented, rather mild and sensitive

Team Workers are the most supportive members of a team. They are mild, sociable and concerned about others with a great capacity for flexibility and adapting to different situations and people. Team Workers are perceptive and diplomatic. They are good listeners and are generally popular members of a team. They cope less well with pressure or situations involving the need for confrontation.

Function

The role of the Team Worker is to prevent interpersonal problems within a team and allow everyone to contribute effectively. Since they don't like friction, they will go to great lengths to avoid it. The diplomatic and perceptive skills of a Team Worker become real assets, especially under a managerial regime where conflicts

are liable to arise or to be artificially suppressed.

Team Worker managers are seen as a threat to no one and therefore can be elected as the most accepted and favored people to serve under. Team Workers have a lubricating effect on teams.

Morale is better and people seem to co-operate better when they are around.

Strengths

Ability to respond to people and situations and to promote team spirit

Allowable Weaknesses

Indecision at moments of crisis and some failure to provide a clear lead to others.

Specialist

Characteristics

Professional, self-starting, dedicated.

Specialists are dedicated individuals who pride themselves on acquiring technical skills and specialist knowledge. Their priorities are to maintain professional standards and advance their own subject. While they show great pride in their own work, they usually lack interest in other people's work, and even in other people themselves. Eventually, the Specialist becomes the expert by sheer commitment along a narrow front. Few possess the single-mindedness, dedication and aptitude to become a first-class Specialist.

Function

Specialists play an indispensable part in some teams, for they provide the rare skill upon which the organization's service or product is based. As managers, they command support because they know more about their subject than anyone else and can usually be called upon to make decisions based on in-depth experience.

Strengths

Provide knowledge or technical skills in rare supply.

Allowable Weaknesses

Contribute only on a narrow front.

CF Completer-Finisher

Characteristics

Painstaking, orderly, conscientious, anxious

Completers, or Completer-Finishers, have a great capacity for follow-through and attention to detail, and seldom start what they cannot finish. They are motivated by internal anxiety, although outwardly they may appear unruffled. Typically, they are introverts who don't need much external stimulus or incentive. Completer-Finishers dislike carelessness and are intolerant of those with a casual disposition. Reluctant to delegate, they prefer to tackle all tasks themselves.

Function

Completer-Finishers are invaluable where tasks demand close concentration and a high degree of accuracy. They foster a sense of urgency within a team and are good at meeting schedules.

In management, they excel by the high standards to which they aspire, and by their concern for precision, attention to detail and follow-through.

Strengths

A capacity for fulfilling their promises and working to the highest standards

Allowable Weaknesses

A tendency to worry about small things and a reluctance to "let go"