Graduate School of Business

Cooperative Teamwork for Quality Customer Service in the Hong Kong Shiprepair Yards Environment

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Declaration

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

Signature: ....

Date: 26th July 2003

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ABSTRACT

During the turbulent times facing cotemporary organisations, managers and employees need a precise understanding of the nature of team dynamics that develops quality service to customers. Extensive literature searches reveal few research studies focused on the nature of teamwork, which develops value to customers. The purpose of this study is to examine the value of teamwork for providing quality service within the Hong Kong shiprepair industry, outline the insight gleaned and recommend future research.

This study aims to link empirically the Western developed Deutsch's (1949a, 1949b, 1973, 1980, 1985, 1990) Theory of Cooperation and Competition with the innovation of teamwork and to assist in understanding the variance in the performance of these teams. Literature suggests that the relationships and interaction within the work teams can very much impact the overall performance of these work teams. The extent that these work teams are able to develop cooperative goals can promote productive and constructive communication and problem solving (constructive controversy) in their interactions. A constructive interaction leads to team members' perception of high team confidence. With trust, strong work relationship, team morale and perceived confidence, team effectiveness is enhanced on quality customer service (Alper, Tjosvold and Law, 1998; Tjosvold, Hui and Law, 1998; Tjosvold, Moy and Sasaki, 1996, 1999; Wong et al., 1999). The research also tests the extent of impact of traditional Chinese values of power distance and collectivism as contributing to cooperative goals and encourages an open-minded discussion of opposing views (constructive controversy). It proposes that by adopting cooperative goals, shiprepair yard management in Hong Kong may meet the twin challenges of involving employees fully into the organisation and providing quality service to customers.

The result suggests that the Western derived Theory of Cooperation and Competition, if appropriately and skillfully expressed, might have the potential as one alternative to understand the goal interdependence dynamics as experienced by the Hong Kong Chinese in the shiprepair industry. Nevertheless, the result is not confirmatory to the main hypothesis of the study that team confidence is significantly related to quality customer service.

Findings of this study question whether a Western theory or research instrument derived is appropriate for application to a Chinese work setting (Bond and Wang, 1983). Although it is useful to test concepts developed in one culture to another, yet theories from the West cannot be assumed to apply in the East (Hofstede, 1993; Triandis, 1983). An important finding of this research is, however, that this Western derived theory might not be suitable to be applied in a work group of very low levels of education and/or low exposure to the modern workplace practice and Western influences.

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Chapter One
The Research Problem

"The problem is the axial center around which the whole research effort turns. The statement of the problem must be expressed with the utmost precision. The problem is then fractionated into more manageable sub-problems. So stated, we can then see clearly the goal and the direction of the entire research effort."

(Leedy, 1993:59)

1 The Research Problem

This chapter discusses the rationale for studying the topic of cooperative teamwork for quality customer service within the Hong Kong shiprepair yards environment. It introduces the background, research problem, research objectives and research questions addressed in this study. It also outlines the purpose of the study, and describes the significance of the study and the methodology used.

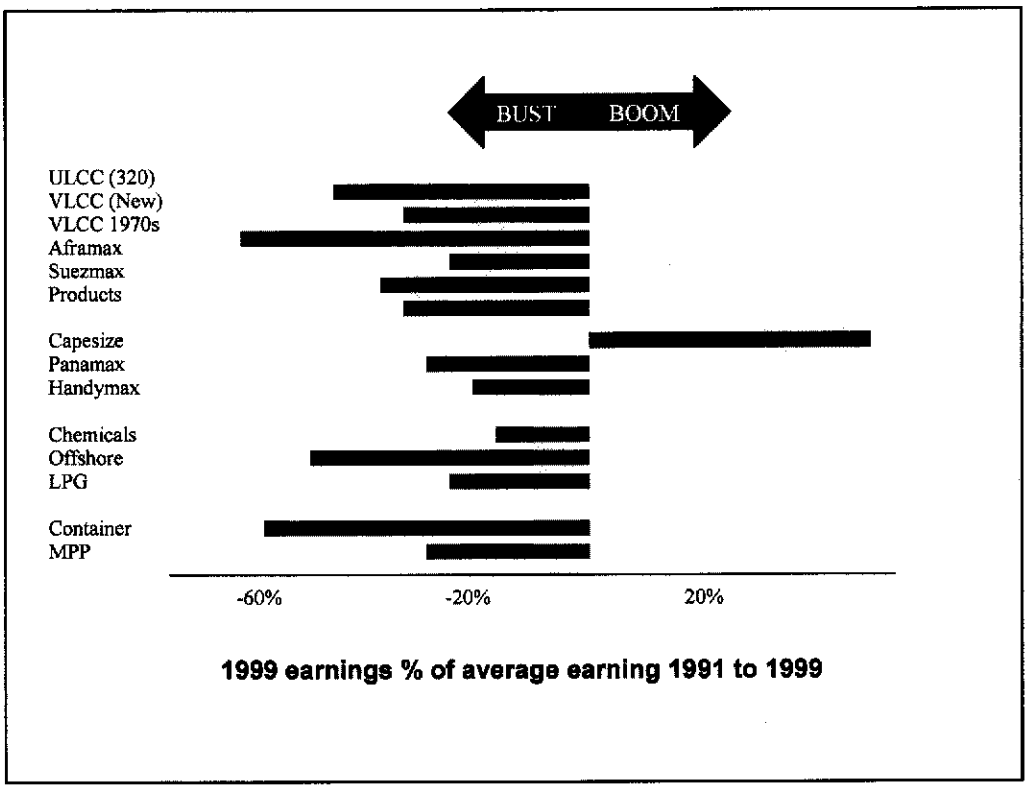
1.1 Background

Shiprepair has been historically an important industry in the history of Hong Kong. According to the sales brochure issued by The Hongkong United Dockyards Ltd. (2002), shiprepair industry can be traced back to 1846, when the first Scotsman sailed east to work in a Chinese shipyard at Huangpu on the south China coast's Pearl River. A few years later, dockyards began to

develop in Hong Kong, and the industry grew to become one of the largest employers in the territories. The Hongkong & Whampoa Dock Co., Ltd., one of the two parent companies of the present Hongkong United Dockyards Ltd. has boasted it was the fourth public limited company to be registered in Hong Kong on the 11th of October 1866 (Companies Registry, Hong Kong SAR, 2002).

Figure 1.1 : All Shipping Market Segments other than Capesize in Recession

(Source from Stopford, 1999)



1.1.1 Current Economic Environment

The Asian Economic Crisis, which began in July 1997 (Mishkin, 1999), caused a trade recession, and all shipping markets are in troubled waters. Research conducted by Stopford (1999) of Messrs. H. Clarkson & Co. Ltd. showed that all the 14 shipping market segments but one were in recession as shown in Figure 1.1. He maintains that this is the first time since the 1980s that there has been such a broadly based recession in the shipping markets. As a result, every industry associated with shipping including shiprepair is trapped in the doldrums, and many shiprepairers are incurring unsustainable losses. On a worldwide basis, the industry is contracting. Very few shiprepair yards in Hong Kong are operating profitably, and the outlook is far from encouraging. In order to maintain the competitive edge, it is, therefore, paramount for the Hong Kong shiprepair industry to manage change by adopting drastic measures to develop quality customer service.

1.2 Operational Definitions

This study uses the Deutsch's (1949a, 1949b, 1973, 1980, 1985, 1990) Theory of Cooperation and Competition, which was developed largely through North American research on conflict resolution, to understand how cooperative teamwork among Chinese employees impacts the customer perception of quality service in the Hong Kong shiprepair industry. The following operation definitions are provided to ensure that we have a clear understanding of what we are working on:

Conflict: Conflict has been broadly defined as perceived incompatibilities (Boulding, 1963) or perception by the parties involved that they have discrepant views or have interpersonal incompatibilities.

Social or goal interdependence: Social or goal interdependence exists when the outcomes for individuals are affected by the each other's action. Within any social situation, individuals may join together to achieve mutual goals, compete to see who is best, or act individualistically on their own (Johnson and Johnson, 1989:2).

Cooperation: Cooperation is working together to accomplish shared goals. Johnson and Johnson (1989:2) stated that it is the use of small groups so that individuals work together to maximise their own and each other's productivity and achievement. In cooperative environments, one's goal attainment helps others reach their goals; as one succeeds, others succeed.

Competition: Competition has been defined by Deutsch (1973) as the condition in which participants are so linked together that there is a negative correlation between their goal attainments. One's goal attainment precludes, or at least makes less likely, the goal attainment of the others. If one succeeds, others must fail.

Individualistic situation or independence: According to Alper, Tjosvold and Law (1998:36), individualist situation or independence occurs when people believe their goals are unrelated. There is no correlation among the goal attainment of participants. The goal attainment of one neither helps nor hinders the goal attainment of others. Success by one party means neither failure nor success for the other parties.

Constructive Controversy: Constructive controversy is defined as the open-minded discussion of opposing positions (Tjosvold, 1985a). It is the value of intellectual opposition (Johnson, Johnson and Tjosvold, 2000:66), which is defined as a process for constructively coping with the inevitable differences

that people bring to cooperative interaction because it uses differences in understanding perspective, knowledge, and worldview as valued resources.

Confidence in Team Dynamics: Confidence in team dynamics is defined as the collective belief that group members interact effectively (Alper, Tjosvold and Law, 1998:37).

Team Effectiveness: In this study of the shiprepair industry in Hong Kong, team effectiveness is assumed to be demonstrated by enhanced customer service as rated by internal and external customers on items concerning price, quality and time (The Port of Hong Kong, 2000:80).

1.3 The Purpose of the Study

The purpose of this research is mainly to examine the value of teamwork for providing quality customer service within the Hong Kong shiprepair industry, outline the insight gleaned and recommend future research.

The research has been conducted within the shiprepair industry in Hong Kong. During turbulent times facing contemporary organisations, managers and employees need a precise understanding of the nature of team dynamics that develops quality service to customers. Extensive literature searches reveal that very limited research is focused on the nature of teamwork, which develops value to customers. This study provides an overview of the value of teamwork for quality service within Hong Kong shiprepair yards environment, and identifies whether employees perceived goals of interdependence are critical to this value-producing teamwork. The study explores the potential of the Western developed Deutsch's (1949a, 1949b,

1973, 1980, 1985, 1990) Theory of Cooperation and Competition to analyse interdependence in the team dynamics and specify the interdependence and interaction that contribute to effective teams, which in turn produce quality service to customers. It proposes that by adopting cooperative goals, shipyard management may meet the twin challenges of involving employees fully into the organisation, and providing quality service to customers.

The research also tests the extent of impact of traditional Chinese values of power distance, collectivism and conformity as contributing to cooperative goals, and encouraging an open-minded discussion of opposing views (constructive controversy). Findings should have potentially important implications for managing in Hong Kong Chinese and cross-cultural settings. Theories from the West cannot be assumed to apply in the East (Hofstede, 1993), but the research conducted in the West may have the potential to be a common framework that diverse people can use to manage their conflicts productively.

1.4 Significance of the Study

This research should have critical significance as the Hong Kong shiprepair yards in recent years are struggling to solicit customers in filling their order books. The results might help to specify organisational ideals and values that can help Chinese managers in the Hong Kong shiprepair yards respond to critical changes and emerging business challenges. The research findings will yield insights for understanding and promoting quality customer service, employees' relationships and commitment in the Hong Kong shiprepair industry.

1.5 Research Objectives

The specific objectives of this research are to perform the following in the Hong Kong shiprepair yards environment:

(i) To provide a study of the Western developed Deutsch's (1949a, 1949b, 1973, 1980, 1985, 1990) Theory of Cooperation and Competition in a Hong Kong Chinese setting.

(ii) To test the extent of impact of the traditional Chinese values of power distance, collectivism, and conformity as contributing to cooperative goals.

(iii) To explore the potential of the Deutsch's Theory of Cooperation and Competition (1949a, 1949b, 1973, 1980, 1985, 1990) for analysing the effects of interdependence of goals.

(iv) To identify the nature of interaction (constructive controversy or lack of it) between employees and the consequences for teamwork that serves customers.

(v) To explore and analyse the nature of teamwork that develops strong confidence in team dynamics, which in turn contributes to quality customer service.

1.6 Research Questions

To achieve the above objectives, the research project is asking the following fundamental research questions:

(i) Can the Deutsch's Western Theory of Cooperation and Competition be usefully applied in the Hong Kong Chinese work setting?

(ii) How and under what conditions can Chinese traditional values contribute to the development of cooperative goals and constructive conflict?

(iii) Can productive teamwork be built in the workplace for delivering value to customers?

1.7 Hypotheses

Research objectives are translated into the following hypotheses for testing:

H01 ***The use of constructive controversy in problem solving is positively related to employees holding the traditional Chinese value of power distance, collectivism and conformity.***

H02 ***Use of constructive controversy to solve problems in teams is positively related to cooperative goals and negatively related to competitive goals and independent goals.***

H03 ***Constructive controversy is positively correlated with confidence in team dynamics.***

H04 ***Confidence within teams in team dynamics is positively correlated with quality customer service by the team as rated by internal customers.***

H05 ***Confidence within teams in team dynamics is positively correlated with quality customer service by the team as rated by external customers.***

Based on the above, the Research Model as presented in Figure 1.2 is developed for testing the five stated hypotheses. In this Model, Chinese traditional values of power distance, collectivism and conformity as well as cooperative, competitive and independent goal orientations affect whether team members could have productive and constructive communication and problem solving (constructive controversy) in their interactions (Alper, Tjosvold and Law, 1998). Other research has focused on the effects of cooperative and competitive goals. This study examines the reasons employees have for concluding how their goals are related. A constructive interaction would, in turn, develop confidence in team dynamics that contribute to effective team performance (Alper, Tjosvold and Law, 1998; Tjosvold, Moy and Sasaki, 1996, 1999; Wong et al, 1999).

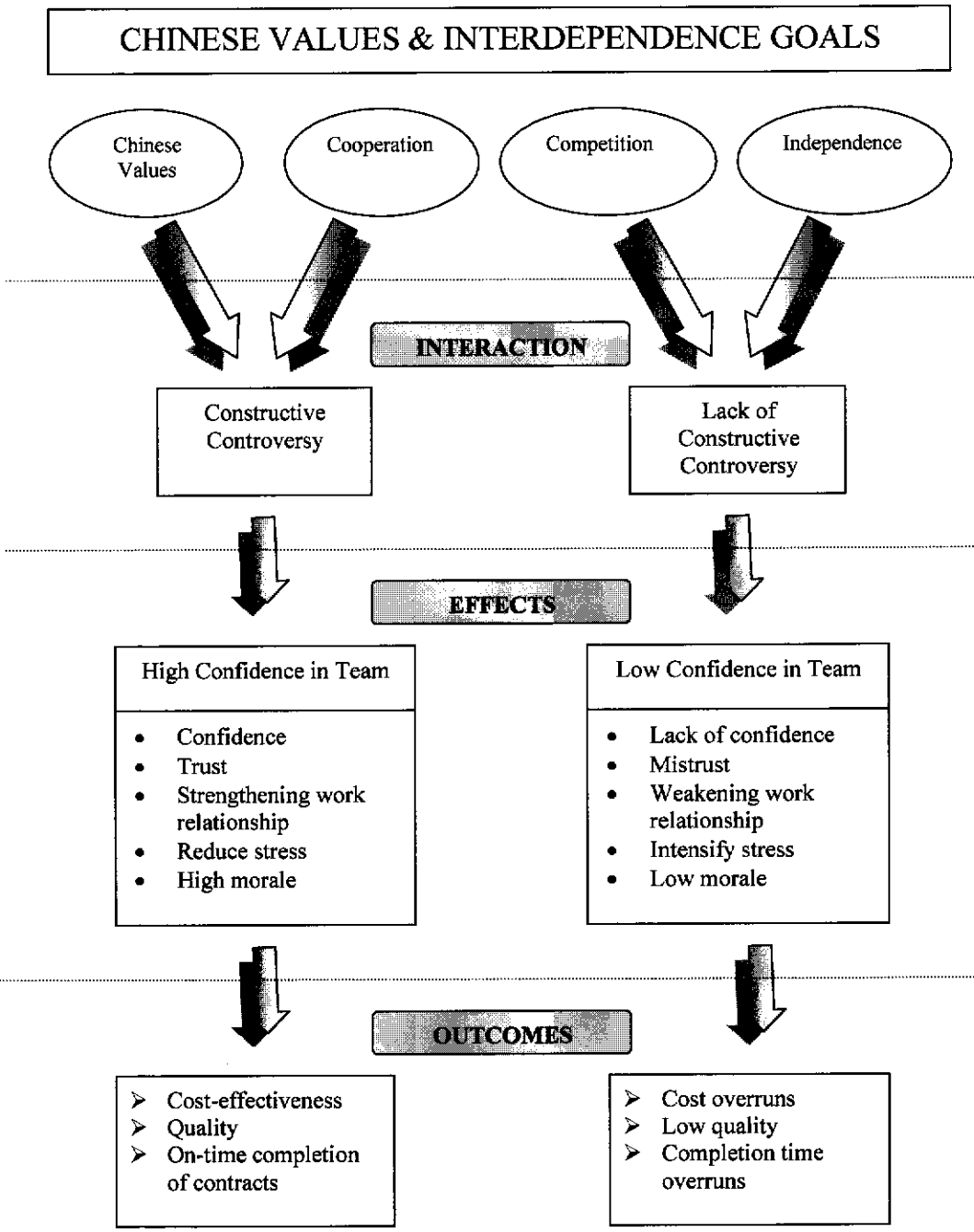
1.8 Research Methodology - Ontology, Epistemology & Methodology

The rationale for the choice of research methodology and the research methods used will be described in detail in chapters 4 and 5.

According to Guba and Lincoln (1994), prior to choosing quantitative or qualitative research, the following three questions need to be answered:

Figure 1.2 : Research Model to Demonstrate Hypothesised Chinese Values and Interdependence Dynamics

(Concept from Alper, Tjosvold and Law, 1998)



1.8.1 The Ontological Question

What is the form and nature of reality and, therefore, what is there that can be known about it? For example, if a "*real*" world is assumed, then what can be known about it is "*how things really are*" and "*how things really work*". The objective of this research is to identify the effects of employee's goals, interaction with and consequences of teamwork that serves customers. This research will drive positivist ontology.

1.8.2 The Epistemological Question

What is the nature of the relationship between the knower or would-be knower and what can be known? The answer that can be given to this question is constrained by the answer already given to the ontological question; that is, not just *any* relationship can now be postulated. So if, for example, a "*real*" reality is assumed, then the posture of the knower must be one of objective detachment or value freedom in order to be able to discover "*how things really are*" and "*how things really work.*" The epistemology of this research will then be to observe empirically.

1.8.3 The Methodological Question

How can the inquirer (would-be knower) go about finding out whatever he or she believes can be known? Again, the answer that can be given to this question is constrained by answers already given to the first two questions; that is, not just *any* methodology is appropriate. For example, a "real" reality pursued by an "objective" inquirer mandates control of possible confounding

factors, whether the methods are qualitative (say, observational) or quantitative (say, analysis of covariance).

From the above introduction, the ontology for our research is positivist, and the epistemology is to explain the empirical facts, which can be observed. The method as determined by the already chosen ontology and epistemology is clearly based on a positivist paradigm - quantitative.

1.9 Appendices

To document the research journey undertaken, appendices are used to give detailed information on technical areas of the research processes in the study.

1.10 Chapter Organisation

Chapter 1 presents the initial background to the research. It provides the operational definitions, purpose and significance of the study. It gives the research objectives and questions of the study and also contains the research methodology and the chapter organisation.

Chapter 2 introduces the research context of the shiprepair industry with detailed discussion on the port of Hong Kong and the current status of the Hong Kong shiprepair industry. It also describes in detail the market size of the Hong Kong shiprepair industry and the facilities available. The need to maintain competitive edge of the Hong Kong shiprepair industry and the competitive strategies adopted by the Hong Kong shiprepair yards are fully discussed.

Chapter 3 reviews critically the relevant literature related to theory and research of the constructs in the proposed study in two parts. Part 1 discusses the literature review on cross-cultural conflict management. This part presents and discusses the issue of culture, cultural orientation, and cultural constructs. It also investigates the impact of national cultural differences with application of Hofstede's (1993) and Trompenaars's (1998) research for diagnosing the cultural difference between Chinese and Westerners. It examines the unique aspects of key Chinese cultural attributes and traditional Chinese cultural values, and introduces a cultural 'Model' for contrasting maps of business key organising principles between Chinese and Westerners. The concept of this 'Model' is drawn from the comparison between the Confucian teachings/Chinese *guanxi* relation network and the Western society teachings/Leader-Member Exchange (LMX) perspective of work relationships. Part 2 introduces the basic research inquiry on how to create quality enhancing productive teamwork and examines the confidence developed in team dynamics. It also reviews the literature on the conflict theory as derived from Western constructs, and discusses the Deutsch's Theory of Cooperation and Competition and the Theory of Constructive Controversy viewed from both the Western and Chinese perspectives and research. This chapter concludes with a discussion on the prospect of applying a Western theory in the Hong Kong Chinese work setting.

Chapter 4 outlines the rationale of the research design and methodology. It gives the preamble about the type of research methodology, introduces the quantitative (positivist) and qualitative (interpretative) paradigms and the positivist orientation for this research. This chapter also discusses the research model, explains the theoretical framework for investigation and development of the hypotheses.

Chapter 5 focuses on all the important problems faced by the researcher in selecting an adequate research design for empirical studies. It describes the method and design of the research for the particular process issues in the Hong Kong Chinese setting. The study proposes a positivistic orientation as the research plan for data collection and procedure, and formulates the survey method, questionnaire design, reliability and validity, pilot study, target population and sample process.

Chapter 6 presents and analyses the demographic data and descriptive statistics for the questionnaires using SPSS (The Statistical Package for the Social Sciences). Cronbach's alpha is used to test the reliability of the components of the constructs. The hypotheses formulated for this research are tested and the research findings are analysed. The antecedents of cooperative goals and constructive conflict in Chinese work setting are then examined and factor analysis is used to identify factors, which correspond to constructs of the theory for understanding their behaviour. Lastly, the question on whether a Western theory can be applied in Chinese work context is addressed.

Chapter 7 summarises the results of the previous chapters and interprets the implications of applying the Theory of Cooperation and Competition to the Hong Kong Chinese work setting of the shiprepair industry. A mental model "Towards a Negotiated Reality" is prescribed to suit the present Hong Kong shiprepair yards work setting and a new integrated cross-cultural organisational Model – "The Chinese Hand in the Western Glove" is proposed for Chinese and Westerners to manage conflicts together. Finally, limitation of the study together recommendations and future research are addressed.

Chapter Two
Research Context - The Shiprepair Industry

".....So it is important to understand not just where you are coming from, but also where those you are seeking to research are coming from. Preparatory time given over to learning about this is almost always well spent, as well as being valuable contextual research in its own right."

(Blaxter, Hughes and Tight, 1996:16)

2 Research Context – The Shiprepair Industry

This chapter introduces the research context of the shiprepair industry. It provides the detailed discussion on the Port of Hong Kong and the current status of the Hong Kong shiprepair industry with their main contemporary competitive strategies.

2.1 The Contemporary Shiprepair Market Scene

Few would dispute that the merchant shipping industry's safety and pollution record has suffered a significant decline over the past decade or so. Casualty investigations have pinpointed poor management and the absence of formal systems as having an adverse effect on incidents and accidents. Recent years have seen such high profile marine casualties as "Herald of Free Enterprise", "Scandinavia Star", "Estonia", and "Express Samina" with a catastrophic loss

of lives, and "Exxon Valdez", "Sea Empress", "Aegean Sea", and "Erika" with their devastating and long-term impact on the marine environment (Beech, 1996, Hill, 1998, Matthews, 2000). In the wake of such serious incidents, various regulatory bodies including Classification Societies, Port State Control Agencies and the marine underwriters etc. are all toughening their individual approaches to ship standard levels (Thorpe, 2000). Keeping ships up to the standards dictated by international conventions inevitably means spending more money in the shiprepair yards. New regulations introduced in the past years for up-grading international safety convention standards mean all ships trading over the high seas will have to pay more visits to the repair yards. However, despite of this, majority of shiprepair yards in most regions continue to face plenty of competition.

Today's price levels of shiprepair play an intricate part in the future of any shiprepair yard. Costs for drydocking and repairs are among the most expensive elements of any ship's lifetime operational costs. Not surprisingly, then, shipowners/managers are always looking for the best deals within the general repair market within their favoured areas. The basic repair cost, especially its labour, steel components, remains the most important factor when negotiating a repair operation, although for some niche markets, such as cruise liners and container ships, delivery times also play a major role (Thorpe, 2001, Thisdell, 2001). Fortunately for the shipowners/managers, the shiprepair industry remains in a situation of over capacity, albeit much less now compared with recent years (Thorpe, 2001). This will always result in there being a fairly significant difference between repair quotes, sometimes as much as 50%, dependent upon workloads in the various yards.

From past records, within every shiprepair area there are "cheaper areas" (Thorpe, 2001, Thisdell, 2001). In northern Europe these areas include

Poland, the Baltic States (Estonia, Lithuania and Latvia), and Russia. In the Mediterranean/Southern European area there are Turkey and the Balkan States, and in the Far East there is mainland China. The quality of both the repair itself and the steel which is utilised are becoming more important to many of the more traditional shipowners, especially if it means spending a little bit more than would be required in the "cheaper" yards (Thorpe, 2001, Thisdell, 2001). Many such owners are now looking more seriously at the quality issues, since the introduction of recent tougher Safety Regulations by the International Maritime Organisation (IMO), and the imposing of the International Safety Management Code for Safe Operation of Ships. This is known as the International Safety Management (ISM) Code and applies to all types of ship of over 500 gross tonnage, including mobile offshore units (International Maritime Organisation, 1997).

According to Knaggs (2000), on a worldwide basis, mainland China is currently the cheapest area in which to carry out steelwork repairs, and hence attracts lots of orders from bulk carrier owners for steelwork renewal. He reported that competition within mainland China has forced the price down even further to about one-third of the repair cost in Singapore. As a result, bulk carrier operators beat a hasty path to the doors of the Chinese repair yards for non-sophisticated, non-time-critical work. Nowadays, the Chinese shiprepair yards are the cheapest in the world and payment terms are more generous. Certain Chinese shiprepair yards have now invested in new docks, work shops, and equipment, whilst at the same time significantly improving their technical repair capabilities, productivity, and time taken to repair vessels. Today, the Chinese yards attract not just bulk carriers. The profile of owners and ship types at certain leading Chinese yards, with tankers and container ships beginning to be regular visitors. Many of the frequent visitors are top-level operators, who would not be repairing in China, if it is not

certain to secure quality workmanship and the required timeframe. It would appear to be only a matter of time before China becomes the world No. 1 repair center, and this will certainly happen within the next 10 years (Knaggs, 2000, Thorpe, 2001).

2.2 The Port of Hong Kong & its Shiprepair Industry

2.2.1 The Port of Hong Kong

Strategically located at the mouth of China's Pearl River, with a deep and sheltered harbour, Hong Kong has developed from a quiet fishing village some 160 years ago into a world-class seaport and one of the world's busiest international shipping centres. Situated at the heart of Asia, Hong Kong is one of the most competitive economies and the ninth trading entity in the world (The Port of Hong Kong, 2000:3). Hong Kong's open markets, pro-business culture, excellent communications and world-class financial facilities make it an ideal base from which to do business. The Hong Kong government is firmly committed to a bold *laissez faire* policy, where taxes are low, paperwork is minimal and entrepreneurs actively encouraged (Hong Kong Port and Maritime Boards, 1999).

The Port of Hong Kong is the number one container port with the highest throughput in the world (Table 2.1). In 2000, Hong Kong handled a total 18.1 million Teas and 174.6 million tonnes of cargo through its port (Table 2.2 and Table 2.3), making it the busiest container port in the world for the eighth year in the last decade (Marine Dept., Hong Kong SAR, 2002b). The attractiveness of Hong Kong as an international port stemmed from its excellent geographical location being at the centre of the Asia-Pacific region,

and its deep-water harbour, which is the only major safe sanctuary along the South China coast. The vast hinterland of China has, since the adoption of the "Open Door Policy" by the Chinese Government in 1978, become the major source of trade in Hong Kong, and has helped it become a vital commercial port. With the growth of China's economy, Hong Kong has become increasingly important as a commercial gateway to China. Hong Kong was founded as port for China trade some 160 years ago (The Port of Hong Kong, 2000:3) and has flourished as an *entrecote* since then. The reunification of Hong Kong with China in 1997 further strengthens the territory's position as a hub port for China, and world trade. Today, Hong Kong is the leading container port for the mainland of China and is a major hub port for intra-Asia trade.

Being the junction of two different forms of maritime transport - the large ocean-going vessels from the Pacific Ocean and the smaller, coastal and river trade craft from the Pearl River - and the only modern, fully deep water harbour between Singapore and Shanghai, Hong Kong is the focal point of all maritime trading activities in Southern China. The Port of Hong Kong is supported with ample facilities, including 6,059 metres of quays at Kwai Chung and Stonecutters container terminals; 7,756 metres of quays at public cargo working areas; and 59 mooring buoys for ocean-going vessels. There are also two public passenger ferry terminals processing more than 18 million passenger trips a year to and from Mainland China and Macao (Table 2.4). About 37,680 ocean-going vessels entered Hong Kong in 2000 (Table 2.5). According to data published by the Marine Department of Hong Kong SAR, China (2002b), on an average day there are around 100 ocean-going ships

Table 2.1 : Ranking of Container Ports of the World

(Source: Marine Department of Hong Kong SAR, China, The Port of Hong Kong - Port Statistics, 2002a)

	1995	1996	1997	1998	1999	2000	2001
1	Hong Kong	Hong Kong	Hong Kong	Singapore	Hong Kong	Hong Kong	Hong Kong
2	Singapore	Singapore	Singapore	Hong Kong	Singapore	Singapore	Singapore
3	Kaohsiung	Kaohsiung	Kaohsiung	Kaohsiung	Kaohsiung	Busan	Busan
4	Rotterdam	Rotterdam	Rotterdam	Rotterdam	Busan	Kaohsiung	Kaohsiung
5	Busan	Busan	Busan	Busan	Rotterdam	Rotterdam	Rotterdam
6	Hamburg	Hamburg	Long Beach	Long Beach	Long Beach	Shanghai	Shanghai
7	Long Beach	Long Beach	Hamburg	Hamburg	Shanghai	Los Angeles	Los Angeles
8	Yokohama	Los Angeles	Antwerp	Los Angeles	Los Angeles	Long Beach	Shenzhen
9	Los Angeles	Antwerp	Los Angeles	Antwerp	Hamburg	Hamburg	Hamburg
10	Antwerp	Yokohama	Dubai	Shanghai	Antwerp	Antwerp	Long Beach

Table 2.2 : Port of Hong Kong: Statistics for Vessel Arrivals, Container Throughput and Cargo Throughput in 2000

(Source: Marine Department of Hong Kong SAR, China The Port and Harbour, 2001a)

Year Month	Vessel Arrivals			Container Throughput ('000 TEUs)	Cargo Throughput ('000 tonnes)	
	Ocean Vessels	River Cargo Vessels	River Passenger Vessels		Seaborne	River
2000 January	3,100	10,110	4,940	1,459	10,865	3,770
February	2,520	6,810	5,160	1,115	8,461	2,534
March	3,110	10,570	4,910	1,436	10,503	3,668
April	3,090	9,890	5,260	1,447	11,098	3,511
May	3,160	10,170	4,960	1,524	11,234	3,640
June	3,010	10,260	4,680	1,514	11,112	3,717
July	3,260	10,370	5,060	1,644	11,597	3,486
August	3,260	10,570	5,070	1,649	11,499	3,648
September	3,570	10,210	4,870	1,630	11,020	3,790
October	3,230	9,830	5,040	1,639	10,903	3,861
November	3,170	10,230	4,720	1,474	11,046	3,908
December	3,200	10,160	5,140	1,566	11,598	4,173
Total	**37,680**	**119,180**	**59,810**	**18,098**	**130,937**	**43,706**

Table 2.3 : Worldwide Movements of Commercial Cargo to/from Hong Kong

(Source: Census and Statistic Department, SAR, China. Hong Kong Annual Digest of Statistics, 2000 Edition and Hong Kong Monthly Digest of Statistics, July 2001)

	By Ocean Going Vessels ('000 tonnes)			***By river vessels ('000 tonnes)***			
Year	***Import***	***Export***	***Sub-total***	***Import***	***Export***	***Sub-total***	***Total Tonnage***
1990	46,242	19,766	66,008	6,026	3,262	9,288	75,296
1993	68,226	27,873	96,099	11,783	10,255	22,038	118,137
1995	87,048	40,127	127,175	14,723	14,009	28,732	115,907
1996	86,694	39,145	125,839	14,235	17,226	31,461	157,300
1997	91,950	41,351	133,301	15,563	20,365	35,928	169,229
1998	90,104	37,378	127,482	16,747	22,941	39,688	167,170
1999	88,621	39,601	128,222	17,684	22,932	40,616	168,838
2000	88,003	42,934	130,937	18,933	24,773	43,706	174,643

Table 2.4 : Passengers: Arrival & Departure by Sea at the Port of Hong Kong (1998-2000)

(Source: Census and Statistics Department, SAR, China Hong Kong Monthly Digest of Statistics, July 2001)

Year	*Ocean going Vessel*	Macau Ferry	*China Ferry*	*Sub-total*	***Total Passenger Trips ('000)***
1998	1,050,561	10,660,783	6,204,336	16,865,119	17,915,680
1999	935,885	9,867,692	6,563,877	16,431,569	17,367,454
2000	554,382	10,191,761	8,398,666	18,590,427	19,144,809

working in the port, nearly 600 ocean-going and river trade craft enter or leave the port; and about 10,000 craft working and/or passing through the harbour. The Hong Kong Marine Department also maintains that the ship turnaround performance is among the very best in Asia and port charges are among the lowest in the world. Container ships at terminal berths are routinely turned round in 10 hours or less, while conventional vessels working cargo at harbour buoys are in port for only 1.8 days on average.

Table 2.5 : Total Vessels Entered and Cleared at the Port of Hong Kong (1998-2000)

(Source: Census and Statistic Dept. Hong Kong SAR, China
Hong Kong Monthly Digest of Statistics, July 2001)

	Year	*Vessels Entered*	*Vessels Cleared*	***Total Vessels***	***Total Net Registered Tonnage ('000 tonnes)***
Oceangoing	1998	41,690	41,920	83,610	416,222
	1999	37,580	37,680	75,260	430,630
	2000	37,680	37,150	74,830	484,673
River passenger Ferries to/from Pearl River Ports	1998	23,290	23,290	50,580	7,782
	1999	25,900	25,890	51,790	8,259
	2000	26,090	26,160	52,250	8,765
River passenger ferries to/from Macau	1998	39,710	39,720	79,430	11,201
	1999	34,030	34,040	68,070	9,348
	2000	33,710	33,720	67,430	9,151

2.3 The Shiprepair Industry in Hong Kong

Hong Kong can only continue to be successful as a port as long as cargo traffic is attracted to it. The trade of Hong Kong comprises direct trade and transhipment trade. Direct trade generated from the import and export of

cargoes depends on Hong Kong as a trading and manufacturing centre as well as an efficient port. Indirect-trade is interlinked with China's international trade and depends on the efficiency of the infrastructure and the port of Hong Kong, relative to other ports in the region. If the shiprepair industry of Hong Kong can no longer provide, for whatever reasons, a fast and reliable repair and maintenance service, which is competitive with other ports, ship operators will turn to other nearby ports that are more competitive. The trade of Hong Kong will definitely decline if shipping activities are reduced.

Besides the repair and maintenance of ocean-going vessels, the Hong Kong shiprepair yards are providing an indispensable repair and maintenance service to local vessels such as tugs, launches, bunkering tankers, barges, fresh water supply barges, general and specialised Government vessels, and ferries which form an essential part of the port facilities of Hong Kong. Should these services not be available to Hong Kong, marine traffic between Hong Kong and Macau and the nearby Chinese ports in the nearby Pearl River Estuary ports will be adversely affected.

In addition, any impediment to the transhipment traffic via Hong Kong will also tend to encourage direct shipment to and from China, to the detriment of Hong Kong. The importance of local marine transportation can also be seen from the enormous volume of passenger traffic between coastal ports and Hong Kong. The number of passenger arrivals and departures by sea amounted to 19.1 million passengers in 2000 (Table 2.4).

Moreover, Hong Kong since 1990 has built up its own Ship Registry of high esteem to a world-class level, with a total gross tonnage of about 14,819,000 at end of June 2002 (Marine Department, Hong Kong SAR, China, 2002b). The shiprepair industry of Hong Kong has been providing facilities and

services to ships in complying with the standards of the International Maritime Organisation Regulations for Safety of Life at Sea, 1974 Convention (International Maritime Organisation, 2001). The ability of Hong Kong to provide such services contributes to the territory's credibility as an independent international shipping center.

2.4 To Maintain Competitive Edge

Bearing the brunt of adverse market conditions, the Asian shiprepair industry has suffered in recent years. In an article under Shiprepair of The Port of Hong Kong (2000:80), Mr. Simson Lee, Marine Manager of Hongkong United Dockyards Ltd., said that the shiprepair business has been under a cloud in recent years. With a deluge of shiprepairers based in the region, the industry has evolved into a buyer's market and, as such, the Hong Kong shiprepairers have faced intense competition from south China, in particular. Mr. Lee stressed that the three most important factors for the shiprepair industry that contribute to ***'Quality Customer Service'*** are ***'Price, Quality and Time'***. When the market is good and the shipowners have money, the shiprepairers profit; but when the market is bad, they look for the cheapest price and the best quality. Therefore, each and every individual repair yard has to build an excellent reputation for cost-effectiveness, quality and on-time completion of contracts.

A competitive shiprepair industry is an important factor contributing to the attractiveness of the port of Hong Kong as a centre for shipping activities. Maintaining the competitive edge of the shiprepair industry is equivalent to retaining the competitiveness of the port of Hong Kong.

To retain the competitive edge of the shiprepair industry, the contributing factors of competitive ***"price, quality and time"*** must be maintained and enhanced. Therefore, the reason why the shipyards of Hong Kong have been able to achieve these must be examined, appreciated and fostered. The main purpose of this research is to investigate and explore the value of teamwork for providing quality customer service within the Hong Kong shiprepair industry, outline the insight gleaned and recommend future research.

2.5 The Market Size of the Hong Kong Shiprepair Industry

Despite price being by far the greatest factor for the majority of shipowners, a number of Hong Kong's more established shiprepair yards are still securing contracts through their reputations for efficiency and on-time completion of contracts, particularly for repairs of ships of specialised trades such as containers, passenger vessels, oil rigs etc., where effectiveness and on-time completion are most important (The Port of Hong Kong, 2000:79).

The scope of business for the shiprepair yards in Hong Kong falls under the followings categories:-

2.5.1 Repair and Maintenance of Ocean-going and Coastal Vessels

This area of work relates to ocean-going and coastal vessels, which call at Hong Kong for trades and repairs, including visits made specifically for docking, surveys, and maintenance/damage repairs. As required by international regulations and laws, safety of vessels is monitored by vessels to maintain the Rules and Regulations of the International Maritime

Organisation, Safety of Life at Sea 1974 for vessels over 500 gross tons, and the statutory requirements of the maritime administration, whose flag the ship is entitled to fly (International Maritime Organisation, 2001). In addition, these vessels may have to maintain Rules and Regulations of the vessel's Classification Societies such as Lloyd's Register of Shipping (LR), American Bureau of Shipping (ABS), Det norske Verits (DnV) etc., which are members of International Association of Classification Societies (IACS, 1989) as required by the vessel's hull and machinery underwriters and Protection and Indemnity (P&I) Clubs. Such Rules and Regulations mandate these vessels to undergo surveys (statutory safety inspections) annually and a special periodical survey every four to five years. To reduce the down-time for such surveys, shipowners and operators very often also carry out frequent planned partial surveys during the loading and unloading period when their ships call at the ports. In 2000, a total of 37,680 ocean-going vessels and 119,180 river cargo vessels called at the port of Hong Kong (Table 2.2).

2.5.2 Repair and Maintenance of High Speed Passenger Vessels

Today, high-speed marine craft are being used for transportation of passengers, cars and other cargoes across channels, between islands, between mainland and islands, and other similar waterways (High Speed Ferries, 2001:19). Development in light alloy metallurgy, composite material, water jet propulsion and high performance diesel engine plant has led to the production of a new generation of high speed passenger craft. Such craft are characterised by their high transit speed; good level of comfort to the passengers and advanced naval architectural design and structural form. In Hong Kong the demand for high speed ferries has been increasing in the past years due to the increasing demand for sea transport between Hong

Kong/Macau/China, and local demand for sea transport link between metropolitan area and the outlying islands.

In the past decade, there are numerous urban developments scattered along the southern coast of Lantau Island as well as other islands such as Cheung Chau, Ping Chau and Lamma Island. Such development trend has resulted in a growing demand for high speed sea transport facilities.

The travel demand between Hong Kong, Macau and at the nearby Chinese coastal cities in the Pearl River Estuary has been increasing rapidly over the past years due to the growing economic tie between Hong Kong and these cities. In 2000, a total of 59,810 river passenger vessels arrived by sea from Macau and other nearly Chinese cities (Table 2.2).

2.5.3 Repair and Maintenance of Local Craft

This area of work relates to craft, which operate within the harbour of Hong Kong and serving the port of Hong Kong. This market sector can be divided into the following:

2.5.3.1 Local Commercial Fleet

There are over 13,000 commercial vessels licensed to operate in Hong Kong water (Marine Department, Hong Kong SAR, 2001b). However, in the past years, there has been a trend of shifting of the repairs of tugs, barges and fishing boats to China and Macau, where the repair cost is cheaper.

2.5.3.2 Local Pleasure Craft

With an excellent harbour, private pleasure craft have always been in popular demand in Hong Kong. As a result, there is a constant need for maintaining and repairs of these pleasure craft.

2.5.4 Government Craft

Government craft such as harbour police craft, fire fighting craft, rescue craft, environmental protection craft are essential for safeguarding the port of Hong Kong. Most of the government craft, however, are served by the Government Dockyards, who rely heavily on out sourcing to private yards employed on term contracts or one-off contract.

2.5.5 Offshore Engineering

Since China adopted an open door policy in 1978, the development of its offshore oil fields has been given much emphasis by the Chinese Government. Hong Kong with its proximity to the South China Sea Oil Fields is an ideal back-up base for the exploration and production of these oil fields. Shipyards in Hong Kong have in the past, successfully secured large contracts to carry out repairs and refurbishing and/or conversion works on quite a number of these oil drilling rigs and supply boats (The Port of Hong Kong: 2000:82).

2.5.6 Heavy Steelwork and Engineering Services

With the downturn in the shiprepair sector, many of the shiprepair yards have taken on a wide range of non-marine related services, including construction, transportation, container terminal, and heavy mechanical and steel fabrication works (The Port of Hong Kong, 2000:82).

2.6 Facilities Available

Shiprepair facilities in Hong Kong can be generally classified in the following three categories:-

2.6.1 Dockyards

Dockyards refer to those, which have floating docks and repair berth facilities to accommodate ocean-going and short-international voyage vessels that visit Hong Kong, including general dry cargo vessels, liquid cargo, gas and chemical tankers, reefer ships, passenger ships, high-speed ferries, dredgers and oil rigs operated in the South China Oil Field. There are only two such repair yards in Hong Kong, namely Yiu Lian Dockyards Ltd. and The Hongkong United Dockyards Ltd. Both are located on the west of Tsing Yi Island, and equipped with floating docks and lifting capacity up to 36,000 tonnes and 40,000 tonnes respectively (The Port of Hong Kong, 2000:80-82). Both of these repair yards have modern workshop facilities and equipment to meet the demands of today's shipowners, and satisfy the repair standard of the vessel's Classification Societies and Flag State Administrations.

2.6.2 Shipyards

Shipyards are those repair yards, which handle on-going maintenance and voyage repairs in the harbour for ocean-going vessels and high-speed passenger ferries and have slipways and/or docking platforms with repair quay facilities to accommodate these vessels. Vessels serviced include high-speed passenger ferries between Hong Kong and Macau and the Pearl River Estuary South China coastal ports, local commercial vessels and ferries, salvage boats, bunker supply tankers, supply boats and governments boats etc. With the exception of the Hong Kong Shipyards Limited, which is situated at north of Tsing Yi Island, the rest of these shipyards are mainly located at Stonecutters Island, which includes Ocean Shipbuilding & Engineering Ltd., Chu Kong Group Shipyard Co., Ltd., Wang Tak Engineering & Shipbuilding Co. Ltd., and Turbo Jet Shipyard Ltd. All these shipyards have modern workshop facilities with up-to-date equipment to meet the repair requirements and standards of the surveyors, representing the vessels' Classification Societies and/or Flag State Administration. Several of these yards are authorised Agents in Hong Kong with facilities and technical expertise to provide services to the main diesel engines and turbines of the high-speed passenger ferries, such as MWM and MTU Diesel Engines, Solars and Allisons Gas Turbines, etc.

2.6.3 Boatyards

Boatyards are those repair yards, which have slipways and/or cradles to service local crafts - mainly tugs, dumb steel barges, fishing vessels, launches and pleasure craft. There are many of these small boat yards distributed

throughout Hong Kong, but the major ones are located at north of Tsing Yi Island.

2.7 Competitive Strategies of Hong Kong Shiprepair Yards

As can be seen above, apart from the two major dockyards, there are several shipyards in Hong Kong, which offer service to ocean-going and coastal cargo vessels as well as high-speed passenger ferries. Whilst these might offer services in different and complementary areas of expertise, the number of shiprepair yards available ensures a certain healthy balance of competition to maintain an efficient and effective service to customers.

The Hong Kong shiprepair yards might have the techniques, skills, equipment and expertise to cope with the demand of the shipowners, but have to face the problems of shortage of labour, scarcity of land and high cost of living.

Table 2.6 : World-wide Cost of Living Survey 2002 for the World's 10 Most Expensive Cities

(Source from Messrs. Mercer Human Resource Consulting, published on 8th of July 2002)

(The survey covers 144 cities and measures the comparative cost of over 200 items in each location, inclusive of housing, food, clothing and household goods together with transport and entertainment).

2002 RANKING	CITY	2001 RANKING
1	*HONG KONG*	3
2	*MOSCOW*	2
3	*TOKYO*	1
4	*BEIJING*	4
5	*SHANGHAI*	6
6	*OSAKA*	5
7	*NEW YORK*	8
8	*ST. PETERSBOURG*	7
9	*SEOUL*	10
10	*LONDON*	12

According to the latest cost of living survey by Mercer Human Resource Consulting (2002), Hong Kong has now taken over as the world's most expensive city (Table 2.6). Moreover, due to general depression of the shiprepair industry in recent years, many of the skilled technicians in the shiprepair industry such as machinery fitters and welders have changed to work on heavy machinery and steelwork projects ashore. At the same time, potential newcomers from the younger generation have been reluctant to learn or join the trade due to future prospects not being promising. All these adverse factors indeed have greatly affected the Hong Kong shiprepair industry, and the shiprepair business has been in the doldrums in recent years.

From the break of the 21st century, the overall outlook for the industry seems better than it has been for quite a while. The demand is set to rise, but the competitive pressures keep mounting, and the shiprepair industry is at present still facing stiff challenge from their counterparts in nearby countries particularly from China.

The extreme severe cold climate in the Winter of 2001, however, led to many frozen ports in Northern China, and as a result many vessels rushed to book dock spaces with the shiprepair yards at the southern Chinese coastal Ports of Shanghai, Xiamen, Guangzhou, Zhanjiang, and Shekou, etc. inclusive of Hong Kong, and all these dockyards appear to enjoy good return for at least the first half of the year 2002.

To regain customers' loyalty, majority of the Hong Kong shiprepair yards nowadays are prepared to provide facilities for improving repair times, enhanced productivity and many other benefits and gains for the shipowners. These include direct cost savings and improved docking times, as well as convenient access and shorter transit time to and from the dock and the port's

container terminals and anchorage. Mr. Christopher Pooley, managing director of Hongkong United Dockyards Ltd. stated that despite of the stiff competition, the Hong Kong shiprepair yards still manage to win a large number of contracts (The Port of Hong Kong, 2000:81). According to him, a major key to this, apart from the shiprepair yards' efficiency, technological strengths and excellent reputation, is Hong Kong's location, which he described as "superb", especially for the containerships coming into and out of the Kwai Chung Containers Terminals. In the container trades, it is important to know when to call forward cargo. When a ship is in dock, the operators want to know when the vessel can come out in order to book forward cargo, advertise for sailing, and guarantee the ship on the berth at a certain fixed date. To survive in the present turbulent climate and environment, the Hong Kong dockyards in the past few years realised that they have to target vessels of specialised trades, and strive to guarantee shipowners on-time and quality service for their vessels. Therefore, despite the high repair costs due to shortage of labour and high cost of land, the Hong Kong dockyards still manage to secure many contracts for docking and effecting maintenance repairs for container ships, and other specialised vessels such as passenger ships and oil rigs from the South China Oil Field. The Hong Kong shiprepair yards nowadays realise they cannot compete with their neighbouring counterparts for costs in particular China, and therefore strive to provide excellence in quality shiprepair works and endeavour to find means and ways of achieving this aim.

The main competitive strategies of the Hong Kong shiprepair yards can best be summarised as follows:

i) Timeliness

Time means money to vessels in the niche markets such as container, passenger and offshore vessels, as one-day off-hire may cost their Owners' a fortune. Therefore, Hong Kong shiprepair yards work seven days a week to minimise the docking time. They strive to provide convenient access and ways to shorten transit time to and from the dock and the port's container terminals and anchorage. Ways and means are being investigated constantly to ensure that all repair works will be completed within the timeframe.

ii) Quality

Hong Kong shiprepair yards manage to secure work through their vast experience, expertise and good reputation for efficiency and quality. This is particularly so for vessels in the specialised trades where top-class quality work is essential. Regular industry and safety training courses are run by the shiprepair yards to ensure that effective repair teams are maintained and quality services are provided to serve customers.

Chapter Three
Literature Review

"The ability to carry out a competent literature review is an important skill for the researcher. It helps to place your work in the context of what has already been done, allowing comparisons to be made and providing a framework for further research. While this is particularly important, indeed will be expected, if you are carrying out your research in an academic context, it is probably a helpful exercise in any circumstances. Spending some time reading the literature relevant to your research topic may prevent you from repeating previous errors or redoing work which has already been done, as well as giving you insights into aspects of your topic, which might be worthy of detailed exploration."

(Blaxter, Hughes and Tight, 1996:109)

3 Literature Review

This chapter reviews critically, in two parts, the relevant literature related to the theory and research of the constructs in the proposed model. Part 1 presents the issues of culture, cultural constructs, the traditional Chinese cultural values and introduces a 'Model' for contrasting maps of business key organising principles between Chinese and Westerners. Part 2 reviews the literature on teamwork, the Deutsch's Theory of Cooperation and Competition, nature of interaction between employees, and the nature of teamwork that develops strong confidence in team dynamics which in turn contributes to quality customers service. This chapter concludes with a

discussion on applying a Western theory in the Hong Kong Chinese work contexts.

3.1 Introduction

The title of this research is "*Cooperative Teamwork for Quality Customer Service in the Hong Kong Shiprepair Yards Environment*". The purpose of this study is to provide an overview of the value of teamwork for quality service within Hong Kong shiprepair yards environment. The basic research questions are: "Can the Deutsch's Western Theory of Cooperation and Competition be usefully applied in the Hong Kong Chinese work setting?", "How and under what conditions can Chinese traditional values contribute to the development of cooperative goals and constructive conflict?" and "Does constructive controversy enhance cooperative teamwork for quality customer service in the Hong Kong shiprepair yards environment?"

"Constructive Controversy", a construct derived from Western theory, is described by Tjosvold (1985a) as the open-minded discussion of opposing positions. It is the value of intellectual opposition (Johnson, Johnson and Tjosvold, 2000:66), which is defined as a process for constructively coping with the inevitable differences that people bring to cooperative interaction because it uses differences in understanding, perspective, knowledge, and worldview as valued resources. It should be noted, however, that this issue would be considered very differently under Eastern and/or Chinese cultural settings and philosophical 'rules'.

In an era of mature and intense competitive pressure, many business organisations are focusing their efforts on creating teamwork to provide quality customer service. This is particularly true in the industrial service

sector, where the present depressed economic climate has created an environment that enables customers to have considerable choice in satisfying their demands and needs. In response, many service industries are directing their strategies towards increasing customer satisfaction and loyalty through improved service quality. Tjosvold, Moy and Sasaki (1996:339; 1999:209) proposed that employee teamwork is a foundation for service quality, and that managers and employees need a crisp understanding of the nature of teamwork that improves quality service to customers.

This literature review set out to study the research problem of creating quality enhancing teamwork. The 'Theory of Cooperation and Competition" was developed in the 1940's by Morton Deutsch (1949a, 1949b, 1973, 1980, 1985, 1990), a pioneering social psychologist at Columbia University. He proposed that how people believe their goals are related determines their expectations, interactions and effectiveness. The theory subsequently has been much elaborated by the two brothers, David W. Johnson and Roger T. Johnson (Johnson and Johnson, 1989), who have provided the most extensive summary of the theory, and the research bearing on it. Johnson and Johnson (1989) maintained that hundreds of studies have developed this theory and shown it to be an elegant, powerful and profound way to understand joint effort and conflict. Interaction can take on very different characteristics. Peoples' beliefs about how they depend upon each other drastically affect their expectations, communication, exchange, problem solving, and productivity. Deutsch (1973) theorised that how people perceive their goals shapes their actual working together and their subsequent effectiveness. Deutsch and the Johnson brothers, of course, are writing from a Western perspective, where the traditional key organisation principals are very much different from the Eastern perspective. Therefore, the results might be quite

different, when analysed through the lenses of contrasting cultures, since culture influences our cognitive and behavioural assumptions.

Extensive literature search reveals that the theories on value of teamwork and quality customer service are mainly Western constructs with research performed under Western settings. However, previous research and studies have shown that the Deutsch's "Theory of Cooperation and Competition", developed from North America, seems useful for understanding and developing service quality teamwork in East Asia (Tjosvold, Moy and Sasaki, 1996, 1999; Tjosvold and Wang, 1998; Tjosvold and Chia, 1989; Tjosvold, et al. 1998; Alper, Tjosvold and Law, 1998). These studies documented that cooperative goals have been found to contribute to a constructive, open-minded discussion of opposing views that in turn result in quality service and strong work relationships. They show managers and employees can work together as a team to develop shared goals, integrated roles, and common tasks that build cooperative goals to produce constructive communication and problem solving (constructive controversy) through their interactions. They find a constructive interaction would, in turn, lead to team members' perception of high team confidence. With strong team morale and perceived confidence, team effectiveness is enhanced on quality customer service items concerning productivity, quality and cost and time savings.

According to Hofstede (1993), theories from the West cannot be assumed to apply in the East. This study, as one aim, seeks to test the extent of impact of traditional Chinese values contribution to cooperative goals. The findings should have potentially important implications for managing in Hong Kong Chinese and cross-cultural settings.

3.2 PART 1

> ***"So it has come to this: You've automated the factory, automated the inventory, eliminated the unnecessary from the organisational chart, and the company still isn't hitting on all cylinders – and you've got an awful feeling you know why. It's the culture. It's the values, heroes, myths, symbols that have been in the organisation forever, the attitudes which say, Don't disagree with the boss, or don't make waves or Just do enough to get by or For god's sake, don't take chances. And, how on earth are you going to challenge all that? If your company is like a great many others, it will have to step up to this challenge. The changes businesses are forced to make merely to stay competitive - improving quality, increasing speed, adopting a customer orientation - are so fundamental that they must take root in a company's very essence, which means its culture."***
>
> ***(Dumaine, 1992:443)***

Part 1 presents a brief discussion of culture, cultural constructs, traditional Chinese cultural values and unique aspects of key Chinese cultural attributes, and introduces a 'Model' for contrasting maps of business key organising principles between Chinese and Westerners. The 'Model" is drawn on the comparison between the Confucian teachings/Chinese *guanxi* relation network and the Western societies training/Leader-Member Exchange conception of work relationships.

3.3 Cross-cultural Conflict Management

To understand the differences between domestic and global management, it is necessary to understand the primary ways in which the cultures around the world vary (Adler, 1997:14). According to Rodrigues (1998:29), global corporation managers need to understand how enterprises are managed across

diverse cultures. He emphasises that they must be made aware that because of cultural differences, the managerial style that works in one society often does not work well in others.

Every business - in fact every organisation - has a culture. Sometimes it is fragmented and difficult to read from outside. Sometimes it is very strong and cohesive. Whether weak or strong, culture has a powerful influence throughout an organisation. Because of this impact, culture has a major effect on the success of business (Deal and Kennedy, 1982).

According to Sara Tang (1991:85), everything we do in management takes place within a framework of other people's acceptability. She manifests that outside the company, clients, suppliers and other people who come in contact with it develop attitudes towards the company and, in particular, towards those who represent it. Within the company, attitudes develop towards subordinates by management and vice versa. Inevitably, conflicts of interest occur, and there is no way that they can be eliminated entirely from the management scene. However, the potential risks that arise from a misconception or misunderstanding about what various groups have grown to value and protect - such as honesty and loyalty, or in the West, individualism and competitiveness - can be reduced. For this to happen, it is necessary to develop an understanding of the concept of ***'culture'***.

3.4 What then is *'Culture'*?

Before embarking on the investigation of ***'culture'***, one must find out what it exactly means. In everyday usage, the term culture refers to the finer things in life, such as the fine arts, literature, and philosophy (Ferraro, 1998:15). Academics, however, have defined culture in so many different ways that it is

impossible to arrive at a consensus. In fact, Kroeber and Kluckhohn (1952) identified over 160 different definitions of culture. These range from simple yet concise context such as described by Bower (1966), as cited by Deal and Kennedy (1982:4):

> ***"The way we do things around here."***

to more complex and profound expressions, such as offered by Kroeber and Kluckholn (1952:181):

> ***"Culture consists of patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other, as conditioning elements of future action."***

and as defined by Schein (1992:12):

> ***"A pattern of shared basic assumptions/invented, discovered and shared by a given group, as it learns to cope with its problems of external adaptation and internal integration, that has worked well enough to be valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems."***

According to Spradley (2000:22), when ethnographers study other cultures, they must deal with three fundamental aspects of human experience: what people do, what people know, and the things people make and use. When each of these is learned and shared by members of some group, they must speak of them as cultural behaviour, cultural knowledge, and cultural

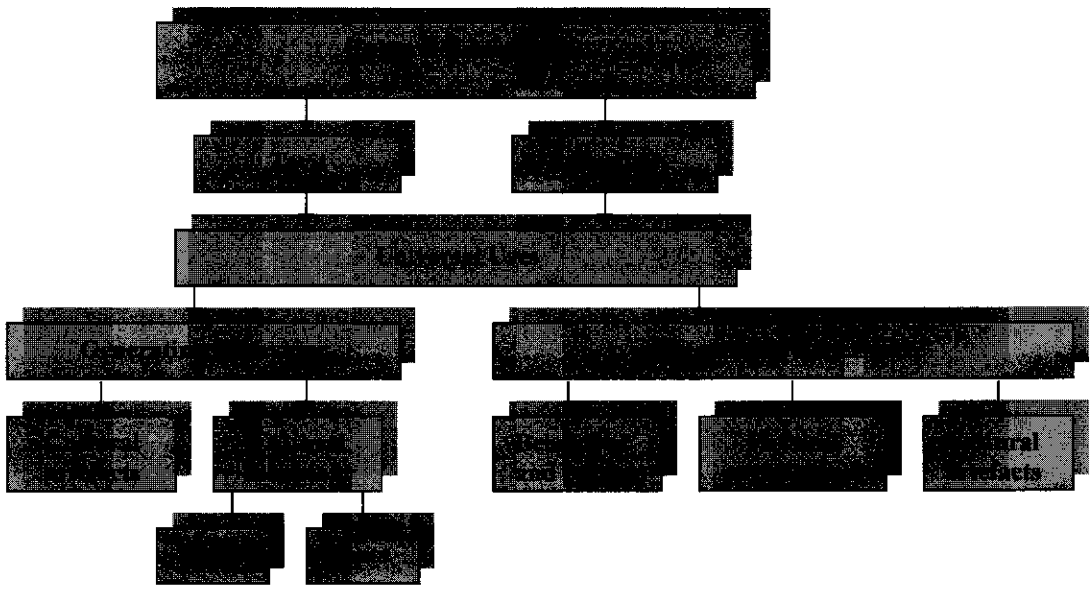
artefacts. Although behaviour and artefacts can be seen easily, they represent only the thin surface of a deep lake. Beneath the surface hidden from view, lies a vast reservoir of cultural knowledge. Cultural knowledge is so important that Spradley (2000:23) defined culture as:

> "***The acquired knowledge people use to interpret experience and generate behaviour.***"

This concept and definition of culture can best be demonstrated in Figure 3.1 to illustrate clearly the relationship among knowledge, behaviour, and artefacts.

Figure 3.1 : Definition of Culture and Illustration of Relationship among Knowledge, Behaviour, and Artefacts

(Adapted from Spradley, 2000:24)



3.5 Cultural Orientation

From the above it is obvious that no matter how complex and profound the definition is, culture has the potential to vary dramatically across countries, between societies or even from one organisation to another.

Tang (1991:85-86) suggests what makes culture of vital interest is the early inculcation of society's expected behaviours in its members. She points out the values, conventions, moral behaviour expected, and responses to authority are all woven into a familiar pattern of behaviour. This pattern is not usually written down or even defined verbally by group members. They 'just know' what is acceptable behaviour and what is not.

In her book, 'International Dimensions of Organisational Behaviour', Nancy Adler (1997:15-18) proposes that cultural values can affect a person's attitude, which in turn affects his or her behaviour. She highlights that the concept of culture incorporates the special ways a group or society develops in order to survive and be comfortable and successful. People's values, attitudes and behaviour are defined by their culture. The norm for a society is the most common and generally most acceptable pattern of values, attitudes, and behaviour. The cultural orientation of a society, as suggested in Figure 3.2 by Adler (1997:16), reflects the complex interaction of values, attitudes, and behaviours displayed by its members.

3.6 Managerial Attitudes and Employees Behaviour

Using McGregor's (1960) classical Theory "X" and Theory "Y" managerial styles, and adapting it to the cultural issues discussed above, Figure 3.3 shows how managers' beliefs, attitudes, and values affect behaviour (Adler,1997:40).

Figure 3.2 : Influence of Culture on Behaviour

(Source from Adler, 1997:16)

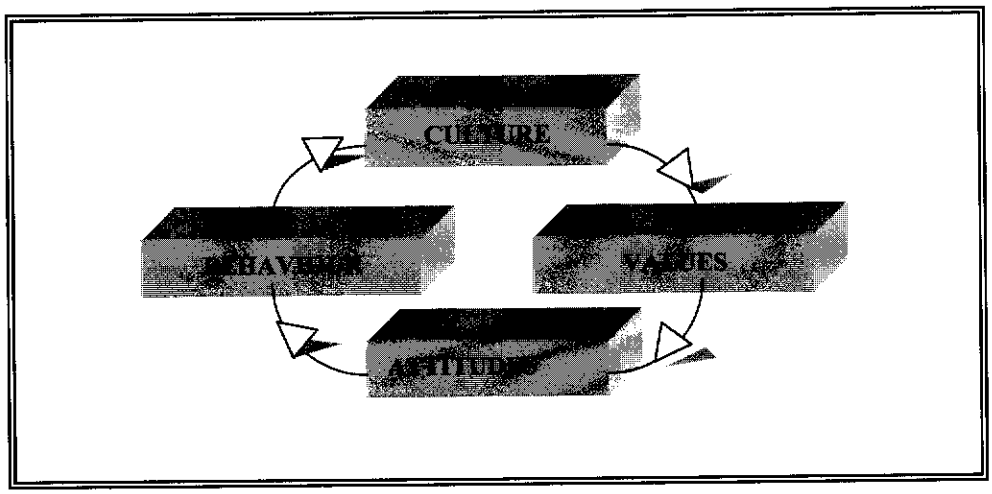
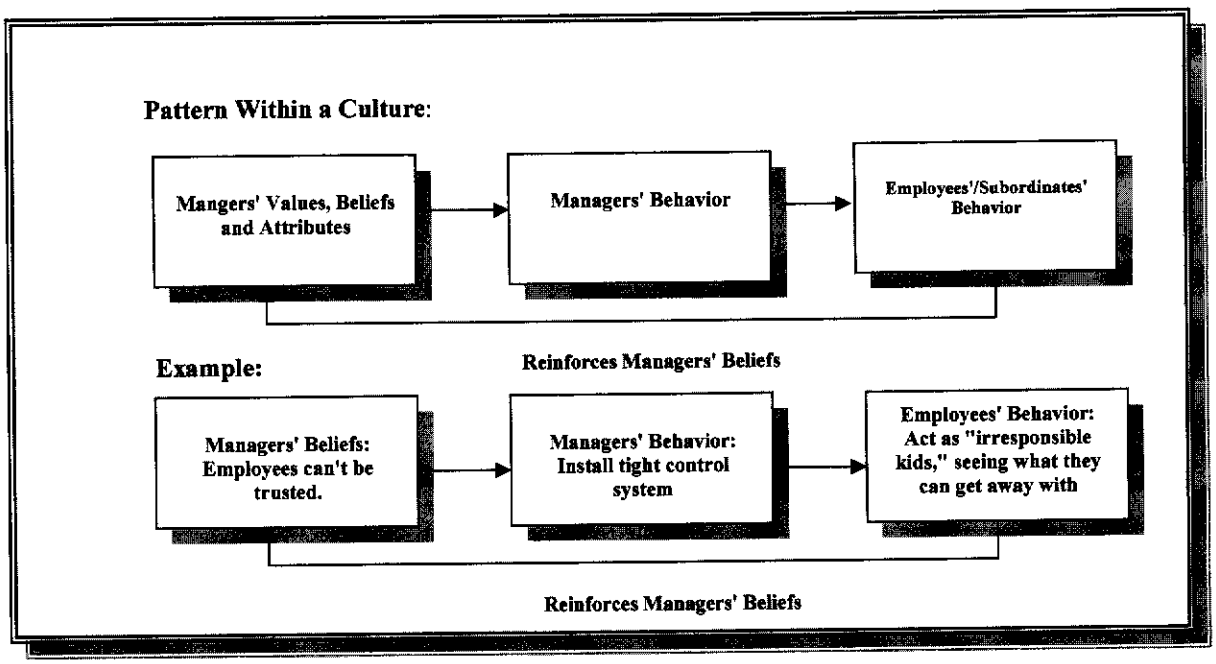


Figure 3.3 : Managerial Attitudes and Employees Behaviour: A Self-fulfilling Prophecy

(Source from Adler, 1997:40, based on Douglas McGregor, The Human Side of Enterprise, New York: McGraw-Hill, 1960)



To a certain extent, beliefs, attitudes, and values cause both vicious and benevolent cycles of behaviour.

Adler (1997:42) maintains that managers communicate respect for and trust in their employees in different ways, depending on their cultural background. For instance, managers from more specific cultures tend to focus only on behaviour that takes place at work, whereas managers from more diffused cultures include behaviour that takes place in employees' private and professional lives. Therefore, misunderstanding and mistrust can develop easily between managers from one culture and employees from another culture.

3.7 Cultural Constructs

For conducting cultural difference research, special attention has to be paid to the following cultural constructs:

3.7.1 Ethnocentrism and Androcentrism

If communication between people from different cultures is to be successful, each party must understand the cultural assumptions of the other. To maximise our chances for successfully understanding the cultural environment of international business, it is imperative that we examine cultures values between the working parties. However, according to Ferraro (1998:30), all cultures to one degree or another display ethnocentrism. He believes that perhaps the greatest single obstacle to understanding another culture is ethnocentrism (literally means "culture centered"), and defines it as the tendency for people to evaluate a foreigner's behaviour by the standard of their own culture and to believe that their own culture is superior to all others.

The tendency to be ethnocentric is universal. Since our own culture is usually the only one we learn (or at least the first), we take our culture for granted, assuming that our behaviour is correct and all others are wrong.

Triandis (1994:83) argues that most cross-cultural researchers are Westerner men, and all have difficulties in escaping their ethnocentric (their cultures are the standard of comparison) and androcentric (their gender offers the only valid perspective on an issue) biases. For example, one cannot be sure that such biases have been controlled when one has to evaluate whether or not gender inequalities are similar or different across culture. Thus, when evaluating cross-cultural research, it is wise to ask oneself whether such biases may have coloured the reported findings, interpretation, and conclusions.

The above discussion should facilitate, for the international business persons, an increase in cultural self-awareness. Once equipped with an understanding of how their own cultural values affect their thinking and behaving and how their own values differ from those in other cultures, international persons will be in the best position to avoid, or at least minimise, cultural shocks in cross-cultural communication.

3.7.2 Cultural Relativism

Spradley (2000:7) points out that a misconception about values has been spawned by science, in particular by the anthropological doctrine of cultural relativism. Some have maintained that it is possible to separate values from the facts, and since science is limited to facts that it is possible to do 'value-free' research. However, Spradley (2000:7) maintains that when doing research on human behaviour, the influence of one's values is undeniable. Anyone who decides to observe one thing and not another is making that

decision on the basis of an implicit or explicit conception of desirability. He explains that this fact does not suggest a retreat from the quest for objectivity. It does not mean that social scientists are free to disparage the customs encountered in other societies or to impose their morals on those being studied. Skilled anthropologists are aware of their own values and then approach other cultures with tolerance and respect. They identify rather than deny the influence of their own viewpoints. They strive to achieve the ideal of value-free research but realise that it would be naïve to assume that such a goal is possible.

Spradley (2000:8) believes that cultural relativism rests on the premise that it is possible to remain aloof and free from making value judgments. He maintains that his doctrine of cultural relativism is based on the following four interrelated propositions:

"i) Each person's value system is a result of his or her experience; that it is learned.

ii) The values that individuals learned differ from one society to another because of different learning experiences.

iii) Values, therefore, are relative to the society in which they occur.

iv) There are no universal values, but we should respect the values of each of the world's cultures."

Since all the statements in this doctrine of relativism are either based on implicit values or they are outright statements of desirability, Spradley (2000:8) reckons the belief that it is good to respect the ideals of each of the

world's cultures is a "relative" value. He, therefore, concludes that what is needed today is not a "live and let live" policy but a commitment to a higher, more inclusive value system, but this requires changes that are extremely difficult to achieve.

3.7.3 The Emics and Etics

An emic analysis documents valid principles that describe behaviour in any one culture, taking into account what the people themselves value as meaningful and important. The goal of an etic analysis is to make generalisation across cultures that take into account all human behaviour (Brislin, 1976).

In reading cross-cultural studies, it is likely for researchers to meet the constructs of emics and etics. According to Triandis (1994:84), emics roughly speaking are ideas, behaviours, items, and concepts that are culture specific. Etics, roughly speaking, are ideas, behaviours, items, and concepts that are culturally general - i.e. universal.

Emic concepts are especially useful in communicating within a culture, where one word can sometimes be used to convey a very complex idea. Emic concepts are essential for understanding a culture. However, since they are unique to the particular culture, they are not useful for cross-cultural comparison.

More formally, emics are studied within the system in one culture, and their structure is discovered within the system. Etics are studied outside the system in more than one culture, and their structure is theoretical. To develop

"scientific" generalisation about relationship among variables, etics must be used. However, to understand a culture, emics must be used.

As will be described later on in Chapter 5, page 136, in managing the research issues related to the emic, the techniques of back translation and decentering are required in the research process.

3.8 Impact of National Cultural Differences

Hofstede (1993:81) also defines culture as:

> ***"The collective programming of the mind, which distinguishes the members of one human group from another".***

Hofstede (1993) has identified four important elements or dimensions of culture based upon empirical study. These four dimensions were initially detected through a comparison of the values of similar people (employees and managers) in sixty-four national subsidiaries of the IBM Corporation. This is a good demonstration of the generalised cross-cultural "etic" approach, based on a Western perspective, which might be quite different when viewed from the Eastern perspective. Notwithstanding that the sample was all IBM managers across many countries, the research has made a valuable contribution to management thinking across cultures. The four dimensions as defined by Hofstede are very useful for diagnosing differences in outlook between people of different nationalities.

- **Power-distance**
- **Uncertainty avoidance**

- **Individualism/Collectivism**
- **Masculinity/Femininity**

Trompenaars (1998) has in addition identified the following dimensions of cultural difference based on empirical studies:

- **Universalism/Particularism (Rules vs Relationships)**
- **Diffuse/Specific (The Range of Involvement)**
- **Neutral/Emotional (The Range of Feelings Expressed)**
- **Achievement/Ascription (How Status is Accorded)**
- **Face**
- **Attitudes to Time**

Redding (1980) has also hypothesised that Easterners and Westerners have different cognitive behaviour. This means that the same stimuli coming through the senses will be transformed, reduced, elaborated upon, stored, retrieved, and used differently according to the unique internal and external experiences of the Easterners or Westerners.

The above concepts as proposed by Hofstede, Trompenaars and Redding are important tools for categorising cultural differences and analysing effects of the perception of cultural conflict, but should not be taken as facts. However, in line with the previous discussion of the emic/etic, these categories may have a cultural element. What they have done is to describe and categorise cultural differences in a way that is meaningful to them as Western males but may be not to someone from China or India.

3.9 Application of Hofstede's (1993) and Trompenaars's (1998) Research for Diagnosing Cultural Differences between Chinese and Westerners

According to Morris et al (1998), Yamagishi, Kikuchi and Kousi (1999), and Williams (1970), the problem of contrasting national cultural values is made all the more difficult by the fact that all cultures - and their value systems - are constantly in a state of flux. This fact holds true for U.S. culture as well as the numerous non-U.S. cultures with whom U.S. business persons are expected to interact. When we state that people from the United States tend to place a high value on individualism whereas Chinese tend to emphasise a more collective or group-oriented mentality, we are making generalisation at a relatively high level of abstraction. However, Ferraro (1998) argues that this should not deter us from the task of discovering basic value differences and how they can affect communication across cultures. Only after this understanding can the international business persons begin to make the adjustments necessary for meaningful cross-cultural communication.

Table 3.1 summarises the results of Hofstede's and Trompenaars's research on categorising the cultural dimensions for diagnosing the cultural differences between Chinese and American - Chinese and USA cultures are used here as benchmarks for discussion of Eastern and Western cultures. However, one may argue that this is not the only framework for study; nevertheless it is widely accepted and chosen for cross-cultural management study only because it is available, researched and relatively encompassing. Besides, Hofstede and Trompenaars have put forward these cultural dimensions as "constants", whereas Morris et al. (1998), Yamagishi, Kikuchi and Kousi (1999) and Williams (1970) argue that we need to recognise the potential for these cultural dimensions to change constantly. In view of this, one may

Table 3.1 : Results of Hofstede's (1993) and Trompenaars's (1997) Research on Categorising the Cultural Dimensions for Diagnosing the Cultural Differences between Chinese and American

* *Indicates obvious differences of cultural dimensions*

Cultural Dimensions	Chinese	USA
Power Distance *	*Large*	*Small*
Uncertainty Avoidance	*Weak*	*Weak*
Individuality/Collectivism *	*Low Individuality*	*High Individuality*
Masculinism vs Feminism	*High Masculine*	*High Masculine*
Universalism/Particularism *	*Weak Universalism*	*High Universalism*
Diffuse vs Specific *	*High Diffuse*	*Low Diffuse*
Neutral vs Emotional *	*High Neutral*	*Medium Neutral*
Achievement vs Ascription *	*High Ascription*	*Low Ascription*
Face *	*Strong*	*Weak*
Time *	*Long Term*	*Short Term*

question how useful it is to have "categories" considered as "constants"? Therefore, this might need to be reviewed critically again in the light of results of this study.

3.10 Key Organising Principles - Society and Business (Using the Anthropological Concepts and Arguments)

Whiteley (1999) suggests that international business researchers should take a detached view of their own culture because only then could they appreciate other 'world views'. She maintains that the task facing the researcher is just to integrate other cultural prerogatives into their own expanded cultural view. This will give them a more complex, and as the dissonances had to be addressed, more synergistic view of their own culture.

International business researchers take up the study of anthropology due to the fact that it is where most of the research on culture was undertaken prior to its migration to business and management (Whiteley, 1995). Anthropologists have helped businesses become aware of their own organisation cultures. Anthropology, by definition, is a discipline of infinite curiosity about human beings, especially its societies and customs (Ember and Ember, 1996). It seeks to understand how societies' activity is of interest to the business world. The modern day business world has potentially all the ingredients of a society, and *'business anthropology'* is necessary because the business context can contain a mixture of customers, products, employees, and other stakeholders who are 'seeing' the world in their own ways.

3.11 Unique Aspects of Key Chinese Cultural Attributes

Marin Lockett (1988) suggested that Chinese culture would be seen as a set of core values which underlie social interaction among Chinese people. Contradicting Morris et al (1998), Yamagishi, Kikuchi and Kousi (1999), and Williams (1970) maintain that all cultures are constantly in a state of flux. Lockett (1988) observes that as a result of socialisation and other reinforcing factors, Chinese core values tend to change only gradually - over generations rather than years. While the social, political and economical changes in China have been major since 1949, it is still possible to identify core values held in common with other areas of China such as Hong Kong, Taiwan and other oversea Chinese. Furthermore, he argues that this combination of cultural factors can be seen as specially Chinese, rather than as generally *oriental*. This can be compared with the simplistic Hofstede and Trompenaar's categorisation as described in pages 49 to 53.

In relation to organizations, four key Chinese cultural attributes have been identified by Lockett (1988), which (i) underlie social interaction within organizations; (ii) differ from other cultures, notably Western ones, though the differences are less with respect to Korea, Japan and some other Asian societies; (iii) have persisted over time and (iv) can be seen in mainland China as well as among Chinese elsewhere, although sometimes expressed differently. These four key attributes are:

- Collectivism or Group Orientation.
- Respect for Authority (Power Distance, Age and Hierarchical Position).
- The Concept of Face (*Mianzi)* and Harmony.

- The Importance of Relationship (Guanxi), Reciprocity (*Bao*) and Humanised Obligation (*Renqing*).

Wu (1998:183) emphasises that Chinese business networks are sustained by Chinese cultural values and tradition. Other Western as well as Chinese academics also identify these attributes as the key Chinese cultural values (Redding, 1990, Yau, 1994, Kirkbride, Tang and Westwood, 1991, Wu, 1998) and stress that when these values disappear, the networks will collapse (Wong, 1995).

These Chinese cultural attributes are the main representations of the seven core rituals of Confucianism: Benevolence, Harmony, Midway, Forbearance, Filial Piety, Trust and Cautious Words (Li and Wu, 1996). Each of the four (4) key attributes is discussed as specified below:

3.11.1 Collectivism or Group Orientation

Collectivist and individualist values consist of a set of related dimensions. These values determine whether emphases are on a collectivist or personal self, whether personal goals have priority over in-groups or not, and the extent that social norms or individual attitudes should determine behavior (Kim et al., 1994, Triandis, 1995). These values are in turn expected to impact on behaviour.

Alder (1997:47) defined collectivism as characterised by tight social networks in which people strongly distinguish between their own group (in-groups, such as relatives, clans, and organisations) and other groups. Collectivists

hold primarily common goals and objectives, not individual goals focusing exclusively on self-interest. People in collective cultures such as the Chinese expect members of their particular in-group to look after their members, protect them, and give them security in exchange for members' loyalty. This term should be thought of as located at one end of a continuum; at the other end is one of the basic orientations of Western culture, individualism (Hofstede, 1980; Hofstede and Bond, 1984; Triandis, 1983; Tung, 1981; Yang and Bond, 1990). For example, Chinese people are considered collectivists who see themselves as part of a larger whole and who place high priority on their in-groups (Chan, 1963; Triandis, 1990; Tung, 1991).

In pre-revolutionary China, the group to which there was greatest attachment was the family (Levy, 1949). The Chinese identity comes from the family. Traditionally, teamwork and obedience to the correct 'rules' of behaviour as well as to those in authority made survival possible when China depended upon an agrarian economy (Bond, 1986). In keeping with their Confucian filial piety background, in which the world revolves around family, relatives, and carefully tended contacts, Chinese businesspeople attach great importance to classmates and people from the same village or town, giving them precedence in hiring, networking, and doing business in general (de Mente, 1994:87).

In Chinese society where collectivism and group harmony are emphasised in traditional Confucianism and in contemporary socialism executives prefer to avoid conflicts in advance of their occurrence. This is logical when consideration is given to the fact that group affiliation in China, traditionally and in modern times, has been considered relatively permanent with less expectation of individual mobility (Antoniou and Whitman, 1998). Given the fact that it is more difficult to get into and out of groups, it can be expected

that people will strive to keep relationships among members stable and harmonious. Tse, Francis, and Walls (1994) have observed that a superior is responsible for maintaining an effective balance between subordinate human relationships and corporate goals.

Western cultures, which emphasise individual responsibility and results, tend to value close adherence to rules and regulations. Chinese, who generally stress cooperation among members of a group, may appear comfortable going around regulations to achieve a work objective. The different attitudes toward rules appear to cause problems and conflict between Chinese and Westerners.

Decision-making in Chinese culture tends to involve reference to an authority or a precedent - a reflection of the Chinese preference for sharing responsibility for tasks or problems. The approach offers the advantage of consensus about a given solution, which minimises the consequences of failure. If a solution fails, no one can be blamed for following an example that has proven effective in the past (Beamer, 1998). Western managers often view this as a barrier to crafting improved solutions due to Westerners' distinct preference for experimentation and creativity in business approach.

One of the implications of this group orientation is that the cultural assumptions of Western management theories may make their findings less appropriate to Chinese organisations.

3.11.2 Respect for Authority (Power Distance, Age and Hierarchy)

The second key attribute is that of the relative importance of respect for power distance, age and hierarchy.

Throughout their history, the Chinese have shown respect for age, seniority, rank and family background. Confucianism ingrained this attitude toward power and authority by stressing the benefits of fixed hierarchical relationship (Lockett, 1988; Kirbride, Tang and Westwood. 1991; Yau, 1988, 1994).

A persistent Western stereotype is that Chinese leadership is autocratic, where followers quickly and automatically follow the wishes and decision of leaders. Consistent with this image, power distance (where employees accept hierarchy and power differences) has been widely used to understand leadership in China (Hofstede, 1980). Chinese employees are thought to accept unilateral decision making and prefer that their leaders be benevolent autocrats. They are believed to have a respect for the hierarchy and a desire to obey one's superiors, as well as the expectation of obedience from individuals in lower positions of authority (Davis, 1997).

Studies support the idea of greater acceptance of authority in China than in low-power-distance Western countries (Leung, 1997; Smith, Dugan, and Trompenaars, 1996). However, this generalisation has limitations. Superior power in the West is often associated with domination and authoritarianism, but leaders in China are expected to be supportive and nurturing (Pye, 1985; Spencer-Oatey, 1997).

A foreign manager must understand the implications of the strong sense of hierarchy to do business successfully in China. Small events, which may be thought to be irrelevant in another culture, can become important. For instance, when a group picture is taken, the most conspicuous position should be given to the one highest in rank in the group.

3.11.3 The Importance of Face *(Miantsu)* and Harmony

A third related key attribute of Chinese culture is the relative importance of face *(mianzi)* and harmony in social interaction.

The importance of face can be reflected in the ancient Chinese proverb, "Human beings fear loosing face, as trees fear loosing bark". Face may explain lot of Chinese attitude, and seems to be cultivated by the Chinese as a distinguishing social behaviour. It is accepted as virtually axiomatic by Western and Eastern scholars alike as a key principle governing the conduct of Chinese social life (Lin, 1935; Hu, 1944; Wilson, 1967; Smith, 1984; Lockett, 1988; Redding, 1990; Kirkbride, Tang and Westwood, 1991; Yau, 1994). As cited by de Mente (1994:59), Ambrose Y.C. King, Vice-Chancellor and former professor in the Sociology Department of the Chinese University of Hong Kong likens face or "*mianzi*" in Chinese to a credit card. The more face you have, the more you can buy with it. He adds that just like a credit card, "*mianzi*" can be overdrawn, and care must be taken to keep one's account balance. 'Face' is a complex concept that is connected to something the Chinese value very highly, moral character (Fung, 1948). The precepts for moral character are widely accepted as being inherited from the Confucian and other ethics.

According to Whiteley and Tang (1991:20), face is a complex interaction which includes not embarrassing others, not coming into open confrontation, not pointing out others' weakness, and being careful in general to save the face of others. Writers on Chinese culture (Redding, 1991) agree that notwithstanding the lure of the West and of such modern influence as consumerism, the Confucian ethic remains the bedrock of Chinese thought and behaviour (Wood, Whiteley and Zhang, 1999).

In both personal and business relationships, it is critical to the Chinese that they maintain face and avoid offending the face of others. Failure to preserve the face of others is tantamount to robbing them of their social status and bringing great humiliation on them. Chinese managers are very likely to be motivated not to act in ways to lose face themselves or to cause others, particularly superiors, to lose face. In hierarchical relations giving face to superior is a prime concern and may be manifested in what is known as "shoe shining" the boss. Agreeing with the bosses' idea and not mentioning one's own are clear manifestations of this orientation. Shame will be felt when a Chinese manager breaks social norms of role behaviour, and anticipates social judgement, especially by superiors. This contrasts to control by guilt, common to Western cultures, which refers to the feelings generated by breaking a set of internalised moral standards (Crookes and Thomas, 1998).

Goffman (1967:2), a pioneer in social-face research, proposed that face is "an image of the self delineated in terms of approved social attributes". Showing respect to people confirms face in that it communicates acceptance of this positive image, whereas disrespect affronts face. Chinese have been found to be particularly alert to protecting social face to promote relationship. Given their sensitivity to collectivism and relationships, they seek harmony and communicate that they respect their partners as capable and worthy (Ting-Toomey, 1988). Their understanding of social face leads them to be hesitant about engaging in aggressive interaction that may challenge the face of others. They want to avoid conflict and, once engaged, use compromise and accommodation to deal with it (Leung, 1988; Tse, Francis, and Walls, 1994).

The Confucian "Doctrine of the Mean" urges the individual to avoid competition and conflict, and to maintain inner harmony (Hsu, 1947). It has

been found that traditional Chinese cultural values and cognitive orientations have influenced the Chinese people to preserve overt harmony by avoiding confrontation and to adopt a non-assertive approach to conflict resolution (Kirkbride, Tang and Westwood, 1991, Yau, 1988). Without harmonious relationship, trust cannot be established, face cannot be saved.

"Benevolent heaven is not preferred to fertile soil, fertile soil is not preferred to harmony between people" is a Chinese proverb which indicates how much harmony is important in China. Each of the successive philosophies from ancient China to the present had a constant aim, i.e. harmony between heaven and human beings and harmony between human beings.

Social harmony is achieved through the key values of "*Ren*" (human heartedness) and "*Li*" (propriety). "*Ren*" acts toward others as one would want to be acted toward. "*Li*" does not provide explicit rules of behaviour but is about awareness of appropriate behaviour in any situation. "*Li*" serves to structure and maintain relations and order in hierarchies (Westwood, 1992).

Structural harmony is achieved through management of key relationships. In Confucianism, these are governed by *Wu Lun*, or the duties and obligation of hierarchical social relations (Crookes and Thomas, 1998). The *Wu Lun*, are the five cardinal relationships and according to Chen (1995), their appropriate characters are: sincerity between father and son, righteousness between ruler and subjects, distinction or separation functions between husband and wife, order between older brothers and younger brothers, and faithfulness among friends.

3.11.4 The Importance of Relationship (*Guanxi*), Reciprocity (*Bao*) and Humanised Obligation (*Renqing*)

The fourth related key attribute of Chinese culture is the importance of relationship (*guanxi*), reciprocity (*bao*) and humanised obligation (*renqing*). In business, relationships or *guanxi* are important, as contracts are often not strictly specified in legal terms but rely on trust between the parties.

According to Lockett (1988), relationships combined with reciprocity give rise to "connections". The use of connections to obtain wanted goods and benefits is endemic in both PRC and other areas with a Chinese culture. Such connections can be based on family or place of origin, as in the past, or other association, for example, working together in a particular organisation in the past. In China, to be a Factory Director, the most important is not whether you understand metallurgy or materials science, but whether you have a good command of "connectionology" or *guanxiwang*.

The old saying, "It isn't what you know, it's who you know", is probably more applicable in China than anywhere else in the world. It is vitally important in China to have a network of contacts and to continuously nurture them, through various favours, gifts, not only for security but simply to get things done. Personal connections are just as important in China today, if not more so, particularly in the business world, where it is necessary to deal with large numbers of bureaucrats and others who can delay, destroy, or otherwise affect a project to suit their purposes. The Chinese keep close track of the favours they do and receive, and expect the ones they do to be returned (de Mente, 1994).

In China, any business relationship should be considered a long-term view. To maintain a long-term business relationship, one must reciprocate or *bao* (Redding, 1990; Kirbride, Tang and Westwood, 1991). *Guanxi* cannot be sustained between two parties if there is no need of reciprocity (Wu, 1998). Like face, the principle of reciprocity is universal but, in the Chinese case, the concept has particular salience (Kirbride, Tang and Westwood, 1991). When internalised in both parties, the norm obliges the one who has first received a benefit to repay it at a later time. Consequently, there may be less hesitancy in being the first and a greater facility with which the exchange and the social relation can get underway (Gouldner, 1960).

Renqing is defined as "humanised obligation" by Chen (1995:55). In the Chinese art of relationship management, i.e. the cultivation and development of *quanxi*, *renqing* plays an important role. It is a blend of social cost, quality and relationships, and is subject to different interpretations. Therefore, the repayment of a *renqing* debt can be more difficult than the repayment of a financial debt. The way to evade entanglement in *renqing* is to avoid building relationship with others as the Chinese saying, "If someone pays you an honour of a linear foot, you should reciprocate by honouring the provider with ten linear foot" indicates the costs of repaying favour.

3.12 Traditional Chinese Cultural Values

Given the above literature review, it may be reasonable to expect Chinese managers would prefer to avoid conflict, not challenge assumptions, and stay within governing rules and norms of the workplace.

Chinese people are thought to be more indirect and discreet in their approaches to conflict avoidance (Leung, 1997). Their proclivity to save face, to use persuasive influence attempts, and to communicate indirectly and nonverbally have been assumed to result in conflict avoidance.

The ideal individual in Chinese society should first and foremost know his social responsibilities and duties. He should be a group man, willing to cooperate with the people around him. As an integral part of a community, he should not openly display personal drive because such behaviour might bring disdain and criticism from others in the community (Chen 1995). Anyone desiring personal aggrandisement threatens established group hierarchies (Pye 1982) and risks being accused of uncontrollable ambition.

Confucian thought and values have shaped Chinese culture of over two thousand years. Filial piety, *Ren* and *Li*, are highly desirable for they are believed to foster social harmony. Children are expected to show unquestioning obedience to parents, and care for them as soon as they are able. *Ren* holds that people are interdependent and makes them collective in their orientation (Redding, 1980). *Li,* a code of conduct in Chinese high power distance society, informs people how to behave appropriately according to the hierarchical position other people hold. Chinese people therefore are often characterised as collectivists, conforming and respectful if not submissive to those in higher status. Empirical evidence provides some support for these generalisations. Chinese children have been found to be discouraged from aggressive behaviour in conflict. Chinese mothers, compared to American ones, refrained from demands on their children to be aggressive and fight back (Ho and Kang, 1984). Chinese were found to avoid conflict with a stranger (Huang and Harris, 1973), and avoid face-to-face confrontation (Bond et al., 1985). Chinese in Hong Kong were found to

favour compromise approaches to conflict whereas their British counterparts favoured direct give-and-take collaboration (Tang and Kirkbridge, 1986).

It can be seen that in summary Confucian teachings place high value on collectivism, power distance and conformity. These appear to be powerful forces shaping Chinese managers' social behavior. Managers would be unlikely to risk being labelled radical, daft, deviant or even out of order (Crookes and Thomas, 1998).

3.13 Comparison of Business Key Organising Principles between Chinese and Westerners

To be effective in cross-cultural management, managers need to understand the nature of the culture of the country where they are going to be managing, and how to adapt their managerial styles accordingly.

As Triandis (1983:139) astutely points out:

> ***"Culture's influence for organisation behaviour is that it operates at such a deep level that people are not aware of its influences. It results in unexamined patterns of thought that seem so natural that most theories of social behaviour fail to take them into account. As a result, many aspects of organisation theories produced in one culture may be inadequate in other culture."***

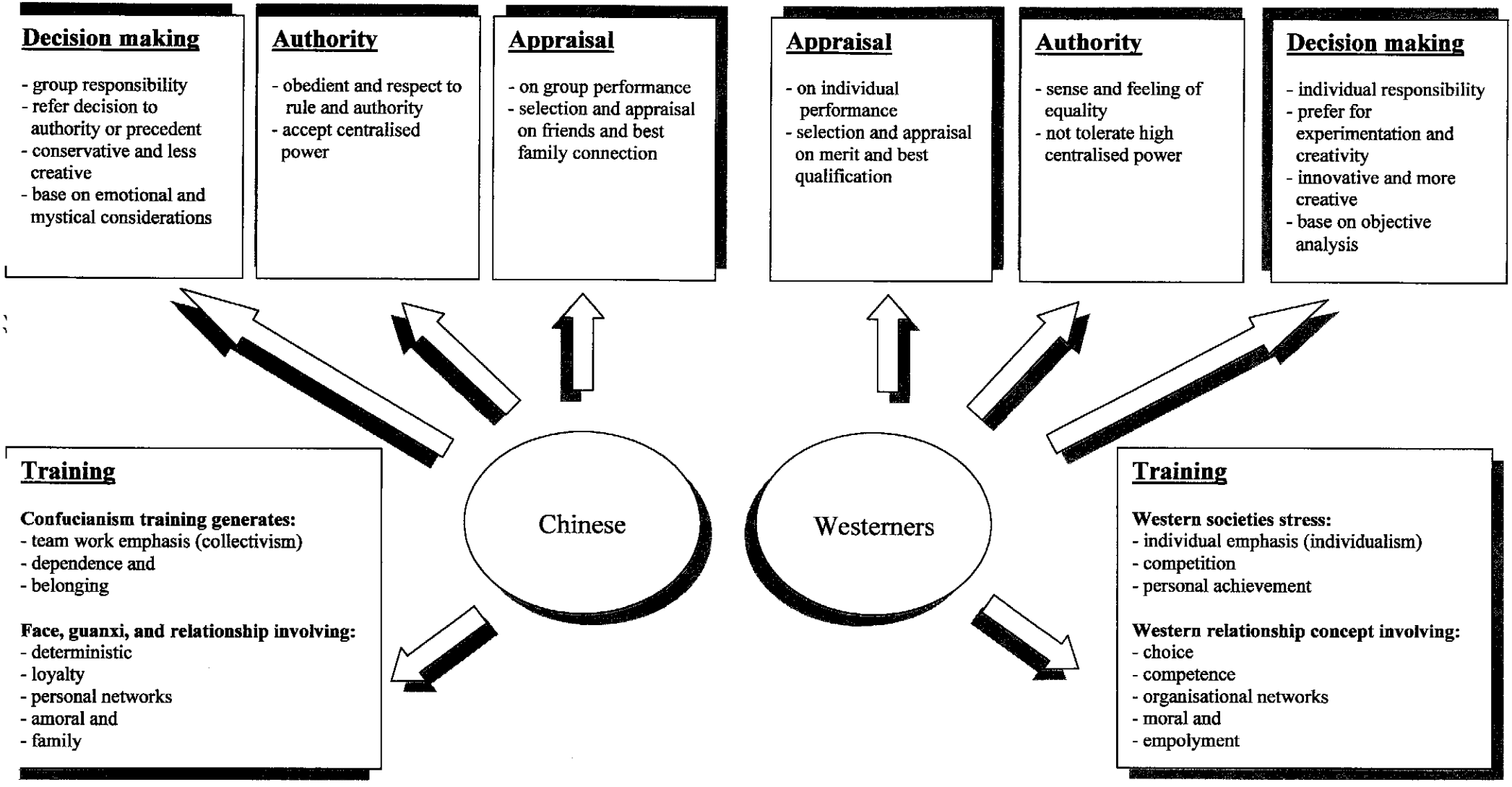


Figure 3.4: Model showing two contrasting maps of business organising principles between Chinese and Westerners

Western-style of business management when superimposed on Chinese-style business management often creates chaos and confusion. For instance, the Western theory that the CEO should delegate management authority to his managers, and 'empower' employees would contradict to the Chinese business fact that it is dangerous to delegate - the more important the task, the less one should delegate (Montagu-Pollock, 1991). Therefore, in doing business in a marketplace with Chinese culture, it is important for managers to understand the different styles of business organising principles between the Chinese and the Westerners.

Using the above concepts, a 'Model' has been produced by the researcher to address business key organising principles on training, decision making, authority and appraisal between Chinese and Westerners as shown in Figure 3.4. This is one schema representing the cultural difference, which demonstrates that cultural diversity and different philosophical assumptions between Chinese and Westerners would greatly influence managerial behaviours and managing styles in their work contexts.

This cultural 'Model' differs somewhat from that of Hofstede and Trompenaars in that it was drawn on the comparison between the Confucian teachings/Chinese *guanxi* relation network and the Western society teachings/Leader-Member Exchange conception of work relationships.

Hui and Graen (1997) explain that *guanxi* (Chinese family networks) relationships underlie Chinese family businesses around the globe. These Chinese *guanxi* networks are extremely exclusive and deterministic. Only those inside the network are granted high levels of trust, respect, and obligation. This is in sharp contrast to the Western Leader-Member Exchange concept, which involves choice of network members based on competence. In

addition, where *guanxi* is a personal network based on reliability and may be amoral, the Leader-Member Exchange is an organisational network based on competence and must be moral, legal and ethical.

3.14 PART 2

> ***"We have grown up in a climate of competition between people, teams, departments, divisions, pupils, schools, and universities. We have been taught by economists that competition will solve our problems. Actually, competition, we see now, is destructive. It would be better if everyone would work together as a system, with the aim for everybody to win. What we need is cooperation and transformation to a new style of management."***
>
> **(Deming, 1993: Preface xi)**

Part 2 reviews critically the literature on teamwork, the Deutsch's Theory of Cooperation and Competition, the nature of interaction between employees, nature of teamwork that develops strong confidence in team dynamics, which in turn contributes to quality customer service. It ends with a discussion on applying this Western theory in the Hong Kong Chinese work context.

3.15 The Research problem - To Create Quality Enhancing Productive Teamwork

This study examines the nature of cooperative teamwork that develops quality service to customers, and the research problem is to create quality enhancing productive teamwork.

According to Tjosvold (1993:preface xi), serving people is both our obligation and our privilege; it is the foundation for a humane society. Extensive literature reviews have been conducted, and documented that employees' attitudes toward the internal dynamics of an organisation can

impact customer perceptions of quality service (Bowen, 1996; Schneider and Bowen, 1985).

To survive in increasingly competitive markets, organisations are challenged to create cooperative teamwork and focus on quality service for sustaining long term loyal and supportive customers (Zemke and Schaaf, 1989). The turbulence of the contemporary business environment requires innovative reception and responses from organisations to deliver quality service to their customers. Quality service to customers must increasingly complement efficient production (Berry, 1995; Porter, 1985). Whilst service quality (Berry, 1995) has proved an essential ingredient in convincing customers to choose one organisation over another, many organisations have realised that maintaining excellence on a consistent basis is imperative if they are to gain customer loyalty. In the present competitive setting, if one were to understand the lifetime value of a customer, creating and maintaining long-term relationships with customers is paramount to an organisation's market leadership. Moreover, in order to develop and maintain customer relationships, an organisation needs the assistance and partnership of their employees (Kandampully and Duddy, 1999).

Managers are recognising that teamwork drives quality customer service (Bondra and Davis, 1996; Schultz, 1996), and are working to improve service quality to meet the demands of their customers. Without quality service, customers may withdraw their support in favour of more customer-oriented firms. An emphasis today is on relational marketing, where customers feel a part of the organisation and reward their special treatment with loyalty and repeat business (Smith, 1998).

Teamwork can help service providers develop the interpersonal and decision-making skills needed for relational marketing and high customer contact. Meeting customer expectations challenges organisations to develop the leadership and human resource management that foster highly effective internal teamwork (Berry, 1995; Chase and Garvin, 1989; Tjosvold, 1993). Large and small companies in the United States are using teams to improve quality, cut product development time, and reduce time to market (Burbridge, 1995; Puri, 1992; Vasilash, 1992).

Evidence of team dysfunctionality would be an individual showing off one's superior position, having a mistrustful attitude, showing an unwillingness to share work load and support other team members which leads to competition that will frustrate quality customer service. It seems plausible that such dysfunctionality would lead to errors and customer frustration. Evidence suggests, though that many organisations are unprepared to deal with errors and customer frustration. In a study by Hart, Heskett, and Sasser (1990), it was revealed that more than half of all efforts to respond to customer complaints have been found to reinforce the customer's negative reactions

Less clear, however, is the underlying nature of quality enhancing productive teamwork. Managers need a validated framework that specifies how employees are to work together and identifies the conditions and methods that promote this effective teamwork. Ideally, this framework might be adapted for various cultures so that it can be widely applied (Tjosvold, Moy and Sasaki, 1999). Especially in a service industry like shiprepair, team members must work together to create quality enhancing productive teamwork for delivering high value to customers, who come from various maritime nations of various cultural backgrounds. For this to occur, empirical

studies and investigations will be needed to examine and solve the work problems.

3.16 Confidence in Team Dynamics

Confidence that they can pool their resources and combine their ideas would seem particularly useful in helping team members to solve work problems and manage their internal affairs (Alper, Tjosvold and Law, 1998). Confidence in team dynamics has been defined by Tjosvold (1985a) as the collective belief that group members interact effectively. He holds that team confidence directly measures group beliefs concerning the effectiveness of their interaction. Efficacy researchers (Bandura, 1993; Lee and Bobko, 1994) have shown that individuals who believe they can perform needed actions exert and are productive; those with little confidence are unproductive and fail to take initiative to contribute to the organization. Group potency is the group's collective belief that it can be effective and has the capacity to reach its goals (Guzzo, et al. 1993). Efficacy and group potency research has concentrated on documenting consequences; less research has identified the conditions that give rise to efficacy (Major, et al. 1990). This study proposes that the experience of constructive controversy leads to confidence in team dynamics. Teams whose members have demonstrated that they are able to express their various beliefs and integrate their ideas and efforts have the confidence that they can pool their abilities and be successful. Amason (1996), and Cosier and Schwenk (1994) have shown that without the experience of open-minded discussion of their views (constructive controversy), team members are skeptical that together they have the wherewithal to tackle the challenges of making decisions regarding their whole tasks and their internal affairs.

3.17 Conflict - Theory and Theoretical Roots

3.17.1 Conflict Theory as Derived from Western Constructs

Conflict theory as described below is mainly derived from Western constructs and might be interpreted vastly differently when applied in the Hong Kong Chinese setting. One of the main purposes of the study is to find out how cultural values affect individual thinking and behaving within the context of teams in the Hong Kong shiprepair industry.

Conflict has been broadly defined as perceived incompatibilities (Boulding, 1963) or perception by the parties involved that they have discrepant views or have interpersonal incompatibilities. From the Western perspective, conflict has traditionally been considered as opposing interests involving scarce resources, goal divergence and frustration, and is often thought to occur in mixed-motive relationships where persons have both competitive and cooperative interests (Bacharach and Lawler, 1981; Kochan and Verma, 1983). The competitive elements produce the conflict; the cooperative elements create the incentives to bargain to reach an agreement (Deutsch and Krauss, 1965). Although conflict is often defined as incompatible interests and goals, it is clear from the work of Deutsch (1973) that a great deal of conflict may also occur even when people have highly compatible goals. He defined conflict as incompatible activities; conflict occurs when one's actions are interfering, frustrating, obstructing, or in some other way making another's actions less effective. Conflict can occur in both cooperative and competitive settings. He argued that for conflict to be experienced it must be perceived. Objective interference without perception does not induce the psychological consequences of conflict. Deutsch's definition does not confuse conflict with competition. Many organisational members as well as

theorists (e.g. Pfeffer, 1981) have equated conflict with competition as if conflict is a win-lose struggle. Deutsch has shown such a view to be partial and simplistic, for cooperation also fosters conflict.

What is crucial about defining conflict as incompatible activities is that it does not equate actions with goals. Confusion is often made in the writing and practice of conflict management. Just because people's actions are incompatible does not mean that their desired end-states are. Their goals and aspirations can still be compatible (Leung and Tjosvold, 1998:6).

Considering conflict as opposing interest confounds conflict with competition. Assuming that conflict derives from competition leads people to consider every conflict as a 'win-lose' fight and act accordingly. This conclusion makes the management of conflict difficult. Considerable research has documented that protagonists with this conviction try to avoid discussing conflict but, once engaged, use tough bargaining tactics, close-mindedly reject the opposing position and the other side, and escalate the conflict (Deutsch, 1973; Tjosvold, 1993).

Whilst conflict is inevitable in groups or organisations due to the complexity and interdependence of organisational life, theorists have differed about whether it is harmful or beneficial to organisations. But organisational conflict theorists such as Pondy (1967) and Brown (1983) suggested conflict is detrimental to organisational functioning, and others such as Schmidt and Kochan (1972) and Brett (1984) focused their attention on the causes and resolutions of conflict. More recently, researchers like Tjosvold (1991a) and van de Vliert and de Dreu (1994) have theorised conflict is beneficial under some circumstances. Research on communication, group interaction processes, and diversity in groups and organisations has also indicated that

conflict is beneficial as well as detrimental (Wagner, Pfeffer and O'Reilly, 1984; Roloff, 1987; Eisenhardt and Schoonhoven, 1990).

In general, in the majority of past research on conflict, conflict is considered to be detrimental to performance and satisfaction (March and Simon, 1958; Pondy, 1967; Blake and Mouton, 1984). Thus, it is no surprise that today's managers and employees still overwhelmingly view conflict as negative and something to be avoided or immediately resolved (Losey, 1994; Stone, 1995). Recent studies, however, have examined the benefits of organisational conflict and methods for stimulating productive conflict (Amason and Schweiger, 1994; Jehn, 1994, 1995; van de Vliert and de Dreu, 1994, Pelled, 1996). For instance, task-related management team conflict can improve organisational performance and growth through enhanced understanding of various viewpoints and creative options (Bourgeois, 1985; Eisenhardt and Schoonhoven, 1990). Tjosvold (1993:6) proposed that values toward conflict are changing dramatically. He argued that conflict has traditionally been considered destructive and unpleasant, a sign that something has gone very wrong, and conflict is now viewed as beneficial for it aids individual fulfilment and organisational effectiveness.

Although in many organisational groups, group members largely agree about individual and group goals (McGrath, 1984; Kabanoff, 1985), yet they still find themselves in conflict. Kabanoff (1985: 114) suggested that people may have difficulty working together effectively; even when they generally agree on goals and "believe they should be working together", and then conflict "develops primarily from people's normal attempts to cooperate or coordinate their efforts". Jehn, (1997:2) argued that even when group members work on the same project, have mutual interests in completing it, and similar ideas of how to complete the project, they still may experience conflict. Conflict

theory and research have primarily focused on disagreements about ends, but conflict can just as easily occur about means, even when ends are shared, as they are in most organisational groups (McGrath, 1984). This means versus ends distinction provides a framework for examining various types of conflict that can occur in organisational groups (Simon, 1976; Tyler, Degoey and Smith, 1996).

According to Jehn (1997:3), two types of conflicts are predominantly studied in organisations - ***relationship and task conflicts*** (Figure 3.5).

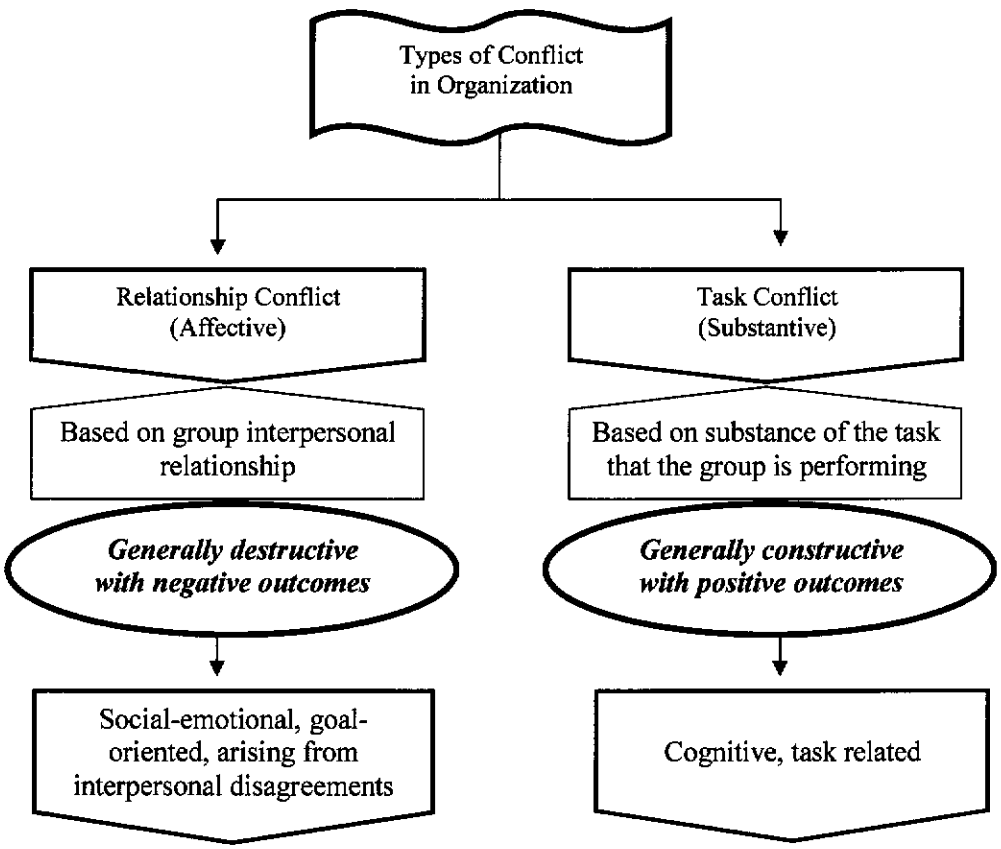
Relationship conflicts focus on interpersonal relationships, whilst task conflicts focus on the content and the goals of the work. Guetzkow and Gyr (1954:369) proposed that both ***"affective"*** and ***"substantive"*** conflicts exist. They distinguished between conflict based on the group interpersonal relationship (affective), and conflict based on the substance the task that the group is performing (substantive). Priem and Price (1991) also distinguished between cognitive, task-related conflicts and social-emotional conflicts, arising from interpersonal disagreements not directly related to the task. Coser (1956) hypothesised goal-oriented conflict, in which individuals pursue specific gains, and emotional conflict, which is projected frustration with interpersonal interactions. Similarly, Pinkey's (1990) multidimensional scaling study uncovered a task-versus-relationship dimension of conflict. Jehn (1992) found that in a group conflict, members distinguish between task-focused and relationship-focused conflicts and that these two types of conflict differentially affect work group outcomes.

There is an apparent distinction between task and relationship in these typologies similar to other organisational theories that distinguish between task and interpersonal dimensions of organisational life such as leadership

theories, e.g. task and relationship motivated leaders (Fiedler, 1978) and group functions, e.g. task accomplishment and relationship maintenance, (Bales, 1958; Ancona and Caldwell, 1988). This division between task and relationship leads to different predictions about the effect of conflict on group outcomes.

Figure 3.5 : Types of Conflict Studied in Organisations

Adapted from Jehn, 1997:3



Empirical research reveals relationship conflict has a significant influence on group processes and outcomes (Jehn, 1997). Surra and Longstreth (1990) demonstrate that people who felt tension and conflict with the persons they were working with were less satisfied in the relationship than those who did not. Similarly coworkers experiencing interpersonal tension are less satisfied with the group in which they are working, because interpersonal problems enhance negative reactions such as anxiety and fear, decreasing their satisfaction with the group experience. Employees may also exercise frustration, strain, and uneasiness when they dislike or are disliked by others in their group (Walton and Dutton, 1969) with a typical response being psychological or physical withdrawal from the disturbing situation (Peterson, 1983; Ross, 1989). Clearly, the negative reactions associated with relationship conflict arouse uncomfortable feelings and dejection among members, which inhibits their ability to enjoy each other and their work in the group. Research results by Evan (1965) and Gladstein (1984) show a negative association between relationship conflict, productivity, and satisfaction in groups. Relationship conflicts in general interfere with task-related effort because members focus on reducing threats, increasing power, and attempting to build cohesion rather than working on the task. According to Deutsch (1969), relationship conflicts decrease goodwill and mutual understanding, which hinders the completion of organisational tasks. The conflict causes members to be negative, irritable, suspicious, and resentful. Chronic relationship conflicts can have serious detrimental effects on group functioning (Coser, 1956). According to Jehn (1997:3), to date there has been no evidence of positive effects of relationship conflict on either performance or satisfaction.

Task-focused conflicts have been perceived as different from relationship conflicts by employees experiencing the conflict (Pinkley, 1990; Jehn, 1992),

and have different effects on group and organisational outcomes (Guetzkow and Gyr, 1954; Kabanoff, 1991; Priem and Price, 1991; Jehn, 1994, 1995). Task conflicts can improve decision-making outcomes and group productivity by increasing decision quality through incorporation of devil's advocacy roles and constructive criticism (Cosier and Rose, 1997; Amason, 1996). Groups use members' capabilities and prior knowledge better when the conflict is task-focused. Recent research suggests that moderate levels of task conflict are constructive, since they stimulate discussion of ideas that help groups perform better (Jehn, 1995). Groups with an absence of task conflict may miss new ways to enhance their performance, while very high levels of task conflict may interfere with task completion.

3.17.2 Theoretical Roots – Overview of Conflict Study during the Past One Hundred Years

Drawing from Western philosophical thought, below is a brief overview of conflict study during the past one hundred years:

3.17.2.1 Early Social Psychologists - Darwin, Marx and Freud

In the "Handbook of Conflict Resolution - Theory and Practice", Deutsch (2000:12) introduced the brief history of social psychological theorising about conflict as follows: -

> "The writings of three intellectual giants - Darwin, Marx, and Freud - dominated the intellectual atmosphere during social psychology's infancy. They significantly influenced the concepts of conflict and in many other

fields of the early social psychologists. All three appeared, on a superficial reading, to emphasise the competitive, destructive aspects of conflict .....".

Deutsch argued that with the development of empirical orientation in social psychology it focused on the socialisation of the individual. This led to studies investigating cooperation and competition, forerunners of the empirical, social psychological study of conflict.

3.17.2.2 Lewin's Field Theory, Conflict, and Cooperation-Competition

During the 1920s, 1930s and 1940s, quite independently of the work being conducted in the United States on cooperation-competition, Kurt Lewin and his students were theorising and conducting research that profoundly affected later work in many areas of social psychology.

Lewin's (1935) Field Theory - with its dynamic concepts of tension systems, "driving" and "restraining" forces, "own" and "induced" forces, valences, level of aspiration, power fields, interdependence, overlapping situations, and so on - created a new vocabulary for thinking about conflict and cooperation-competition.

Kurt Lewin (1948) stated that the essence of a group is the interdependence among members, which results in the group being a "dynamic whole", so that a change in the state of any member or subgroup changes the state of another member or subgroup. For interdependence to exist there must be more than one person or entity involved, and the persons or entities must have impact on each other in that a change in the state of one causes a change in the state of

the others. In addition, Lewin stated that individuals are made interdependent through their common goals.

3.17.2.3 Game Theory

In 1944, von Neumann and Morgenstern published their now-classic work, ***Theory of Games and Economic Behaviour***. Game theory formulates in mathematical terms the problem of conflict of interest. It is the core emphasis on the parties in conflict having interdependent interests that has made game theory of considerable value to social psychologists. Although there has been mathematical and normative development of game (zero sum games), game theory also recognises that cooperative as well as competitive interests may be intertwined in conflict (as in coalition games or non-zero-sum games).

Game theory's recognition of the intertwining of cooperative and competitive interests in situations of conflict or, in Schelling's (1960) useful term, the mixed motive nature of conflict, has had a productive impact on the social psychological study of conflict, theoretically as well as methodologically. Theoretically, it helped buttress a viewpoint that conflicts were typically mixtures of cooperative and competitive processes and that the course of conflict would be determined by the nature of the mixture. This emphasis on the cooperative elements involved in conflict ran counter to what was then the dominant view of conflict as a competitive struggle.

Deutsch (2000) concluded, however, that none of the above theories is adequate to deal by itself with the complexities involved in any specific conflict or any type of conflict. Each theory is a component of the particular

mosaic that needs to be created to understand and manage a unique conflict constructively.

3.18 The Deutsch's Theory of Cooperation and Competition (1949a, 1949b, 1973, 1980, 1985, 1990)

3.18.1 Theorised Roots of the Theory of Cooperation and Competition

The initial theorising on cooperation-competition (Deutsch, 1949a) was influenced by Lewinian thinking on tension systems, which as cited by Deutsch (1980) was reflected in a series of experiments on the recall of interrupted activities (Zeigarnik, 1927), the resumption of interrupted activities (Ovsiankina, 1928), substitutability (Mahler, 1933), and the role of ego in cooperative work (Lewis, 1944; Lewis and Franklin, 1944).

According to Lewin's (1935) theory of intrinsic motivation, a state of tension within an individual motivates movement toward the accomplishment of desired goals. Lewin's concept of tension system has led to a series of investigations having much relevance to the processes involved in cooperation and competition. Lewin postulated that a tension for which there is a recognised goal leads not only to a tendency to actual movement toward the goal but also to thought about this type of activity: the force toward the goal exists not only on the "reality" level of doing but also on the "irreality" level of thinking. Zeigarnik (1927) and Marrow (1938a, 1938b) conducted experiments in which subjects were given a series of tasks to perform and then prevented from completing half of them. Later, the subjects were asked to recall what tasks they had performed. The result of these experiments

indicate that, as Lewin's tension system theory would predict, the subjects recall more of the interrupted than the completed tasks except when task completion is viewed as a personal success and lack of completion is viewed as a personal failure.

Ovsiankina (1928) studied the resumption of task activity, and as predicted found that interrupted tasks were almost always resumed when the subjects were left free to do as they wished. Mahler (1933) and others have investigated the conditions under which one activity can substitute for and, hence, release the tension connected with another, interrupted activity. Lewis, drawing upon Lewinian concepts, developed ideas, which started to give fundamental insights into the nature of the psychological processes involved in cooperation and competition and wrote:

> ***"Satisfaction in work should be obtainable from the cooperating person's activities as well as from one's own. Since the objective situation is focal, rather than the ego, the actual agent in dealing with the objective world need not necessarily be one's self. What the other person does may be as important, as satisfying as one's own activities."***
>
> ***Lewis (1944: 115-116)***

In a series of experiments, Lewis (1944) and Lewis and Franklin (1944) essentially used Zeigarnik's experimental procedure of interrupting the subjects on half their assigned tasks and allowing them to complete the other half. Their research demonstrated that cooperative work, which is interrupted and not completed can lead to a persisting force to recall which is not much different from the pressure to recall induced by interrupted individual work. In other words, in cooperative relations, a co-worker's activity can substitute for similarly intended activities of one's own.

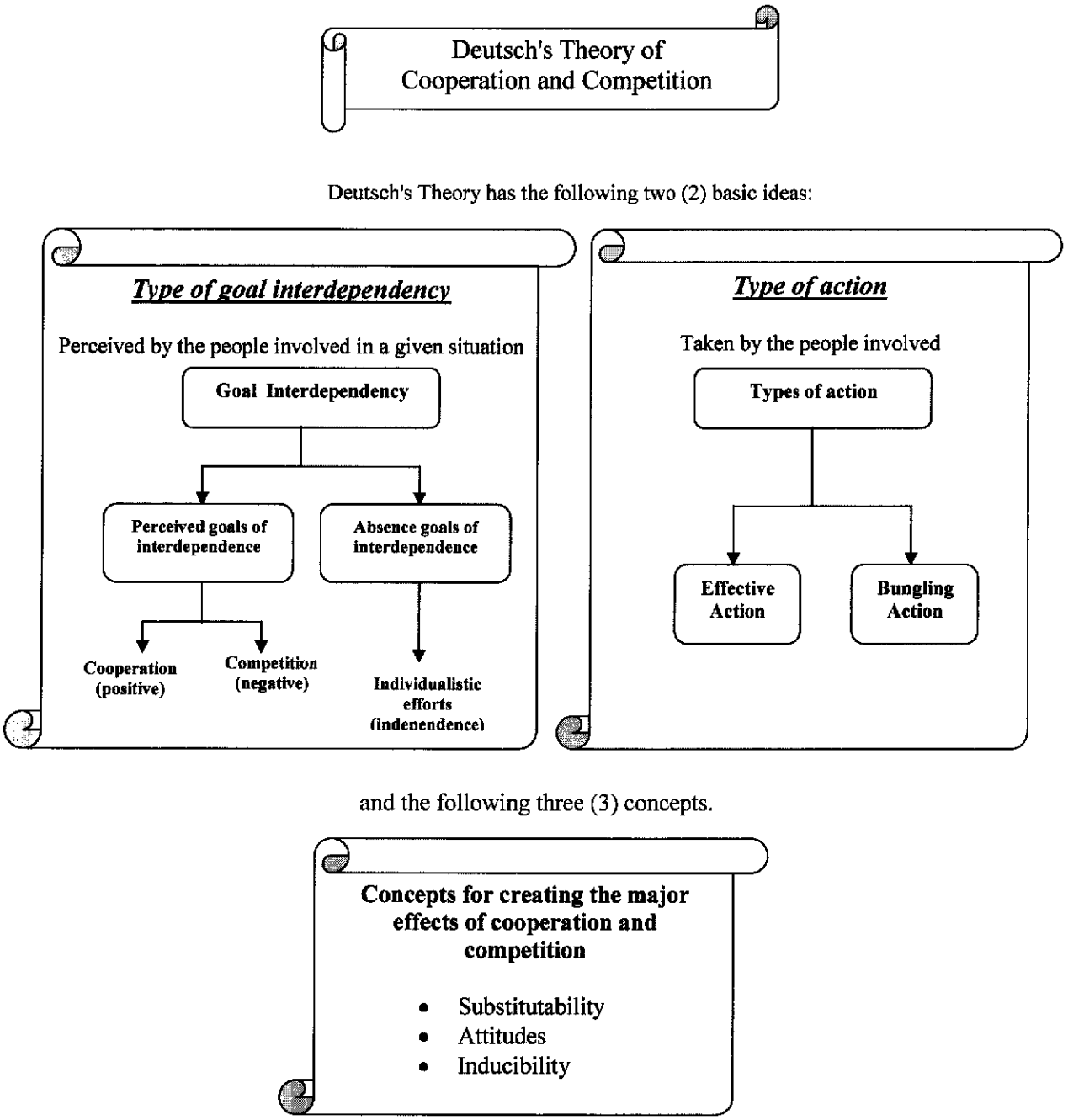
The concept of tension system and the various experimental studies on the recall and resumption of interrupted activities, substitution, satisfaction, and frustration all have direct relevance to many problems of social psychology. The concept of tension system is applicable, for instance, to socially derived needs and intentions, to motives that develop from belonging to a group and from participating in-group activities, to interpersonal influences. The various effects of tension on psychological processes have advanced insight into those social and group factors that produce individual motivation as well as into social and group factors that facilitate the reduction of individual tensions (Deutsch and Krauss, 1965). From Lewin's field theory, and the research of these and other students and colleagues of Lewin, it may be concluded that it is the drive for goal accomplishment that motivates cooperative, competitive and individualistic behaviour.

3.18.2 Concepts of the Theory of Cooperation and Competition

As discussed above, the Western "Theory of Cooperation and Competition" has evolved from Lewin's (1935) 'Field Theory', and was initially developed by Morton Deutsch in North America. Deutsch's (1949a, 1949b) original theory sketches out a theory of the effect of cooperation and competition upon small (face-to-face) group functioning. The theory aims to explain the development of relations and values; actors are assumed to have motives and goals but without assuming particular values and preconditions, which might affect cooperative and competitive management of conflict. The theory was later on much elaborated by Johnson and Johnson (1989), who have provided the most extensive summary of the theory and the research bearing on it. Johnson and Johnson (1989) stated that wherever people strive to achieve a goal, they may engage in cooperative, competitive, or individualistic efforts.

Figure 3.6: The Theory of Cooperation and Competition

(Deutsch, 1949a, 1949b, 1973, 1980, 1985, 1990)



Within any social situation, individuals may join together to achieve mutual goals, compete to see who is the best, or act individualistically on their own. Such social interdependence exists when each individual's outcomes are affected by the actions of others. It is one of the most fundamental and ubiquitous aspects of human beings, and it affects all activities of our lives including our productivity, quality of relationships and our psychological health. The basic premise of the theory (Johnson and Johnson, 1989:5) is that the way in which social interdependence is structured determines how individuals interact within the situation, which in turn affects outcome. When individuals take action there are three ways what they do may be related to the actions of the others. One's action may promote the success of others, obstruct the success of others, or not have any effect at all on the success or failure to the others.

According to Deutsch (2000:22), whether the participants in a conflict have a cooperative orientation or a competitive one is decisive in determining its course and outcomes. It is important to understand the nature of cooperation and competition since almost all conflicts are mixed-motive, containing elements of both cooperation and competition. Deutsch (2000:22-27) and Johnson and Johnson (1989) have provided the most comprehensive interpretation of this social interdependence theory and this is illustrated in Figure 3.6.

Social or goal interdependence exists when the outcomes of individuals are affected by the each other's action. Within any social situation, individuals may join together to achieve mutual goals, compete to see who is best, or act individualistically on their own (Johnson and Johnson, 1989).

The theory has two basic ideas. One relates to the ***type of goal interdependency*** perceived by the people involved in a given situation. The other pertains to the ***type of action*** taken by the people involved.

Deutsch (2000:23) identifies two basic types of ***perceived goals of interdependence – cooperative and competitive***, and the absence of it - ***individualistic efforts.***

The two basic types of perceived goals of interdependence are:

i) ***positive (cooperation)*** - where the goals are linked in such a way that the amount or probability of a person's goal attainment is positively correlated with the amount or probability of another obtaining his goal; and

ii) ***negative (competition)*** - where the goals are linked in such a way that the amount or probability of the other one's goal attainment is negatively correlated with the amount or probability of the other's goal attainment.

It is well to realise that few situations are "purely" positive or negative. In most situations, people have a mixture of goals so that it is common for some of their goals initially to be positive and some negatively interdependent. In mixed situations, the relative strength of the two types of goal interdependency, as well as their general orientation to one another, largely determine the nature of the conflict process. The issues of Cooperation, Competition and Independence will be discussed in more details in latter paragraphs.

Deutsch (2000:12) also characterises two basic ***types of action*** by an individual:

i) ***"effective actions",*** which improve the protagonist's chances of obtaining a goal, and

ii) ***"bungling actions",*** which worsen the protagonist's chances of obtaining the goal.

In addition to positive and negative interdependence, Deutsch (2000:24) has also identified that it is well to recognise that there can be absence of interdependence – ***individualistic efforts (independence),*** such that the activities and fate of the people involved do not affect one another, directly or indirectly.

In order to understand the differing consequences of cooperative and competitive situations, Deutsch (2000:24) proposed that it would be well to examine the following three central social-psychological processes involved in creating the major effects of cooperation and competition:

i) ***Substitutability (the willingness to allow someone else's actions to be substitutable for one's own)*** - how a person's actions can satisfy another person's intention is central to the functioning of all social institutions (the family, industry, schools), to the division of labour, and to role specialisation. Substitutability permits you to accept the activities of other in fulfilling your needs.

Negative substitutability involves active rejection and effort to counteract the effects of another's activities.

ii) ***Attitudes (the development of positive or negative attitudes)*** - refers to the predisposition to respond evaluatively, favourably or unfavourably, to aspects of one's environment or self. The inborn tendency to act positively toward the beneficial and negatively toward the harmful is the foundation on which the human potential for cooperation and love as well as for competition and hate develop.

iii) ***Inducibility (the readiness to be influenced positively by another)*** - refers to the readiness to accept another's influence to do what he or she wants.

Negative inducibility refers to the readiness to reject or obstruct fulfillment of what the other wants. The complement of substitutability is inducibility. You are willing to be helpful to another whose actions are helpful to you, but not to someone whose actions are harmful.

3.19 Cooperation, Competition and Independence (Individualistic Efforts)

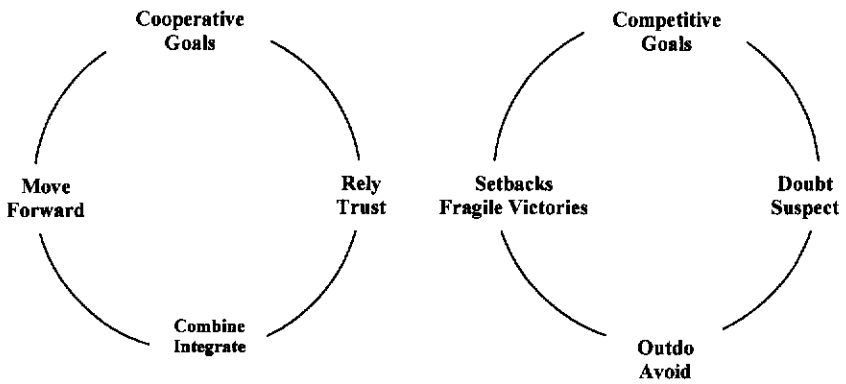
As illustrated in Figure 3.6, there are three types of goal interdependency, cooperation (positive), competition (negative) and individualistic efforts (independence).

Cooperation is working together to accomplish shared goals (Johnson and Johnson, 1989:2), who argued for its use in small groups so that individuals work together to maximise their own and each other's productivity and

achievement. Deutsch (1962) also argued that in cooperative situations, individuals perceive that they can reach their goals if and only if the other group members also do so. With this idea in mind, Deutsch (1973:20) has defined a cooperative situation as one in which the goals of the participants are so linked that any participant can attain his goal, if and only if, the others with whom he is linked can attain their goals. The term promotive interdependence has been used by Deutsch (1973) to characterise all goal linkages in which there is a positive correlation between the attainments of the linked participants.

Tjosvold (1991b) also argued that in cooperative environments, individuals use a common task and shared rewards, and they believe that their goals are positively linked so that as one moves toward goal attainment, others move towards reaching their goals as well. Hence, people in cooperation appreciate that they want each other to pursue their goals effectively, for the other's effectiveness helps all of them reach their goals. He went on to state that in cooperation, people want others to act effectively and expect others to want them to be effective because it is in each person's self-interest to do so. They trust their efforts will be welcomed and reciprocated. They believe they can rely upon each other and are sensitive and responsive to each other. Cooperation is not based on altruism, but on the recognition that, with positively related goals, self-interest requires collaboration. For instance, team members who are responsible for new product development will cooperate to develop useful ideas and work hard to create a new product that makes everyone feel successful. Cooperative work integrates individual self-interest to achieve compatible goals (Tjosvold, 1993) – see Figure 3.7.

Figure 3.7 : Cooperative and Competitive Goals *(Source: Tjosvold, 1993)*



According to Johnson and Johnson (1989:4), cooperation is not the only type of interdependence. Besides people being positively interdependent, they can be negatively interdependent, that is, in ***competition*** with each other. In a competitive situation, Deutsch (1973) argued that the goals for the participants are ***contriently interdependent.*** He has defined contrient interdependence as the condition in which participants are so linked together that there is a negative correlation between their goal attainments. In contrast to cooperative goal interdependence, people may believe that their goals are competitive, that is one's goal attainment precludes, or at least makes less likely, the goal attainment of the others. People with perceived competitive goal interdependence conclude that they are better off when others pursue goals ineffectively (Tjosvold, 1991b). Competitive team members want to prove they are the most capable and their ideas superior; they are frustrated when others develop useful ideas and work hard (Tjosvold, 1993) - see Figure 3.7.

Competitive expectations lead people to promote their own interests at the expense of others, and even to actively interfere with each other (Deutsch, 1973, Johnson and Johnson, 1989). They argued that in competition, an atmosphere of mistrust restricts information and resource exchange and

distorts communication. As a result, people often try to avoid direct discussion and, when compelled to discuss, impose their positions on each other. These ways of interacting frustrate productivity, intensify stress and lower morale (Alper, Tjosvold and Law, 1998).

To Johnson and Johnson (1989), competition is first and foremost a cooperative activity. They maintained that appropriate competition takes place within a context of cooperation. Competitors have to cooperate on the nature of the contest, how to determine who wins and who loses, the rules governing their behaviour during the competition, where the competition occurs, and when it begins and ends. This underlying cooperation foundation to competition keeps the competition in perspective and allows participants to enjoy the competition, win or lose. The stronger the cooperative foundation, the more constructive the competition is. Intragroup competition is often more constructive than interpersonal competition as teams tend to handle winning and losing more constructively than individuals do.

Johnson and Johnson (1989) suggested that no interdependence results in a situation in which individuals work alone to reach preset criteria of excellence. They argued that perception of no interdependence results in persons realising that they have an individual fate, and, therefore, must take a short-term time perspective and strive for self-benefit. Therefore, in an individualistic situation, there is no correlation among the goal attainments of participants. Instead, Deutsch (1973) held that ***independence (individualistic efforts)*** induces an indifference to the interest of others and a withdrawal from interaction. Generally, independence has been found to have similar though not as negative dynamics and outcomes on group interaction as competition (Deutsch, 1973; Johnson and Johnson, 1989). According to Tjosvold, (1991b), goal independence occurs when people believe their goals

are unrelated. People in perceived goal independence conclude that it means little to them if others act effectively or ineffectively. Hence, Tjosvold (1991b) concluded that independent team members care little whether others develop useful ideas or work hard: independent work creates disinterest and indifference.

Generally, independence has been found to have similar though not as negative dynamics and outcomes on group interaction as competition (Deutsch, 1973; Johnson and Johnson, 1989).

3.20 Dynamics and Effects of Cooperation and Competition

The dynamics of the Western based concept of cooperation and competition are briefly described below. However, it should be noted that the Chinese might react differently under different cultural setting.

3.20.1 Western Concept and Research

Whether people conclude their goals are primarily cooperative or competitive, Deutsch (1973) theorised, profoundly affects their orientation and intentions toward each other. He argued that in cooperation, people want others to act effectively and expect others want them to be effective, because it is in each person' self-interest to do so. They trust their efforts will be welcomed and reciprocated. They believe they can rely upon each other and are sensitive and responsive to each other.

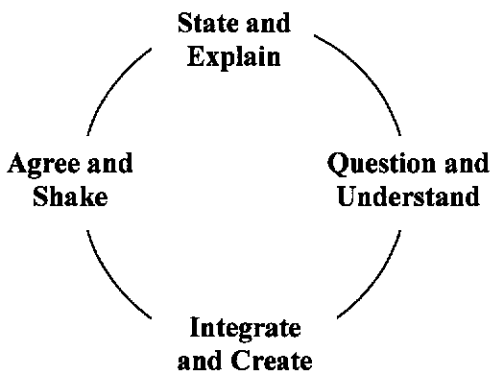
These mutual expectations of trust lead to discussions of shared perspectives and interests. Western based studies and research by Deutsch (1973) and

Johnson and Johnson (1989) documented that people in cooperation share information, acknowledge each other's perspective, communicate and influence effectively, exchange resources, assist and support each other, discuss opposing ideas openly, and use higher-quality reasoning. These actions in turn help cooperators move forward by completing tasks, agreeing to high quality solutions, reducing stress, fostering attraction, and strengthening work relationships and confidence in future collaboration (Tjosvold, 1999a; Alper, Tjosvold and Law, 1998) - see Figure 3.8.

Deutsch (1973) held that competitive expectations, on the other hand, lead to an atmosphere of mistrust, which restricts information and resource exchange and distorts communication.

Deutsch (1973) argued that people with cooperative goals can be in conflict. He defined conflict as incompatible activities, where one person is disagreeing, obstructing or frustrating another. He held, however, that cooperative goals promote open-minded discussions and productive conflict.

Figure 3.8 : Dynamics of Cooperative Conflict *(Source: Tjosvold, 1999a)*



With cooperative goals, people recognise that it is in everyone's self-interest to promote each other's effectiveness. Feeling trusting, they freely speak their minds and reveal their frustrations. People are open to these confrontations and realise it is important to work out settlements so that they can continue to assist each other. They work for mutually beneficial solutions that maintain and strengthen the relationship. They explore each other's perspective, creatively integrate their views, and are confident they can work together for mutual benefit. As a result, they are prepared to handle future conflicts. In this respect, attention should be drawn that Chinese might react quite differently due to their preference for preserving their faces and faces of others.

Deutsch (1973) argued that cooperative goals would have a greater impact if team members were highly committed to them. When they believe their goals are related to their personal interests, promote their values, and are supported by significant personal interests, and are supported by significant others, they exert more effort to pursue team goals and strengthen their cooperation.

Putting people into teams will not by itself be successful, for team members may compete or work independently. According to Tjosvold, (1991a) and Johnson and Johnson (1989), research documents that getting team members to believe their goals are positively related is a powerful strategy to induce productive interaction. Western based research summarised in recent reviews, including meta-analysis, has documented the impact of cooperation, competition and independence (Johnson & Johnson, 1989; Johnson, Johnson and Maruyama, 1983). Taken together findings indicate that it is through cooperative teamwork, much more than competition or independence that people work productively, especially on complex tasks (Tjosvold, Moy and Sasaki, 1996, 1999, Tjosvold et al. 1998).

Teams with cooperative compared to competitive and independent goals discuss their opposing views open-mindedly, and this constructive controversy in turn develops confidence in team dynamics that contributes to quality customer service (Alper, Tjosvold and Law, 1998). Deutsch's (1949a, 1949b, 1973, 1980, 1985, 1990) theory of cooperation and competition theorised that how interdependent people consider their goals are related very much affects the dynamics and outcomes. The basic premise of social interdependence theory is that the way goals are structured determines how individuals interact, and the interaction pattern determines the outcomes of the situation. Goals may be structured so individuals promote the success of others, obstruct the success of others, or pursue their interest without regard for the success or failure of others. 'Goal or social interdependence to humans is like water to fish. Since we can barely imagine its absence, we do not often consider its presence. However, it sustains us as we live and breathe through it' (Johnson & Johnson, 1989:22). Perceptions of goal interdependence affect interaction outcomes significantly because these perceptions affect expectations and actions (Alper, Tjosvold, and Law, 1998).

In documenting and extending the theory, studies have shown that there are important process outcomes with cooperative goals such as employees discussing their views openly and productively (Tjosvold and Tjosvold, 1994). When discussing problems, cooperators seek to understand the opposing views and take each other's perspective (Tjosvold, 1982, 1985a). They combine the most reliable information and the best ideas to make high quality and high commitment decisions (Johnson and Johnson, 1989). They must communicate respect and acceptance of each other to deal with problems directly and constructively (Tjosvold, Johnson, and Lerner, 1981).

Considerable research supports Deutsch's arguments that the course and outcomes of conflict depend greatly on whether participants believe the cooperatively or competitively linked goals dominate and that conflict discussed within a cooperative context is more productive (Johnson and Johnson, 1989; Tjosvold and Tjosvold, 1994, 1995; Tjosvold and Wang, 1998; Tjosvold, Moy and Sasaki, 1996, 1999; Deutsch, 2000).

3.21 The Theory of Constructive Controversy

"Constructive Controversy", the value of intellectual opposition (Johnson, Johnson and Tjosvold, 2000), which is defined as a process for constructively coping with the inevitable differences that people bring to cooperative interaction because it uses differences in understanding, perspective, knowledge, and world view as valued resources.

Despite all the theorising about the positive aspects of conflict, there has been until recently very little empirical evidence demonstrating that the presence of conflict can be more constructive than its absence. Guidelines for managing conflict tend to be based more on folk wisdom than on validated theory. Far from being encouraged and structured in most interpersonal and intergroup situations, conflict tends to be avoided and suppressed. Creating conflict to capitalise on its potential positive outcomes tends to be the exception, not the rule. Therefore, building on the previous work of Morton Deutsch and others, Johnson, Johnson and Tjosvold began a program of theorising and research to identify the conditions under which conflict results in constructive outcomes. One of the results of their work is the development of the concept of ***"Constructive Controversy"*** (Johnson, Johnson and Tjosvold, 2000).

According to Johnson, Johnson and Tjosvold (2000:67), constructive controversy occurs when one person's ideas, information, conclusions, theories, and opinions are incompatible with those of another, and the two seek to reach an agreement. They maintained that constructive controversies involve what Aristotle called 'deliberate disclosure' (discussion of the advantages and disadvantages of proposed actions) aimed at synthesising novel solutions (*creative problem solving*).

The above, of course, are only Western based concepts and perspective and the Chinese might behave differently under diverse cultural setting.

3.21.1 Western Perspective and Research

Tjosvold (1985a) held that controversy occurs when persons discuss their opposing views about how a problem should be solved. His research has documented that controversy promotes curiosity, exploration, understanding and integration (Tjosvold and Field, 1984; Tjosvold and Tjosvold, 1994, 1995). It has been found that when confronted with opposing views, people feel uncertain about the most adequate solution, are curious, and seek to understand opposing views. Expressing various views, defending and articulating their rationales, and following internal uncertainty to search for new and more complete information and understanding all develop new, useful solutions to the problem that the protagonists accept and implement. Controversy has been found to be highly constructive if protagonists have cooperative goals because they are willing to integrate opposing views and reach a high-quality agreement. Western based field research (Tjosvold and Tjosvold, 1994, 1995) has shown that the dynamics of cooperative

controversy can be highly useful for solving an array of complex problems for organisations.

From studies of Tjosvold (1985a), Tjosvold and Field (1984), and Tjosvold and Tjosvold (1994, 1995), constructive controversy has been found to be an important complement to cooperative goals, and is the set of behaviours that have been found to develop from cooperative goal interdependence in problem solving situations. Cooperation does not avoid or suppress discussion of opposing views, but encourages open, mutual discussion. These Western studies have indicated that constructive controversy characterises effective interaction within a cooperative environment (Tjosvold, 1985a). Contrary to the popular belief in the value of harmony for employee relationships, cooperative goals have been found to promote the open, constructive discussion of diverse views. A number of Western based experimental studies indicate that controversy can contribute to decision making. Maier (1970) found that groups composed of persons with different views and outlooks and groups whose leaders encouraged expression of minority opinions make high quality decisions. Diversity of possible solutions and minority views were found to improve the quality of group opinions. People with highly cooperative goals discuss their opposing ideas and positions directly, examine each other's perspectives, and work for mutual benefits. With open minds, they understand the opposing positions, integrate their ideas, and achieve a mutually acceptable, high quality decision they are committed to implementing (Tjosvold and Field, 1984; Tjosvold and McNeely, 1988; Johnson and Johnson, 1989). Hall's (1971) studies suggest that consensus decision making is useful because it stimulates open controversy. Diversity of possible solutions and minority views were found to improve the quality of group decisions (Falk and Johnson, 1977; Nemeth and Kwan, 1985; Wanous and Yountz, 1986). Researchers also have found

that structuring controversy aids policy making (Amason, 1996; Cosier and Schwenk, 1994; Katzenstein, 1996) and that controversy is much more useful for solving problems when conducted within a cooperative context (Tjosvold, 1985a).

Competitive and independent goals, on the other hand, foster closed-mindedness (Tjosvold and Tjosvold, 1995). Competitors try to avoid open discussion in part because they expect escalation of the conflict. If pressed, they express their views in a demanding way. They reject each other's ideas and exclude them in their thinking and decisions. The impact of independence of goals is similar though not as strong as competition. Western based field studies have documented the generalisability of these finding to organisational settings (Tjosvold, 1990; Tjosvold and Field, 1984).

Western based experiments have shown that cooperative and competitive goals affect power dynamics of managers and employees. Using a variety of operations and samples in the United States and Canada, researchers have found that compared with competitive goals, cooperative goals induce higher expectations of assistance, more assistance, greater support, more persuasion, less coercion and more trusting and friendly attitudes in leader relationships (Tjosvold, 1981, 1985a). Supervisors in cooperative environments supported their subordinates, and those with great power used their resources to aid them: in competitive and independent environments, supervisors with a great deal of power had the capacity but were not motivated to assist subordinates (Tjosvold, 1985b). According to Tyler (1993), structuring cooperative relationships on the job appears to be a practical way to enhance organisational commitment. Through cooperative interaction, employees feel rewarded and productive, strengthen their work relationship, and build their alliance to the organisation (Johnson and Johnson, 1989). Cooperative goals

appear to enhance success when employees and managers are prepared to work effectively for the organisation's goals. Competitive interaction, on the other hand, is painful and demoralising as well as unproductive.

3.21.2 Chinese Perspective and Research

Deutsch's (1949a) original Western based theory aims to explain the development of relationships and values. Team members are assumed to have motives and goals but without assuming particular values and preconditions. This might support the universality of the theory, but it does not reflect most situations, and particularly under diverse cultural setting. China presents an opportunity to understand how diverse cultural values and other preconditions affect cooperative and competitive management of conflict.

The Deutsch's theory assumes that individuals are self-interested, and their actions and feelings are hypothesised to depend on whether they believe their self-interests are cooperatively or competitively related (Tjosvold, Leung and Johnson, 2000). As collectivist rather than individualist, Chinese are thought to pursue the interests of their group rather than their individual interests. Is the Deutsch assumption that self-interest motivates group behaviour justified in China? Due to their collectivist inclination, Chinese people are highly oriented toward cooperation where competition and independence are unfamiliar (Tjosvold and Hui, 2000). Are the Chinese able to interact in competitive and independent ways, or are these experiences difficult to perceive under Chinese work setting?

Chinese people are thought to avoid conflict because they are particularly sensitive to social face, and place high value on collectivism, harmony, respect for authority, hierarchy, and conformity. These underlying Chinese assumptions are commonly considered to make open, constructive conflict management difficult. Chinese people have been expected to avoid conflict because they assume that conflict requires coercion and they prefer persuasion. With these traditional Chinese cultural settings, can conflict be dealt with directly and openly? Are Chinese business organisations using cooperative conflict to provide quality customer service?

According to the above Western perspective, the dynamics induced by cooperative goals, which contributes to effective joint work has been characterised as constructive controversy (Tjosvold, 1985b). However, many social scientists are skeptical that Western theory can be applied in such collectivist culture as China. How likely can cooperative, open-minded relationships be developed in Chinese organisations?

Underlying Chinese values are commonly asserted to make open, constructive relationships difficult, especially between managers and employees, given their high power distance, collectivism attitude and conforming behaviour. The Chinese are thought to avoid conflict in part because they are particularly sensitive to social face, and averse to strong influence and interpersonal hostility. In recent years, Prof. Dean Tjosvold of Lingnan University, Hong Kong and his team of network researchers have used methods of interviews, questionnaires and experiments to test the theory of cooperation and competition in Chinese organisations within Hong Kong and China. These field studies aim to test how Chinese cultural values affect cooperative and competitive management of conflict. According to the research on Chinese

employees for organisations in Hong Kong and China as listed in Appendix No. 3.1 (pages 265-270), their findings support the viability of cooperative conflict in China and generalise that cooperative conflict promotes effective leadership, positive power, productive teamwork and quality service.

3.22 Applying a Western Theory in the Hong Kong Chinese Work Context

In addition to the practical importance of understanding management of conflict in the global market place, studying conflict in varied cultural contexts can challenge and refine the present understanding of conflict management. According to Gergen et al. (1996) and van de Vijer and Leung (1997), incorporating ideas and practices of other cultures can develop more enduring, elegant and universal theories.

Deutsch (1973) proposed that the Western Theory of Cooperation and Competition should apply in diverse cultures. Many social scientists consider the application of Western developed theories to Asia might be unwarranted, even "imperialistic" (Tjosvold, Hui and Law, 1999). In fact, Hofstede (1993) and Triandis (1983) held that it is useful to test concepts developed in one culture on another. The main purpose of this study is to test whether the Deutsch's Western Theory of Cooperation and Competition can be usefully applied in the Hong Kong Chinese shiprepair work context.

Intercultural conflict may occur in multinational global organisations, when people of different cultures intend to cooperate and their interests are compatible with each other. Because of cultural differences misunderstanding, misattribution and miscommunication set in and fuel

disputes which are basically attitudinal in nature, and easily lead to 'win-lose' ways of handing conflict and 'lose-lose' outcomes. The conclusion that the conflict is competitive can be avoided if both parties appreciate that each has their own way of trying to manage conflict productively. In the end, Chinese managers might realise that they cannot depend solely on the West for the solutions to their problems. They must develop their own indigenous theory and practice by blending the best of the East and West, to seek solution, which eventually will prove to be useful, affordable and adaptable for their own problems.

In order to achieve the above, the traditional Chinese cultural values assumptions have to be fully looked at again later on in the light of results, particularly on the question raised below as highlighted:

Experimental and filed studies conducted on Chinese employees for organisations in Hong Kong and China by Tjosvold et al. (Appendix No. 3.1, pages 265-270) confirm Deutsch's theorising that with cooperative goals, Chinese people make constructive use of controversy. Literature reviews, however, show that traditional Chinese cultural values of social face, harmony, collectivism, power distance, and conformity provide barriers for the theory in China because they can frustrate developing cooperative goals. Chinese people have been found to be particularly alert to protecting social face and to promote relationship. Given their sensitivity to collectivism and relationships, they seek harmony and communicate that they respect their partners as capable and worthy (Ting-Toomey, 1988). Their collectivism and their understanding of social face lead them to be hesitant about engaging in aggressive interaction that may challenge the face of others. They want to avoid conflict and, once engaged, use compromise and accommodation to deal with it (Kirkbride, Tang and Westwood, 1991; Leung, 1988; Tse, Francis

and Walls, 1994). These underlying Chinese cultural values are commonly asserted to make open, constructive conflict management difficult. So, the important issues are to investigate and determine **how and under what conditions can Chinese develop cooperative goals and constructive conflict?**

Chapter Four
Methodology

Everywhere our knowledge is incomplete and problems are waiting to be solved. We address the void in our knowledge, and those unresolved problems, by asking relevant questions and seeking answers to them. The role of research is to provide a method for obtaining those answers by inquiringly studying the facts, within the parameters of the scientific method.

Leedy (1993:7)

4 Methodology

This chapter describes the research process, type of research and research methodology. The background to whether a positivistic approach to research is more appropriate and the implications of the decision to adopt a positivistic orientation are discussed. Using the information obtained from the literature findings, a Research Model is developed, which gives a theoretical framework for the research where the hypotheses are formulated for testing.

4.1 Why Research?

The interest in this study is to determine the value of teamwork for quality service within Hong Kong shiprepair yards environment. The research attempts to find out whether constructive controversy would enhance

cooperative teamwork for quality customer service in the Hong Kong repair yard work setting.

Today's managers have a growing need to understand scientific findings, and incorporate them into decision making (Emory, 1980:3), and they also need to understand better how research is conducted in a more scientific manner and how good research can be identified. The managers of tomorrow will need to know more than any managers in history. Cooper and Emory (1995:16) express the view that research will be a major contributor to that knowledge.

Although research is central to both business and academic activities, Hussey and Hussey (1997:1) reveal there is no consensus in the literature on how it should be defined. One reason for this is that research means different things to different people. These range from simple yet concise definitions such as offered by Burns (1997:3):

> ***"Research is a systematic investigation to find answers to a problem"***

to more complex definition as expressed by Zikmund (1997:6):

> ***"Research is defined as the systematic and objective process of gathering, recording, and analysing data for aid in making decisions"***

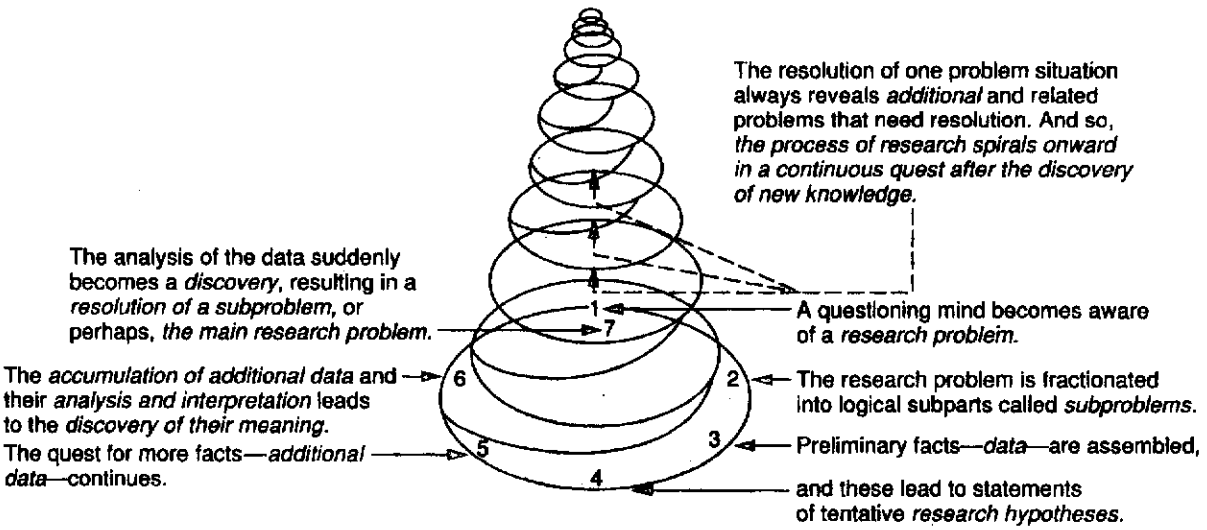
However, from the many different definitions offered, Hussey and Hussey (1997:1) concluded there appears to be agreement that:

- research is a process of enquiry and investigation,
- it is systematic and methodical, and
- research increases knowledge.

4.2 Research Process

Just as there are a wide variety of views as to what research consists of, and great differences in actual practices as to what people research and how, so there are alternate perspectives of what the process of undertaking research should look like.

Figure 4.1 – A "Helical Concept" of the Research Process is probably a Realistic Representation *(Source: Leedy, 1993:18)*



In their book, "How to Research", Blaxter, Hughes and Tight (1996:8) formulated that whatever type of research or approach is adopted, there are several fundamental representations in the *"research process"*, which are common to all scientifically based investigations. A realistic representation of the research process is illustrated in Figure 4.1 by Leedy's (1993:18) ***"Helical Concept"***. As described by Leedy (1993:16):

> ***"it takes the researcher out to the open road, and teaches the researcher that one's problem is not all important, but merely a link in a long chain of associated***

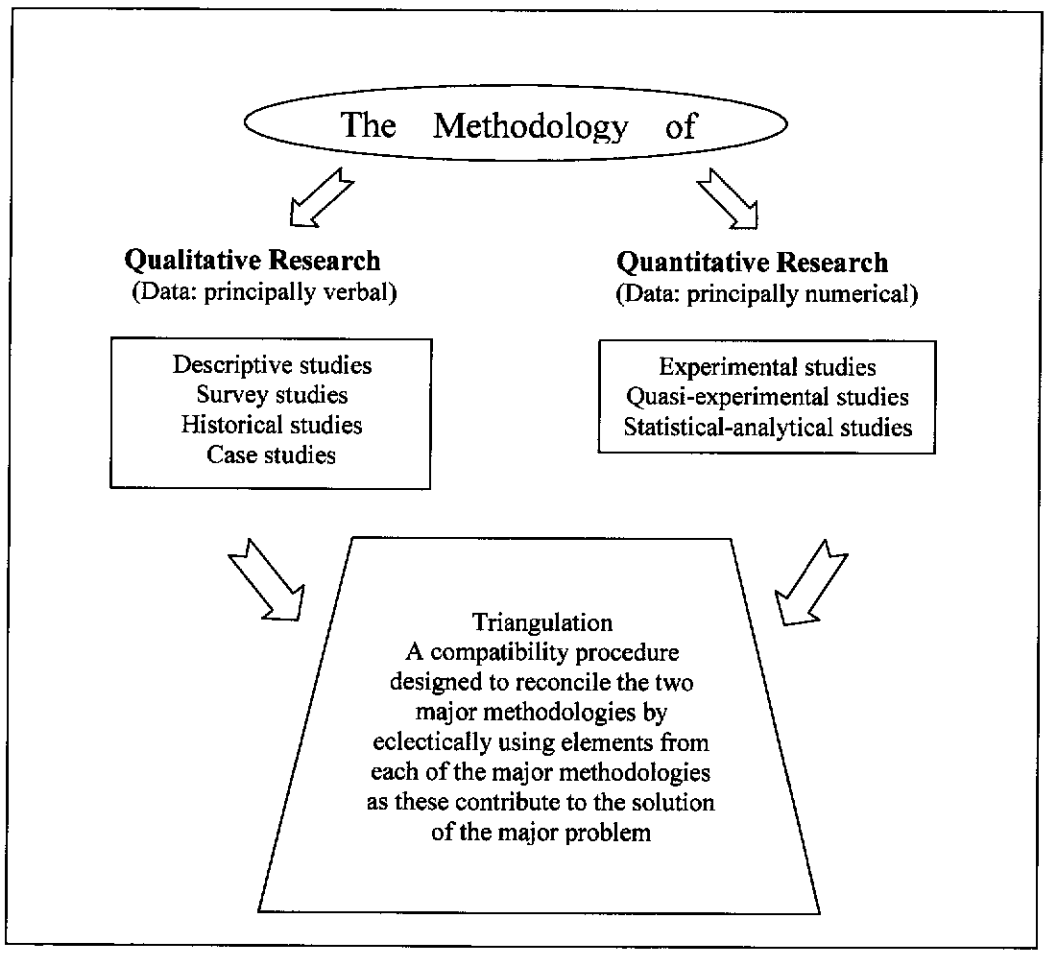
problems: that your endeavour is but a molecule in a helix that winds upward toward the ultimate discovery of Truth."

4.3 Research Methodology

4.3.1 Choice of Research Methodology

According to Leedy (1993:139), research methodology rests upon a bedrock axiom; the nature of the data and the problem for research dictate the research methodology. He stated that all data, all factual information, all human knowledge must ultimately reach the researcher either as words or numbers. If

Figure 4.2 : Research Methodology for Different Types of Research
(Source: Adapted from Leedy, 1993:145)



the data collected is verbal, the methodology is qualitative, and if it is numerical, the methodology is quantitative.

The type of research also influences the choice of research methodology. Descriptive studies in qualitative research use interviews, exploratory and experimental, quasi-experimental, statistical-analytical, descriptive or causal as the research method. In certain cases, a compatibility procedure has to be adopted to reconcile the two major methodologies as these contribute to the solution of the major problem, as shown in figure 4.2 (Leedy, 1993:145).

4.3.2 The Quantitative and Qualitative Paradigms

In human and social sciences, Creswell (1994:1) explains that the design of a research study always begins with the selection of a topic and a research paradigm. Paradigms help us understand phenomena, advance assumptions about the social world, how science should be conducted and what constitutes legitimate problems, solutions, and criteria of "proof" (Firestone, 1987; Gioia and Pitre, 1990). As such, research paradigms encompass both theories and methods although they evolve, differ by discipline fields, and often are contested. Two are discussed widely in the literature; ***the quantitative (or positivistic) and the qualitative (or phenomenological) paradigms*** (Burns, 1997:3; Creswell, 1994:1, Hussey and Hussey, 1997:48; Leedy, 1993:137; Remenyi et al., 1998:125; Rudestam, K.E. and Newton, R.R., 2001:23-51). Both schools of thought may be used appropriately with any research (Guba and Lincoln, 1994:105), which subscribes to common elements as systematic enquiry or investigation to validate old knowledge and generate new knowledge. According to Preece (1994:42), they can also be seen as

complementary, with different emphases in different disciplines, but sharing a heritage of logical thought and empiricism.

The quantitative has been labelled as the positivist, the traditional, the experimental, objectivist, scientific or the empirical paradigm (Creswell, 1994:4; Hussey and Hussey, 1997:47). Smith (1983:6) describes quantitative thinking as coming from an empirical tradition established by such authorities as Comte, Mill, Durkheim, Newton, and Locke. On the other hand, the qualitative paradigm has been labelled as the constructivist or naturalistic approach (Lincoln and Guba, 1985), the interpretative approach (Smith, 1983), the humanistic approach (Hussey and Hussey, 1997:47), or postpositivist or postmodern perspective (Quantz, 1992). According to Smith (1983:7), it began as a counter movement to the positivist tradition in the late 19th century through such writers as Dilthey, Weber, and Kant.

Burns (1997:3) explains that quantitative or positivist research methods are employed in the scientific empirical tradition in attempts to establish general laws or principles. Such a scientific approach is often termed *nomothetic* and assumes social reality is objective and external to the individual. Thus, according to Hussey and Hussey (1997) logical reasoning is applied to the research so that precision, objectivity and rigour replace hunches, experience and intuition as the means of investigating research problems. They explain that positivism is founded on the belief that the study of human behaviour should be conducted in the same way as studies conducted in the natural sciences. It is based on the assumption that social reality is independent of us and exists regardless of whether we are aware of it. Hussey and Hussey (1997:52) further stated:

> ***"According to positivists, laws provide the basis of explanation, permit the anticipation of phenomena, predict their occurrence and therefore allow to be***

controlled. Explanation consists of establishing causal relationships between the variables by establishing casual laws and linking them to a deductive or integrated theory. Thus social and natural worlds are both regarded as being bound by certain fixed laws in a sequence of cause and effect".

On the other hand, Burns (1997:3) explains that qualitative or phenomenology analysis, used in the naturalistic approach to research, emphasises the importance of subjective experience of individuals. Social reality is regarded as a creation of individual consciousness, with meaning and the evaluation of events being personal and subjective construction. Such a focus on the individual case rather than general law-making is termed *ideographic* approach. *Phenomenology* is the science of phenomena, which is 'a fact or occurrence that appears or is perceived, especially one of which the cause is in question' (Allen, 1990:893). Hussey and Hussey (1997:54) summarise the main features of the two paradigms as illustrated in Table 4.1:

Table 4.1 : The Main Features of the Quantitative and Qualitative Paradigms

(Source: Adapted from Hussey and Hussey, 1997:54)

Quantitative (Positivistic) Paradigm	**Qualitative (Phenomenological) Paradigm**
Tends to produce quantitative data.	**Tends to produce qualitative data.**
Uses large samples.	**Uses small samples.**
Concerned with hypothesis testing.	**Concerned with generating theories.**
Data is highly specific and precise.	**Data is rich and subjective.**
The location is artificial.	**The location is natural.**
Reliability is high.	**Reliability is low.**
Validity is low.	**Validity is high.**
Generalises from sample to population.	**Generalises from one setting to another.**

4.3.3 Assumptions of the Quantitative Paradigm

Creswell (1994:5) draws on a number of other authors for the assumptions of the quantitative paradigm based on ontological, epistemological, axiological, rhetorical, and methodological approaches (Table 4.2). These are compared with those of the qualitative paradigm in this table. It is important to understand these assumptions because they will provide direction for designing all phases of the research study.

These assumptions of the quantitative paradigm are further summarised and related to this research as follows (Creswell, 1994:4-7; Hussey and Hussey: 1997: 49-50):

On the **ontological** issue of what is the nature of reality, the quantitative researcher views reality as "objective" and "out there" independent of the researcher. Something can be measured objectively by using a questionnaire or an instrument. This research is about whether constructive controversy enhances cooperative teamwork in the Hong Kong shipyard setting. It is about the reality of the processes in that setting and therefore the quantitative approach is adopted.

Epistemology is concerned with the study of knowledge and what we accept as being valid knowledge. Positivists believe that only phenomena which are observable and measurable, can be validly regarded as knowledge. This research is looking at teamwork which serves customers and contributes to customer satisfaction. It assumes that customer satisfaction is measurable. Thus epistemologically the research is positivist.

Table 4.2 : Quantitative and Qualitative Paradigm Assumptions

Source: Adapted from Creswell (1994:5) based on Firestone (1987), Guba and Lincoln (1988) and McCracken (1988)

Assumption	Question	Quantitative	Qualitative
Ontological	What is the nature of reality?	Reality is objective and singular, apart from the researcher.	Reality is subjective and multiple as seen by participants in a study.
Epistemological	What is the relationship of the researcher to that researched?	Researcher is independent from that being researched.	Researcher interacts with that being researched.
Axiological	What is the role of values?	Value-free and unbiased.	Value-laden and biased definitions.
Rhetorical	What is the language of research?	Formal based on set definitions.	Informal evolving decisions.
		Impersonal voice.	Personal voice.
		Use of accepted quantitative words.	Use of accepted qualitative words.
Methodological	What is the process of research?	Deductive process.	Inductive process.
		Cause and effect.	Mutual simultaneous shaping of factors.
		Static design - categories isolated before study.	Emerging design – categories identified during research process.
		Context-free.	Context-bound.
		Generalisations leading to prediction, explanation and understanding.	Patterns, theories developed for understanding.
		Accurate and reliable through validity and reliability.	Accurate and reliable through verification.

The **axiological** assumption is concerned with values. For the axialogical issue on what is the role of values, the quantitative researcher's values are kept out of the study in a quantitative project. The researcher is detached and the phenomena which are the focus of their research are objects. Interest is in the interrelationship of the objects studied.

The above three assumptions are interrelated. Logically, if one assumption is accepted within the quantitative paradigm, the other two complement it.

The **rhetorical** assumption is concerned with the language of research. When a quantitative researcher writes a study, the language should be not only impersonal and formal but also based on accepted words such as relationship, comparison, and within-group. Concepts and variables are well defined from accepted definitions. This orientation marks a quantitative study, and guides the research reporting.

This research has been clearly located in the quantitative paradigm. From the above distinctions about reality, the relationship between the researcher and that researched, the role of values, and the rhetoric of the study emerges the methodology. The researcher approaches a **quantitative** methodology by using a deductive form of logic; theories and hypotheses are tested in a cause-and-effect order. Concepts, variables, and hypotheses are chosen before the study begins and remain fixed throughout the study (in a static design). The researcher does not venture beyond predetermined hypotheses (the research is context free). The objective is to develop generalisations that contribute to theory and enable better prediction, explanation, and understanding of some phenomenon. These generalisations are enhanced if the information and instruments used are valid and reliable.

This study explores the potential of the theory of cooperation and competition in the Hong Kong Chinese work setting to analyse interdependence in the team dynamics and specify the interdependence and interaction that contribute to effective teams, which in turn produce quality service to customers. It proposes that by adopting cooperative goals, shipyard management may meet the twin challenges of involving employees fully into the organisation, and providing quality service to customers. The study researches how shiprepair yard team members' perception of goal interdependence shapes their actual working together and their subsequent effectiveness.

As previously discussed, the nature of the data collected will dictate the methodology (Leedy, 1993:139). All factual information and knowledge collected in this research is numerical, and therefore the methodology is quantitative, which will require careful planning with the view to analysis. The quantitative research will be concerned with ensuring that any concepts used can be operationalised, and described in such a way that they can be quantified (Hussey and Hussey, 1997:50). So, all data collected throughout this research should be coded and refined in such a way that it allows categorisation and quantification.

4.3.4 Criteria for Good Quantitative Research - Reliability and Validity

The determination of how to measure the variable of interest is an important part of the research process. Rubin and Babbie (1993:167) stated that the generic steps taken to minimise measurement error are closely related to the principle of triangulation, which involves making sure, before implementing

study that the measurement procedures have acceptable levels of reliability and validity. The two main criteria for testing the goodness of measures are validity and reliability. According to Martella, Nelson and Marchand-Martells (1999:64), the primary concern of quantitative researchers is the completeness and accuracy of their findings. They maintain that the concepts of reliability and validity not only constitute the framework to guide the design and implementation of measurement procedures, but also the framework to judge the trustworthiness of the findings. Zikmund (1997:346) defines reliability as the degree to which measures are free from error and therefore yield consistent results, and validity as the ability of a scale or measuring instrument to measure what is intended to be measured. Zikmund goes on to explain that reliability applies to a measure when similar results are obtained over time and across situations. When the outcome of the measuring process is reproducible, the measurement instrument is reliable. On the other hand, the question of validity expresses concern with accurate measurement. Validity addresses the problem of whether a measure (for example, an attitude measure) measures what it is supposed to measure. If it does not measure what it designates to measure, there will be a problem.

4.4 Research Model and Theoretical Framework for Investigation

Managers and employees need a crisp understanding of the nature of teamwork that improves quality service to customers. Research findings on this topic have indicated that employees' understanding of enhancing teamwork is of prime importance for service quality (Tjosvold, Moy and Sasaki, 1996, 1999). The Western based Deutsch Theory of Cooperation and Competition suggests that developing cooperative relationships and constructive controversy among employees can empower employees to serve

customers and to strengthen their work relationship and commitment to the organisation (Alper, Tjosvold and Law, 1998; Tjosvold, Moy and Sasaki, 1996, 1999; Tjosvold et al., 1998; Wong, et al., 1999). The main objectives of this research are to provide a study of the Deutsch's Theory of Cooperation and Competition in the Hong Kong Chinese work setting, and to test the extent of impact of the traditional Chinese cultural values as contributing to cooperative goals and constructive controversy. This study also explores the potential of the Deutsch Theory of Cooperation and Competition for identifying the social processes that help the work teams in the Hong Kong shiprepair industry to tackle problems efficiently, gain confidence and work effectively.

To perform the above objectives, a few fundamental research questions need to be investigated and answered. Can the Deutsch's Western Theory of Cooperation and Competition be usefully applied in the Hong Kong Chinese work setting? How and under what conditions can Chinese traditional values contribute to the development of cooperative goals and constructive conflict? Can productive teamwork be built in the workplace for delivering value to customers?"

Having broadly established the literature findings as discussed in Chapter 3, a theoretical framework for this study is then developed to perform the above objectives as outlined in the overall Research Model in Chapter 1, Figure 1.2, page 10. The Research Model is developed to demonstrate the hypothesised interdependence dynamics and used in this study. Research has focused on the effects of cooperative and competitive goals. This study examines the reasons employees have for concluding their goals are related. The Model hypothesises that the Chinese values of power distance, collectivism and conformity, when coupled with cooperative goals can lead to productive and constructive communication and problem solving (constructive controversy).

A constructive interaction would, in turn, lead to team members' perception of high team confidence. With perceived confidence and thus strong team morale, it is hypothesised that team effectiveness is enhanced in such quality customer service items as cost-effectiveness, quality and on-time completion of contracts, as rated by both internal and external customers.

4.5 Hypotheses

The following hypotheses are set out for testing among Chinese people in the Hong Kong shiprepair industry:

The first hypothesis addresses the question of whether the use of constructive controversy in problem solving is positively related to employees holding the traditional Chinese value of power distance, collectivism and conformity.

The dynamics induced by cooperative goals and contributing to effective joint work has been characterised as constructive controversy (Tjosvold, 1998, 1985a). Controversy occurs when persons discuss their opposing views about how a problem should be solved. North American research has documented that controversy promotes curiosity, exploration, understand, and integration. It has found that when confronted with an opposing view, people feel uncertain about the most adequate solution, are curious, and seek to understand opposing view.

As discussed in Chapter 3 - Literature Review, Confucian thought and values have shaped Chinese culture of over two thousand years. Confucian teachings place high value on collectivism, power distance and conformity. These appear to be powerful forces shaping Chinese managers' social behaviour. The Chinese are thought to avoid conflict in part because they are

particularly sensitive to social face, and averse to strong influence and interpersonal hostility. These underlying Chinese assumptions are commonly considered to make open, constructive relationship difficult especially between managers and employees given their high power distance, collectivism attitude and conformity behaviour.

Field studies, however, in recent years by Tjosvold and his network of researchers demonstrate that these underlying Chinese values need not frustrate and, if skilfully expressed, can contribute to conflict management - see Appendix No. 3.1 (pages 265-270) for research on Chinese organisations in Hong Kong and China by Tjosvold et al. These studies show that Chinese managers and employees not only can discuss their differences open-mindedly, they also indicate that Chinese values, if constructively expressed, promote open, productive conflict.

Basing on the above and the literature review, the first hypothesis takes the following position:

H01 ***The use of constructive controversy in problem solving is positively related to employees holding the traditional Chinese value of power distance, collectivism and conformity.***

The second hypothesis addresses the question of whether the use of constructive controversy for problem solving in teams is positively related to cooperative goals and negatively related to competitive goals and independent goals.

Deutch (1949a, 1949b, 1973, 1985, 1990) argued that the way in which people believe their goals are related is an important variable affecting the

dynamics and outcomes of their interaction. Employees' beliefs about how their goals are related drastically affect their expectations, communication, problem solving and productivity. Deutsch identified three alternatives of people's interpretation of their goal interdependence: cooperation, competition, and independence. In cooperation, people believe their goals are positively linked so that as one moves toward reaching a goal, others move toward their goal. They understand that their attaining their goals help others reach their goals. In competition, people believe their goals are negatively related so that one's success interferes with others. People with independent goals consider their interests unrelated so that the goal attainment of one neither helps nor hinders other goals.

Recent Western studies suggest that conflict can be quite constructive (Amason, 1996; Gruenfeld, 1995; Jehn, 1995, 1997) and suggest that cooperative goals reinforce openness in conflict (Barker, Tjosvold and Andrews, 1988; Tjosvold, 1982; Tjosvold and Deemer, 1980; Tjosvold and Johnson, 1977). Employees with cooperative goals when discussing a problem have been found to seek to understand other's views and take each others' perspective (Tjosvold, 1982, 1985a). They communicate respect and acceptance of each other, but discuss their opposing views on how to solve problems directly and constructively (Tjosvold, Johnson and Lerner, 1981).

Basing on above and the literature review, the second hypothesis takes the following position:

H02 ***Use of constructive controversy to solve problems in teams is positively related to cooperative goals and negatively related to competitive goals and independent goals.***

The third hypothesis predicts that the constructive controversy among employees develops strong confidence in their team dynamics. Constructive controversy, the open-minded discussion of opposing positions among employees has been found to be an important complement to development of strong confidence in their team dynamics (Alper, Tjosvold and Law, 1998). Research studies have demonstrated that with cooperative goals, people who disagree directly elaborate their views, question and search each other's perspectives, create alternatives, and reach an agreement that is mutually beneficial. These studies have shown how controversy can promote decision-making (Tjosvold, 1982; Tjosvold and Deemer, 1980). Constructive controversy would seem critical for successful teams because it can help team members discuss issues so that they "own" and feel committed to decisions (Tjosvold, 1987; Alper, Tjosvold and Law, 1998). Accordingly, the third hypothesis predicts that:

H03 Constructive controversy is positively correlated with confidence in team dynamics.

The 4th and 5th hypotheses propose that confidence in team dynamics produces quality customer service by the team as rated by internal and external customers. Confidence in team dynamics has been defined by Tjosvold (1985a) as the collective belief that group members interact effectively. He holds that team confidence directly measures group beliefs concerning the effectiveness of their interaction. Field studies and experiments have shown that teams whose members have demonstrated that they are able to express their various beliefs and integrate their ideas and efforts have the confidence that they can pool their abilities and be successful (Amason, 1996; Cosier and Schwenk, 1994; Wanous and Yountz, 1986; Alper, Tjosvold and Law, 1998). Thus, the last two hypotheses predict that:

H04 ***Confidence within teams in team dynamics is positively correlated with quality customer service by the team as rated by internal customers.***

H05 ***Confidence within teams in team dynamics is positively correlated with quality customer service by the team as rated by external customers.***

Chapter Five

Method and Design

> ***Every discipline develops standards of professional competence to which its workers are subject. There are certain acceptable ways of interpreting a projective test, of carrying out a dig, and of surveying public opinion. Case studies, experiments, hypotheses, and theories – all must meet certain conditions if they are to be taken seriously by the profession. The conditions are seldom made wholly explicit, and they differ for different disciplines and at different times; but in any case, their demands are likely to be firm and unyielding.***
>
> **(Kaplan, 1964:4)**

5 Method and Design

This chapter focuses on important problems to be handled by the researchers in selecting an adequate research design for their empirical studies, and describes the method and design of the research. The study proposes a positivistic orientation as the research plan for data collection and analysis, and formulates the survey method, questionnaire design, target population and sample process.

After the researcher has formulated the research objectives, the research design must be developed. The research design is the overall plan for relating the conceptual research problem to relevant - and doable - empirical research (Ghauri, Gronhaug and Kristianslund, 1995:26). In the Dictionary of Statistics and Methodology, Vogt (1993:196), research design is defined as:

"the science (and art) of planning procedures for conducting studies so as to get the most valid findings."

Zikmund (1997:48) describes a research design as a master plan specifying the methods and procedures for collecting and analysing the needed information and is the framework for the research plan of action. The objectives of the study are included in the design to ensure that the information collected is appropriate for solving the problem. The research investigator must also determine the sources of information, the design techniques (survey or experiment, for example), the sampling methodology, and the schedule of the research.

Empirical research is conducted to answer a research problem. According to Ghauri, Gronhaug and Kristianslund (1995:26), choice of research design is the overall strategic choice made with the purpose of coming up with an approach that allows for answering the research problem in the best possible way - within the given constraints. In other words, a research design should be effective in producing the wanted information within the constraints put on the researcher, such as time, budgetary and skill constraints.

5.1 Research Method

5.1.1 Particular Process Issues in the Hong Kong Chinese Setting

The researcher operates a marine technical consultant and surveying firm in Hong Kong and is well known to all the Hong Kong shiprepair yards. Prior to presenting this research proposal, the researcher had casual discussions with the top management of majority of the shiprepair yards in Hong Kong, and they all expressed keen interest in this project. Many of these repair

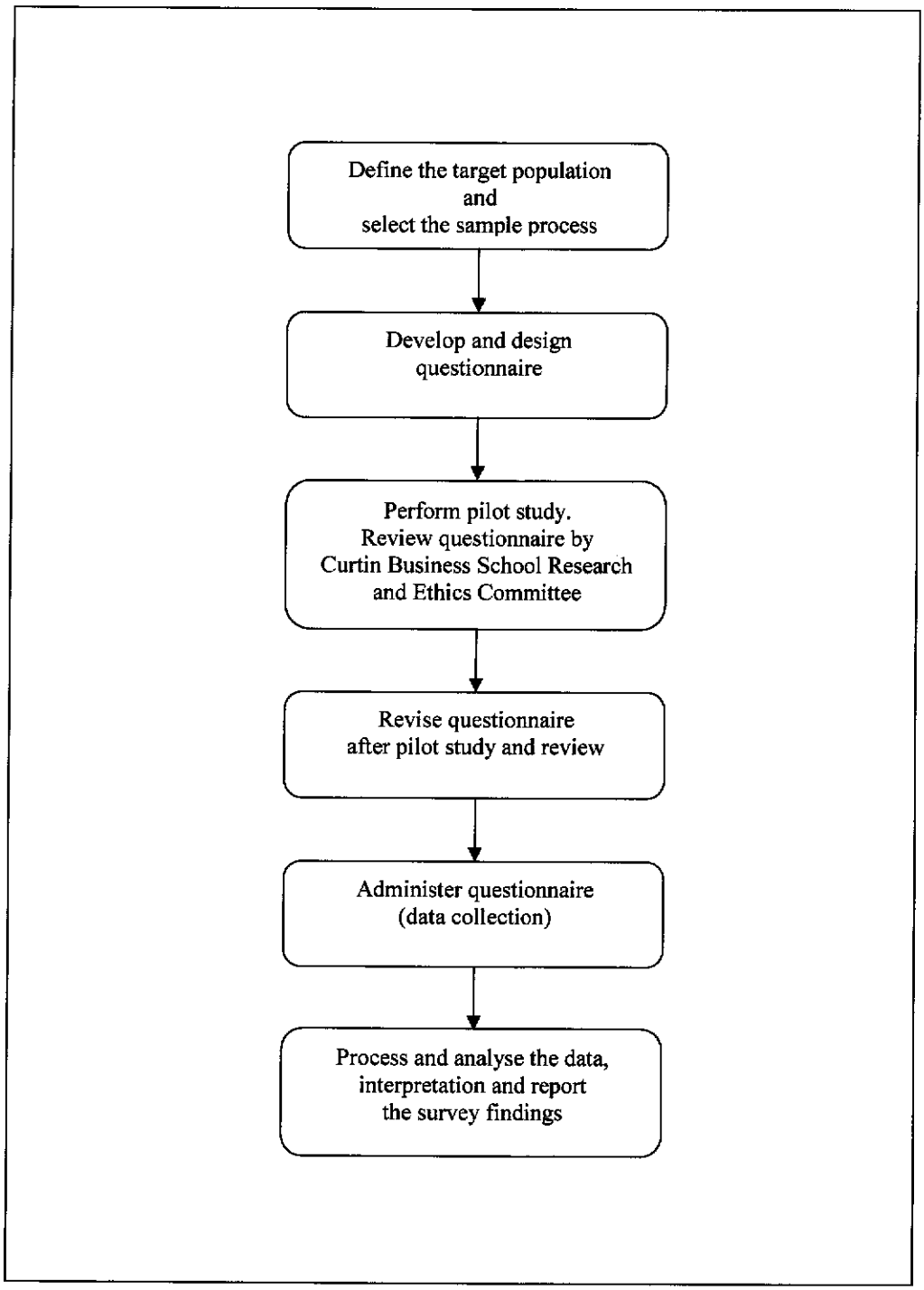
yards took part in this study and wrote official letters to the researcher indicating their willingness to support the project - see Appendix 5.1 (pages 271-275) for these supporting letters.

Initially, it was planned to mail out questionnaires with an explanatory letter and instructions to the respondents for them to complete and return in pre-paid self-addressed envelopes. However, after consulting with the management of the repair yards, this procedure was considered not practical due to the general low education standard of the Hong Kong shiprepair yard workers in understanding the questionnaires, even written in Chinese. It was agreed that there are a number of advantages in having a questionnaire administered by a researcher rather than distributed to the respondents to complete in their own time. To begin with, researcher administered surveys typically attain higher response rates than mail surveys. Within the context of the questionnaire, the presence of an administering researcher generally reduces the number of "don't knows" or "no answers". If the respondents clearly misunderstand the intent of a questionnaire, the researcher can clarify matters, thereby obtaining the relevant responses. At the same time, the researcher can also observe as well as ask the questions. Therefore, it was finally decided that the data collection process should take the form of totally structured sessions, in which questionnaires were passed out simultaneously to the nominated members of the work team by the researcher at time of response. They were then requested to reply on standard questions, using a specified set of multiple-choice responses. This naturally would ensure a good response rate and a high return of usable questionnaires.

5.2 Survey Design

The survey design consists of the following procedures (see Figure 5.1):

Figure 5.1: Survey Design



5.2.1 Define the Target Population and Select the Sample Process

Only those shiprepair yards in Hong Kong, which are equipped with docking facilities to provide docking services, such as floating docks, slipways, docking platforms, etc., and repair quay facilities for repairs of ocean-going and coastal vessels, inclusive of other specialised trade vessels such as high speed ferries and offshore oil related vessels or structures etc. were invited to take part in the research. Other yards for repair of local commercial vessels such as tugs, launches, barges, wooden vessels and small boats, pleasure crafts, fishing vessels etc. were excluded from this research.

5.2.1.1 Repair Teams

In this research, those surveyed were to be the repair teams themselves, the internal customers, represented by Shiprepair Managers or Superintendents and external customers represented by Shipping and Offshore Engineering Company Managers or Superintendents.

Repair teams were recruited from various departments or divisions of the shiprepair yards, which met the specified criteria above. The various departments or divisions were identified by their traditional trade disciplines as follows:

(i) Fitters
(ii) Steel Fabricators (Boiler Makers/Steel Platers/Riveters/Caulkers/ Blacksmith
(iii) Electricians
(iv) Riggers

(v) Painters

(vi) Joiners

(vii) Marine Pipeworkers

(viii) Welders

(ix) Machinists

(x) Air-conditioning Mechanics

The above trade divisions have been defined in the 1996 Manpower Survey Report published by the Hong Kong Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council (1996:74-77) as listed in Appendix 5.2 (pages 279-280).

These trade divisions handle the majority of routine shiprepair works and their workers are mostly in regular contact with external customers. The size of these divisions differs with the size of the repair yards and the nature of works, nowadays varying between three (3) to ten (10) members each team, inclusive of their respective team foreman or chargehands.

5.2.1.2 Internal and External Customers

Ratings by internal customers, i.e. Shipyard Repairs Managers or Superintendents, and external customers, i.e. Shipping and Offshore Engineering Company Managers or Superintendents, who were in charge of the specified repair job, were used as performance measures.

The Shipyard Repairs Managers or Superintendents and Shipping Company and Offshore Engineering Company Managers or Superintendents have been defined in the 1996 Manpower Survey Report published by the Shipbuilding,

Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council (1996:72) as listed in Appendix 5.2 (pages 280-281).

5.2.1.3 Industry Population

The last survey conducted by the Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Hong Kong Vocational Training Council was carried out in September 1996. According to this survey, the number of technical workers employed by the industry under the sector of "Construction and Repair of Ocean-going Ships and Offshore Oil Related Vessels" (the target population of this research) was recorded as 1,154 persons (Table 5.1).

The survey in 1996 revealed that the manpower change under the sector of "Construction and Repair of Ocean-Going and Offshore Oil Related Vessels" between 1994 and 1996 had suffered a decline of 27% per annum, i.e. from 2,189 persons in 1994 to 1,154 persons in 1996 - see Table 5.2, and the number of establishments under this sector of the industry had also suffered an annual decline of 30%, i.e. from 70 in 1994 to 34 in 1996 - see Table 5.3.

The 1966 Manpower Survey Report concluded that this sector of industry had experienced considerable 'set-backs' mainly due to the increasing overseas competition. The rapid expansion of repair facilities in China in the last couple of years, the generally low freight rates for ocean-going vessels and the high inflation rate in Hong Kong resulting in higher costs were the important factors contributing to the significant drop in the manpower serving this sector of the industry. The 1996 Survey Report ended with the remark

Table 5.1 : Summary of Manpower Survey of Shipbuilding, Shiprepair & Offshore Engineering Industry, September 1996

(Source: 1996 Manpower Survey Report - Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council)

Sector	No. of Workers	% of the workforce of the industry
1. Construction and repair of ocean-going ships and offshore oil related vessels	**1,154**	**28**
2. Construction and repair of local craft	1,283	32
3. Construction and repair of pleasure craft	512	13
4. Construction and repair of wooden vessels and small boats	280	7
5. Shipping firms, fleet operators, consultant firms, classification societies of ships, government agency and educational institutions	809	20
Total	4,038	100

Table 5.2 : Manpower Change between 1994 and 1996,
Sector: Construction and Repair of Ocean-Going Ships & Offshore Related Vessels

(Source: 1996 Manpower Survey Report - Shipbuilding, Shiprepair & Offshore Engineering Industry Training Board of the Vocational Training Council)

Year	Manpower	Annual % Change
1994	**2,189**	
		-27%
1996	**1,154**	

Table 5.3 : Change in Number of Establishments between 1994 and 1996
Sector: Construction and Repair of Ocean-Going Ships & Offshore Related Vessels

(Source: 1996 Manpower Survey Report - Shipbuilding, Shiprepair & Offshore Engineering Industry Training Board of the Vocational Training Council)

Year	Change in No. of Establishments	Annual % Change
1994	**70**	
		-30%
1996	**34**	

that to remain competitive, shipyards had taken steps to either move some of their repair activities over the border to China, or to re-arrange their repair facilities to improve productivity. Moreover, there was uncertainty as to when the depressed repair business will turn its tide. However, as Hong Kong still possessed many advantages due to its unique geographical location at the

hub of the fast developing Pearl River Delta, and good repair facilities, it was anticipated that the ship repair activities in this sector would be sustained at the current level in the next few years.

From the above data, it is estimated that the total number of current workforce under the sector of the industry for this study would be in region of 1,000 persons. At time of collecting data, it was anticipated that eventually a sample of around 50-70 repair teams could be drawn, made up of about 300-400 employees, which was estimated to cover about 30 to 40 per cent of the total population.

The final outcome was the selection of 61 repair teams comprising of 357 shipyard employees, which was in line with above estimate. Out of these 357 repair team employees, only 192 of them took part in the survey (only not less than 50% members of each work team were required to participate). In addition, 27 shipyard superintendents as internal customers and 27 shipping company superintendents as external customers also answered their questionnaires. Therefore, total number of persons taking part in this study was 246 persons, consisting of 192 repair team employees, 27 shipyard superintendents and 27 shipping company superintendents (further details on Table 5.4, page 143).

5.3 Reliability and Validity

5.3.1 Reliability

According to Sekaran (2000:204), the reliability of a measure indicates the stability and consistency with which the instrument measures the concept and

helps to assess the 'goodness' of a measure. Internal consistency refers to the tendency of different items to evoke the same response from any given participant on a single administration of the measurement device (Martella, Nelson and Marchand-Martella, 1999:68). Sekaran (2000:204) stated that consistency could be examined through the interitem consistency reliability, which is a test of the consistency of respondents' answer to all the items in a measure. To the degree that items are independent measures of the same concept, they will be correlated with one another. The most popular test for interitem consistency reliability is the Cronbach's coefficient alpha, which is used for multipoint-scaled items. Reliability coefficient varies between values of 0.00 and 1.00, with 1.00 indicating perfect reliability and 0.00 indicating no reliability. The higher the reliability, the smaller the influence of measurement error is. In his book, Research Methods for Business, Sekaran (2000:312) stated that in general, reliabilities less than .60 are considered to be poor, those in the .70 range, acceptable, and those over .80 good.

The constructs to be tested in this research would be: confidence in team dynamics, goal interdependence, constructive controversy, confirmation of traditional Chinese values on power distance, collectivism and conformity, and internal and external customers' ratings on team effectiveness. Results for Cronbach's coefficient for interitem consistency reliability are provided with data analysis in Chapter 6, Table 6.4 and Table 6.5, page 160.

5.3.2 Validity

Validity has to do with whether the method, approaches and techniques used by the researcher actually relate to, or measure the issues the researcher has

been exploring. According to Schloss and Smith (1999:112), an instrument is valid to the extent that it measures what is purported to be measured. From the standpoint as a researcher, a valid instrument produces data that are well matched to the objective of the study. If a study is designed to determine whether differences exist between men's and women's reactions to stress, a valid instrument actually measures reactions to stress. Any portion of the measurement that relates to other features is validity error. Therefore, if one asks a set of questions with the intent of tapping into the concept, one has to be sure that one is measuring the concept intended instead of something else.

Content validity (Sekaran, 2000:207) ensures that the measures include an adequate and representative set of items that tap the concept. The more the scale items represent the domain or universe of the concept being measured, the greater the content validity. In other words, content validity is a function of how well the dimensions and elements of a concept have been delineated. The measuring instrument i.e. the questionnaires for the study, therefore, had to be carefully designed to ensure the questionnaires include an adequate set of representative items that tap into the concept and that the questionnaire responses had content validity prior to submitting for review by Curtin Business School Research and Ethics Committee and for performing pilot study.

In this study, content validity has been maintained by using elements of existing instruments, which have been tested and shown to be valid. For reference to existing instruments used, refer to next paragraph - Design of Survey Questionnaires.

5.4 Design of Survey Questionnaires

A set of survey questionnaires was designed, comprising three separate sets of questionnaires – see Appendix 5.3 (pages 280-290). The information required for the first set of questionnaires was designed to quantify items concerning Confidence in Team Dynamics, Goal Interdependence, Constructive Controversy, Confirmation of Traditional Chinese Values on Power Distance, Collectivism and Conformity for the work teams. The second and third sets of questionnaires were designed for rating of Quality Customer Service by Internal and External Customers respectively.

Due to the importance of the 'emic' in this study (as discussed in Chapter 3, pages 48-49), the technique of back translation with decentering was used during translation of the questionnaires. The questionnaires were originally prepared in English. They were then translated independently into Chinese by three bilingual researchers. Following this step a draft translated version was initially prepared which was subsequently re-viewed by a Chinese assistant professor of the Department of Management at Lingnan University, Hong Kong prior to arrive at the final version. The Chinese version should play an important part in this study as all the respondents are Chinese and majority of them would have great difficulty in understanding the English version.

The technique of back translation with decentering is related to the emic-etic approach. Brislin (1980) provides many useful suggestions on how to maximise linguistic equivalence. A good approximation to the ideal translation uses the Werner and Campell (1970) method of back translation with decentering. This method is based on the realisation that there are many

ways to say the same thing, and careful adjustments to the original language of the research project may not produce any difficulties for the research but may facilitate the translation. Triandis (1994:85), however, points out that although back translation is a good way to obtain linguistic equivalence, it has its problems. First many words in languages from the same language family have the same roots but different meanings. Second, skilled bilinguals are good at imagining what the original text might have looked like.

Originally, respondents were considered to be asked to respond on a 4-point Likert-type scale that would obviate the 'central' tendency the researcher might experience in the cultural context of the Hong Kong Chinese workplace. However, after performing the pilot testing, a 5-point Likert-type scale (1 = strongly agree; 5 = strongly disagree) was opted for by the pilot respondents in reflecting their actual feeling, and was, therefore, used to measure statements on the following:

Confidence in Team Dynamics

Questions on attitudes toward employee's work group were asked on how the employee responds to his work group co-workers. The team confidence scale was selected from a study on group decision making (Alper, Tjosvold & Law, 1998), and measured the extent that employees believed that their team could effectively interact. Team members rated the extent to which the way they worked as a team gave them the confidence, trust, and desire to work effectively. The scale had a Cronbach's alpha of 0.74.

Goal Interdependence

Questions on relations in the employee's work group were asked on how the employee and his co-worker in the work group related to each other. Scales for cooperative, competitive, and independent goal orientation were developed based on Deutsch's theory from previous studies on employee perceptions of their supervisor's and team members' behaviours (Tjosvold, Andrews, and Jones, 1983; Tjosvold, Andrews and Struthers, 1991). The items were concerned with how goals were linked and rewards were distributed. Reliabilities (Cronbach's alphas) of the three scales were 0.73, 0.78 and 0.78 respectively.

Constructive Controversy

Controversy is the set of behaviours that have been found to develop from cooperative goal interdependence in problem solving situations. Cooperators have been found to seek a mutually beneficial solution, take each other's perspective, directly discuss their opposing views openly, and try to integrate them for best solution (Alper, Tjosvold and Law, 1998). Questions on discussion among co-workers were asked on how the work group members communicate with each as they discussed issues and problems. The scale was selected from a previous study on group decision making that measures the social interaction of team members when the team was engaged in decision making (Tjosvold, Wedley & Field, 1986). Cronbach's alpha of the scale was .80.

Confirmation of Traditional Chinese Values

Questions on general attitudes, which did not pertain to the work groups, were asked to indicate the employees' general attitudes and values toward leadership and group. Scales concerning confirmation of traditional Chinese values on power distance, collectivism and conformity were developed based on conflict management among Chinese (Law, Hui and Tjosvold, 1998; Tjosvold, Hui and Law, 1998; Tjosvold, Law and Sun, 2000). Cronbach's alphas of the three scales were .74, .67 and .45 respectively.

The Cronbach's alpha of .45 for conformity, however, is low due to measurement error as later on explained in Test of Reliability (see page 159); thus the conformity construct was not used further in this study.

Quality Customer Service as Rated by Internal and External Customers

Internal and external customer ratings were used as performance measures. Internal and external customers most knowledgeable about the outcomes of each team of the specified repair job were asked to complete two separate questionnaires on scales selected from previous studies (Wong, et al., 1999; Alper, Tjosvold and Law, 1997), measuring customer satisfaction items. These items were concerned with effectiveness, efficiency, quality, and cost and time savings, these being central items for quality customer service. Cronbach's alphas for the two scales were 0.72 and 0.66 respectively.

5.4.1 Pilot Study and Review of Questionnaire by Curtin Business School Research and Ethics Committee

The pilot study was conducted on the preliminary questionnaires to assess its comprehension and the average completion time. Two rounds of pre-testing were conducted. The fist round was conducted on two marine surveyors of the researcher's company and two DBA classmates. Based on feedback from this first round, some questions were rephrased for clarity. The second round of pre-testing was conducted with two repair work teams from two different shiprepair yards, one shiprepair yard manager and one shipping company technical manager. They found the questions generally clear; thus, the questionnaires were deemed ready for data collection.

In the pilot, a debrief with respondents was done to ensure that the respondents would interpret the questions as expected. Two repair work teams from the shiprepair yards, one shiprepair yard manager and one shipping company manager were chosen in the second round of pre-testing to ensure that the respondents were from the same backgrounds to those of the target respondents sample, i.e. from manual technical fields rather than tertiary educated. Prior to conducting the actual research, the questionnaires were also passed to the Curtin Business School Research and Ethics Committee for approval to ensure that it would conform to their ethical standards and abide by their guidelines.

5.5 Data Collection and Procedure

The data collection process took the form of researcher administered simultaneous completion method, in a face-to-face encounter with the

nominated team members of the individual work team. Because the level of education was variable, the researcher read out the questions and explained the rating scale to the whole team. Appendix 5.4 (pages 291-293) gives a full description of the survey procedure, with exact details of what the researcher did and what respondents were asked to do.

Most of the surveys were undertaken solely by the researcher due to the small size of teams. However, the researcher would call in his company's marine surveyors to assist when the number of the team members was too big to handle. These marine surveyors are also well familiar with the Hong Kong shiprepair yards work setting, and had performed pilot testing previously on the questionnaires.

The manner in which surveys ought to be conducted should vary somewhat by survey population and would be affected by the nature of the survey content as well. Nevertheless, as a general rule, the researcher should dress in a fashion similar to that of the respondents. A rich dressed researcher will probably have difficulty getting good cooperation and responses from poorer respondents and vice versa. In demeanour, researchers should be pleasant. Because they will be prying into the respondent' personal life and attitudes, they must communicate a genuine interest in getting to know the respondent without appearing to spy. They must be relaxed and friendly without being too casual or clinging. Clearly, the data collection will be more successful if the researcher can become the kind of person the respondents are comfortable with. It should be remembered that since respondents are asked to volunteer a portion of their time and to divulge personal information about themselves, they deserve the most enjoyable experience the researcher can provide. Also, the researcher should be familiar with the questionnaires. If not, the study suffers and unfair burden would be placed to the respondents. Therefore, the

questionnaires should be studied carefully, question by question, and the researcher must practise reading it loud. In this study, the researcher as well as his assistants are well familiar with the Hong Kong shiprepair yards work environment. During their work as marine surveyors in the shiprepair yards, the researcher and his assistants would normally dress in boiler suits as working clothes and therefore had no problem in mingling with the shiprepair yards employees. Moreover, they all had participated in preparing, translating and/or proof reading of the questionnaires, as well as took part in the pilot study, therefore, apart from time consuming, the task of administering the questionnaires proved to be relatively successful in getting practically a 100 percent response rate. Out of 62 teams interviewed, only 1 team was later on not used by the researcher as during the data collection, 3 members of the repair teams were observed to be impatient, lack of interest or simply not able to understand or grasp the meaning of the questions. As a result, they simply blindly followed or copied the same answers from their neighbouring team members.

In addition to the questions in the questionnaires, respondents were required to fill out demographic statistics on age, place of birth, group, gender, education level and years of working experience etc. This information is needed as it was intended to find out whether demographic information could be shown to have correlation on the response to the various questions.

5.5.1 Sample

The shiprepair yards, which met the criteria of 'target population' for this study had agreed to take part in the survey and were listed in Table 5.4.

Table 5.4: Hong Kong Shiprepair Yards: Employees & Shipping Company Superintendents - Survey Participants

Name of Shiprepair Yard	No. of workforce inclusive non-technical staff	No. of work teams interviewed (with total no. employees in these teams)	No. of employees in these teams took part in the interview	No. of shipyard superintendent took part in the interview	No. of shipping company superintendent took part in the interview
1. Chu Kong Group Shipyard Co., Ltd.	95 pers	3 teams (20 pers)	14 pers	3 pers	3 pers
2. Hong Kong Shipyard Ltd.	130 pers	11 teams (47 pers)	25 pers	3 pers	3 pers
3. Hongkong United Dockyards Ltd.	380 pers	18 teams (135 pers)	70 pers	8 pers	8 pers
4. Ocean Shipbuilding & Engineering Ltd.	100 pers	8 teams (32 pers)	16 pers	3 pers	3 pers
5. Turbo Jet Shipyard Ltd.	46 pers	2 teams (11 pers)	10 pers	2 pers	2 pers
6. Wang Tak Eng. &. & Shipb'ldg. Co. Ltd.	120 pers	7 teams (35 pers)	18 pers	3 pers	3 pers
7. Yiu Lian Dockyards Ltd.	430 pers	12 teams (77 pers)	39 pers	5 pers	5 pers
Total ..... 1,301 pers		**61 teams (357 pers)**	**192 pers**	**27 pers**	**27 pers**

From Table 5.4, the total number of workforce, inclusive of non-technical staff, for all the seven (7) shiprepair yards which took part in this survey was 1,301. It is estimated that about 70% of this workforce is technical staff, i.e. about 780 persons, which represents about 80% of the target population of technical staff. This was previously estimated to be around 1,000 persons.

The survey covered a total of 61 teams involving 27 ships, 17 visits and 246 persons as listed also in Appendix 5.5 (pages 294 - 298). These 246 persons consisted of 192 shiprepair yard employees from 61 work teams (consisting of 357 employees), 27 shiprepair yard managers or superintendents as internal customers and 27 shipping company managers or superintendents from Hong

Kong or abroad as external customers. So, the number of employees from the Hong Kong shiprepair yards, participating in this study (192 shipyard work team members plus 27 shipyard managers or superintendents = 219 persons), represented about twenty-two per cent (22%) of the entire target population. Although the selection of the work groups was opportunistic depending on the ships in and the type of repairs carried out, yet majority of the work groups surveyed by us were from the two main trade divisions, namely the 'Fitters' and 'Steel Fabricators' groups. These two main work groups usually cover about more than 70% of the total workforce of each shiprepair yard, and normally have the largest team sizes, so this 22% of workforce surveyed by us should be a good representation of the target population.

Written summaries of the findings would be given to the shiprepair yards and/or shipping/offshore engineering companies if requested, but only general findings whose source could not be identified would be used in the feedback.

5.5.2 Survey Process

Prior to collecting the data, an introductory letter (see Appendix 5.6, pages 299-301) was prepared and read out to the respondents by the researcher stating the study's purpose. Any description that could predispose the respondents to give certain responses which would potentially bias information should be avoided in the introductory letter. Respondents were assured that their responses would be held confidentially by the research team. All answers by the respondents would be reported back in summary form only, and they would not be identified in any way. Any personal details and company information would be confidential, and would not be disclosed. Only those respondents who agreed to participate and obtained prior approval

from their management needed to participate in the interviews, which were completed during work time and took about 45 minutes to complete.

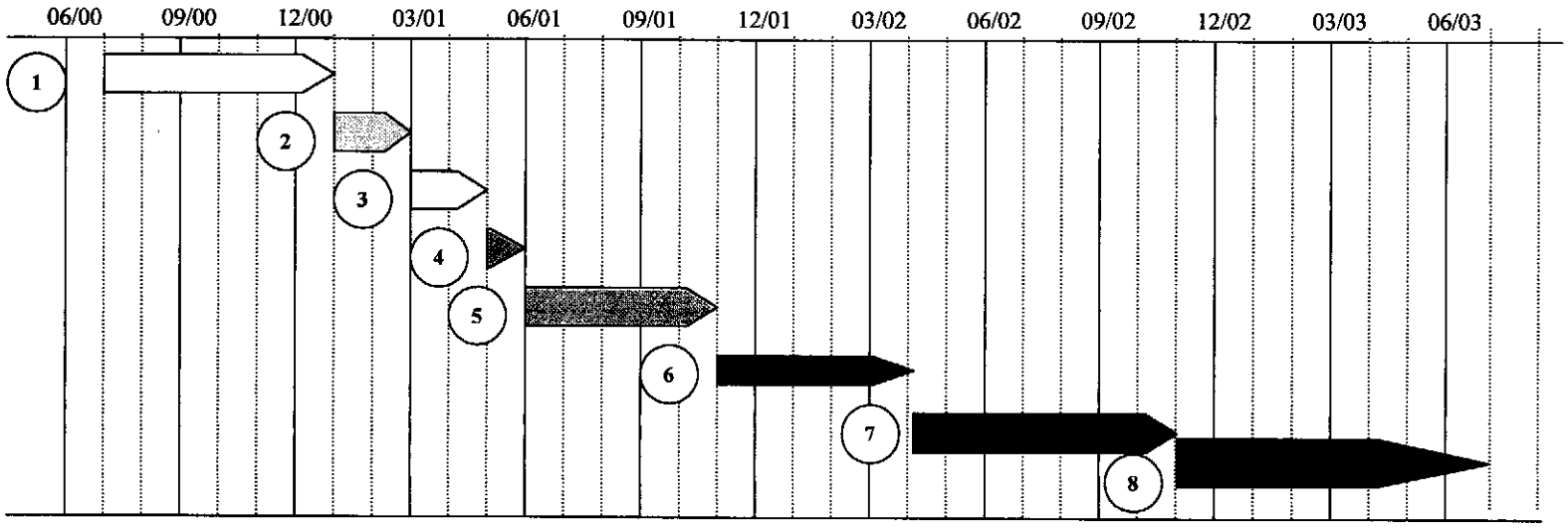
Attempts were made not to interfere in the day-to-day functioning of the shiprepair yard work teams. Surveys were conducted at time convenient and as specified by the shiprepair yards, and only not less than 50% of members of each individual work team at random sample were requested to complete the questionnaire simultaneously at the same sitting. Each work team or each member of any work team was allowed to take part in the survey only once, and should not be surveyed again even for a different repair job. The intention was to survey as many work teams as possible from different types of work disciplines in order to achieve a stratified sample. However, the final decision still rested with the shiprepair yard management, because after all these work groups were selected only with their consent. In principal, these work groups were presented to us at the sole discretion of the shiprepair yard, and their presence mainly depended on whether they could be made immediately available soon after a specified repair job was completed.

Upon completion of a particular repair job (e.g. in the case of an extensive engine or steelwork repair), survey would be arranged by the shiprepair yards for the researcher to collect data with the repair teams responsible for that particular repair job, preferably on the day when the clients took delivery. The researcher would read out the questionnaire in a face-to-face encounter to all repair team members attending the survey on a group basis. The researcher would explain at same time the exact meaning of each question to ensure the respondents would clearly understand what each question was asking and thereby obtain relevant responses.

When a ship arrived at the yard for undertaking repairs, a "ship repairs manager or superintendent" was usually assigned by the shipyard to be fully in charge of all repairs done to the ship. This repair yard's "ship repairs manager or superintendent", as the internal customer in charge of the matching repair was then asked to take part in another survey by the researcher to complete the second set of questionnaires for internal customer. This second set of questionnaires measured quality customer service items concerning effectiveness, efficiency and effort put in by work team to produce quality work and ensure the job would be delivered in time.

Lastly, "the shipping company or offshore engineering company manager or superintendent", as external customer in charge of the matching repair job was requested to fill in the third set of questionnaires. Being most knowledgeable about the outcome of the repair job, and the matching shipyard repair work team, this person was asked to complete the questionnaire for external customer to measure quality customer service items concerning productivity, quality, cost and time of repairs. Preferably, these surveys of the internal and external customers should be taken on the same day with the matching repair work team. The external customer, particularly for those coming from abroad, most likely might have to leave Hong Kong soon after the repair job was completed. It was not so easy or practical to arrange for the interview within the same day right after the repair job was completed. Therefore, in our data collection, about 25% of the questionnaires administered to the external customers were returned only by facsimile communication at a later date. As there was normally more than one repair job performed by separate work groups from different disciplines for each ship calling at the shipyard for repairs, very often the same internal and/or external customers had to be surveyed again for a separate repair job on the same ship.

Time Scale for the Research Study



1. Literature Review
2. Refine Research Question
3. Pilot Run of Preliminary Questionnaire
4. Refine Pilot to form Main Questionnaire
5. Data Collection
6. Data Analysis
7. Further Literature Review/ First Draft
8. Revised Draft

Figure 5.2 : Time Scale for the Research Study

The data collected was then analysed using a positivist approach. Computers and the Statistical Package for the Social Sciences (SPSS) were used to conduct the basic statistical analysis.

5.6 Time Scale for the Research Study

Actual time scale for the research study is listed below and as shown in Figure 5.2.

Activity	Duration
• Literature Review	6 months
• Refine Research Question	2 months
• Pilot Run of Preliminary Questionnaire	2 months
• Refine Pilot to form Main Questionnaire	1 month
• Data Collection	5 months
• Data Analysis	5 months
• Further Literature Review / First Draft	7 months
• Revised Draft	8 months

Chapter Six
Data Analysis and Results

Researchers typically collect data under the assumption that a computer will be used to analyse it. At least two important steps lie between the collection of data and its computer-based analysis using advanced statistical methods. One must first properly "prepare" the data for entry into a computer file or database, and once the data are correctly entered, one should examine the data distributions of each variable. There are many perils and pitfalls that can derail even an experienced researcher at these critical and necessary steps. To put it bluntly, if you err early, all later analyses, no matter how sophisticated, could be meaningless.

(Newton and Rudestam, 1999:1)

6 Data Analysis and Results

This chapter analysed the data collected from the survey questionnaires as discussed in Chapter 5, pages 136-146. Firstly, the analyses of the demographic data are presented. This is necessary in order to have a better understanding of the general population of the shiprepair yard work teams in Hong Kong. Then descriptive statistics for the questionnaires are presented and Cronbach's alpha is used to test the reliability of the components of the constructs. The hypotheses formulated for this research are tested and the research findings are analysed and discussed. The antecedents of cooperative goals and constructive conflict in Chinese work setting are examined and factor analysis is used to identify factors, which correspond to constructs of the theory for understanding their behaviour. Lastly, the question on whether a Western theory can be applied in Chinese work context is addressed.

North American research suggests that developing cooperative relationships and constructive controversy among employees can empower employees to provide quality service to customers (Deutsch, 1973, 1980; Johnson and Johnson, 1989). Specially, teams with highly cooperative goals were found to discuss their opposing views open-mindedly and constructively, which in turn developed confidence in team dynamics that contributed to effective team performance (Alper, Tjosvold and Law, 1998).

In this study, Chinese employees in the shiprepair industry in Hong Kong were surveyed to collect data, which provided the information required on quantifying items concerning the following:

i) On Hong Kong Shiprepair Yards Work Teams:
   - Confidence in Team Dynamics
   - Goal Interdependence (Cooperative, Competition or Independent goals orientation developed on Deutsch's Theory)
   - Constructive Controversy (Open-mindedness)
   - Confirmation of Traditional Chinese Values on:
     Power Distance
     Collectivism

ii) Rating of Quality Customer Service by Internal Customers (Shiprepair Yard's Managers or Superintendents).

iii) Rating of Quality Customer Service by External Customers (Shipping Company or Offshore Engineering Company Managers or Superintendents).

6.1 Types of Respondents

As stated in the last chapter, item 5.2.1, page 128, only those shiprepair yards in Hong Kong equipped with docking or slipping facilities and repair berths for repairs of coastal and ocean-going vessels were invited to take part in this study. Other shiprepair yards for local commercial vessels, wooden vessels, pleasure craft, fishing vessels etc. were excluded from this study. Repair work teams classified by their traditional trade disciplines were recruited from various departments of these repair yards to take part in the surveys. The total population of repair work teams meeting the criteria set is estimated to be in region of 1,000 persons. The total number of technical workforce for the seven (7) shiprepair yards which took part in this survey was estimated to be around 780 persons, representing about 80% of the entire target population (Chapter 5, item 5.5.1, pages 142-144).

The outcome of this field study involves 27 ships, 17 visits and 246 persons, consisting of 61 work teams from 7 shiprepair yards in Hong Kong, 192 work team members, 27 shiprepair managers or superintendents as internal customers, and 27 shipping company managers or superintendents as external customers (Appendix 5.5 - pages 294-298).

6.2 Demographic Data

Demographic data were collected and the respondents were asked information at the end of the questionnaires.

6.2.1 On Work Teams

This study covers 61 work teams comprising of 357 shiprepair yard technical employees. Out of these 357 employees, 192 of them took part in this study, as only not less than 50% members of each work team were requested to complete the questionnaire simultaneously at the same sitting. The 192 work team employees' demographic profile is presented in Table 6.1.

All the shiprepair yard technical employees for the sector of the industry under this survey are male, which confirmed the traditional norm that the shipyard employees in Hong Kong are predominantly male workers. This compares with data from across the border in China where female workers in the shiprepair yards were quite common particularly in the early 60s.

The average age for the 192 work group members is around 46 years of age, the youngest being 17 and the oldest 66. However, nearly 70% of them are between 41 to 66 years old, and more than 41% are over 51 years old. This indicates that this sector of industry nowadays is relying on older workers (over 41%) and does not attract young people to join the trade – see also Appendix 6.1 – Frequency Table for Age of Employees (page 408).

All the employees are of Chinese origin and their nationality is about 50-50% evenly divided between Hong Kong SAR and China, with only 3 persons reported to be from Macau, Indonesia and Malaysia respectively.

Over 85% of the employees are married with 14% single and only one person divorced. This indicates that young single persons might not be interested to join the trade. Majority of the persons working in this industry are married

with family burden, and know each other fairly well having worked together in the small circle of shiprepair community for a long period.

Table 6.1 : Demographic Profile of the 192 Work Teams Employees

Variable		*Frequency*	*Percent*
Gender	Male	192	100
	Female	-	-
Age	20 & under	5	2.6
	21 – 30	18	9.4
	31 – 40	36	18.8
	41 – 50	54	28.1
	51 – 60	66	34.3
	61 & over	13	6.8
Nationality	Hong Kong S.A.R.	99	51.6
	China	90	46.9
	Others	3	1.5
Marital Status	Single	27	14.1
	Married	164	85.4
	Divorced	1	0.5
Education	Did not complete high school	135	70.3
	High school graduate	48	25.0
	Above high school	9	4.7
Team skill	Fitters (21 teams - 134 members)	72	37.5
	Steel Fabricators (12 teams - 72 members)	37	19.3
	Electricians (7 teams - 39 members)	24	12.5
	Riggers (4 teams - 28 members)	15	7.8
	Painters (4 teams - 28 members)	14	7.3
	Joiners (4 teams - 16 members)	8	4.2
	Pipe Workers (2 teams - 13 members)	7	3.7
	Welders (2 teams - 8 members)	4	2.1
	Machinists (2 teams - 7 members)	5	2.6
	Air-cond. Mechanics (1 team - 4 members)	2	1.0
	Non-destructive Testers (1 team - 4 members)	2	1.0
	Safety Officers (1 team - 4 members)	2	1.0
	Total : (61 teams - 357 members)		

More than 70% of the employees did not complete high school education, with only 25% graduated from high school and about 5% gained education above high school level. This shows the general low level of education of the employees in the shiprepair industry.

The 61 work teams comprised of a total of 357 employees, albeit 192 of them took part in the interview, as only not less than 50% members of each work team were required to participate in the survey. Out of the 61 work teams interviewed in this study, about one third are 'Fitters'; in all twelve trades are represented in the teams. This compares favourably with the traditional work practice that the works involved in shiprepair yards are mainly concerning repairs on machinery, steel work, electrical, woodwork, painting etc. - see also Appendix 6.1 – Frequency Table for Skill of Teams (page 409).

The number of team members in each team varies between 3 to 10 persons, and the average number of persons in the work team is 5.85 persons. Taking the estimated population of 1,000 persons into consideration, the total number of work teams in this sector of the industry would be around (1,000/5.85 =) 171 work teams. The 61 work teams which took part in this study would then account for about 36% of the entire target population, see also Appendix 6.1 – Frequency Table for Size of Teams (page 410).

6.2.2 On Internal Customers

The 27 shiprepair yard superintendents or managers assigned to be in charge of the 61 work groups for the 27 ships which effected repairs at the shipyard in Hong Kong were invited to take part voluntarily in the survey as internal

customers. The demographic profile of the 27 shiprepair yard superintendents/managers is presented in Table 6.2.

All the shiprepair yard technical staffs are male, same as previously indicated in the work teams study.

The average age for the 27 shiprepair yard superintendents is 44 years of age, the youngest being 26 and the oldest 61. About 59% of them are between 21 to 50 years old and 41% between 51 to 61 years old. This shows that the shipyard superintendents normally possess good working experience before being promoted to this position.

Table 6.2 : Demographic Profile of the 27 Shiprepair Yard Superintendents/Managers

Variable		***Frequency***	***Percent***
Gender	Male Female	27 -	100 -
Age	20 & under 21 – 30 31 – 40 41 – 50 51 – 60 61 & over	0 5 6 5 10 1	- 18.5 22.3 18.5 37.0 3.7
Nationality	Hong Kong SAR China	22 5	81.5 18.5
Education	Did not complete high school High school graduate Above high school	10 12 5	37.0 44.5 18.5

All the repair superintendents are of Chinese origin. About 82% of them are from Hong Kong and the rest from China.

About 45% of them are high school graduate with 37% not completing high school education and only 18% attaining above high school education. This confirms the general low level of education of the Hong Kong shiprepair yards employees even in the shiprepair superintendent's or manager's level. Basically, certification to technical college/university level or Sea-Going Engineer Certificate of Competency is recommended for the job, but the majority of the shiprepair yards in Hong Kong would opt for persons of experience to take up the post. However, one of the prerequisites for the post is that they have to speak and write English fairly well particularly with the ship technical terms. The majority of them are exposed to foreign or Western style of workplace practices and influences.

Average time in present position is about 17 years, which shows that these superintendents all have worked in the same yard for quite a long period. Their jobs should be quite stable and secure.

6.2.3 On External Customers

The 27 shipping company or offshore engineering company managers or superintendents in charge of supervision of the 27 ships which effected repairs at the shipyard in Hong Kong were invited to take part voluntarily in the survey as external customers. The demographic profile of these 27 shipping company or offshore engineering company managers or superintendents is presented in Table 6.3.

All the shipping company or offshore engineering company managers or superintendents are also male, same as previously indicated in the shiprepair yards work teams and repair superintendents.

The average age for the 27 shipping company managers or superintendents is 46 years of age, the youngest being 32 and the oldest 61 years of age. About 26% of them are between 31 to 40, 56% between 41-50 years old and 18% between 51 to 61 years of age. This shows that the shipping company and offshore engineering company managers or superintendents, being in a responsible position, need to be mature and possessing field experience.

Table 6.3 : Demographic Profile of the 27 Shipping Company or Offshore Engineering Company Managers or Superintendents

Variable		*Frequency*	*Percent*
Gender	Male	27	100
	Female	-	-
Age	20 & under	0	-
	21 – 30	0	-
	31 – 40	7	25.9
	41 – 50	15	55.6
	51 – 60	4	14.8
	61 & over	1	3.7
Nationality	Hong Kong S.A.R.	11	40.8
	China	6	22.2
	Germany	3	11.1
	Japan	4	14.8
	United Kingdom	1	3.7
	Holland	1	3.7
	Italy	1	3.7
Education	Did not complete high school		
	High school graduate	10	37.0
	Above high school	17	63.0

Ships trade around the world and the owning companies come from all corners of the world. The 27 managers or superintendents who took part in this survey recorded about 41% from Hong Kong, 22% from China, 15% from Japan, 11% from Germany and 4% each from U.K., Holland and Italy. The ones from Hong Kong and China are mainly in charge of smaller coastal vessels.

These managers or superintendents received much better education than the employees in the Hong Kong shiprepair yards as about 63% of them received an education of above high school level and 37% are high school graduates. This shows that the educational demand for shipping company managers or superintendents is generally higher than their counterparts in the shiprepair yards. This is because the normal qualification for the post is technical college/university graduate or holder of First Class Engineer Sea-Going Certificate of Competency.

Average time in present position is 15 years, which also indicates that their jobs are quite secure and stable.

6.3 Descriptive Statistics of the Questionnaires

The descriptive statistics of the three sets of questions are shown in Appendix 6.1 - Frequency Tables (pages 302-410) for the following:

- 192 individual employees – for each indicator in ordinal scale
- 192 individual employees – for each construct in interval scale
- 61 teams – for each indicator in interval scale

- 61 teams – for each construct in interval scale
- Internal and External Customers' Ratings
- Age, Team Skill and Team Size

These descriptive statistics show mean, median, mode, standard deviation, variance and range of scores.

6.4 Test of Reliability

A number of constructs need to be captured in this study, and each of the constructs can be measured by multiple indicators. Ghauri, Gronhaug and Kristianslund (1995:47) maintained that multiple indicators are often used to capture a given construct, and measures based on multiple indicators are also more robust as the random error in measurement is reduced. According to them, Cronbach's alpha can be conceived as a measure of the intercorrelations between various indicators used to capture the underlying construct. The assumption is that the various indicators should correlate positively, but they should not be perfectly correlated. Sekaran (2000:308) also stated that Cronbach's alpha is computed in terms of the average intercorrelations among the items measuring the concept.

This study analyses the data collected from the Chinese employees in the Hong Kong shiprepair industry as well as ratings for quality customer service by their internal and external customers using ten constructs.

Before designing the questionnaire for data collection, there is the need to review the literature carefully, discuss ideas widely and conceptualise the research clearly (Ghauri, Gronhaung and Kristianslund, 1995). The construct

and the indicators were chosen after extensive literature review (pages 137-139). The set of questionnaires is intended to tap into the concepts and the design of the questionnaires has to ensure that the measures capture what they are supposed to measure instead of something else. As noted on the preceding paragraph, Cronbach's alpha is a measure to test the intercorrelations among the various indicators used to capture the underlying construct, and is used to test the reliability of the components of the constructs. This also assumes the validity of the measurement. Appendix 6.2 (pages 411 - 441) shows the Reliability Tests that are summarised in Table 6.4 (for 61 teams) and Table 6.5 (for 192 individuals) respectively.

Table 6.4 : Cronbach's Alpha for the Constructs – 61 Teams

Construct	Construct Name	Number of indicators	Cronbach's alpha
Team Confidence	Confid	4	0.74
Cooperation	Coop	5	0.73
Competition	Comp	5	0.78
Independence	Indep	6	0.78
Constructive Controversy	OpenM	9	0.80
Power Distance	PowerDis	4	0.74
Collectivism	Collect	4	0.67
Conformity	Conform	2	0.45
Internal Customers	InternalM	6	0.72
External Customers	External M	5	0.66

Table 6.5 : Cronbach's Alpha for the Constructs – 192 Individuals

Construct	Construct Name	Number of indicators	Cronbach's alpha
Team Confidence	Confid	4	0.63
Cooperation	Coop	5	0.70
Competition	Comp	5	0.75
Independence	Indep	6	0.72
Constructive Controversy	OpenM	9	0.78
Power Distance	PowerDis	4	0.63
Collectivism	Collect	4	0.67
Conformity	Conform	2	0.30

Note: There are no results for Internal and External Customers, because ratings are given only to teams.

According to Sekaran (1995:312), the closer Cronbach's alpha is to 1, the higher the internal consistency reliability. In general, reliabilities less than .60 are considered to be poor, those in the .70 range, acceptable, and those over .80 good. On the other hand, Nunnally (1997) suggests that a minimum alpha 0.6 sufficed for early stages of research. Apart from the construct of 'Conformity' for Chinese values which shows poor results of 0.45 and 0.30 for teams and individuals respectively, the reliability of the responses for the other constructs are all above 0.63, and are considered to be satisfactory. Therefore, with the exception of the construct of 'Conformity', the indicators chosen to develop the constructs above are reliable.

The reason for low reliability for the construct of 'Conformity', according to Zikmund (1997:340), might be due to imperfections in the measuring process that affect the assignment of scores or numbers in different ways each time a measure is taken, such as a respondent who misunderstands a question. Suppose a respondent understands a question but does not know the real reason for his or her behaviour and so cannot give any of several responses with truthfulness. The actual choice between plausible responses may be governed by such transitory factors as mood, whim, or the context set by surrounding questions (Campell, Converse, and Rodgers, 1976). Therefore, measures of this type will not be error-free and stable over time. Another factor affecting reliability concerns the homogeneity of the measure involved (Zikmund, 1997:341), because an attempt to measure an attitude may require asking several similar but not identical questions or presenting a battery of scale items. The construct of 'Conformity' is, therefore, taken out from this study, as the results were unreliable.

As discussed in Chapter 5, pages 137-139, the above constructs were derived from previous studies. However, there were contentious questions and diversified views were expected. If some of the questions were removed, the reliability increased. Removing questions with lower correlations can increase the homogeneity of items in the scale and thus enhance reliability and increase confidence in the stability of the measure. Reducing the scale by deleting too many items can also lower alpha, and the alpha level should therefore be monitored whilst adjusting scale length and item composition. The Cronbach's Alpha for the above constructs were thus obtained as detailed in Table 6.4 and Table 6.5.

6.5 Test of Correlation

Correlation analysis is used to describe the strength and direction of the linear relationship between two variables (Pallant, 2001:115).

There are a number of different statistics available, depending on the level of measurement. In this study, the procedure for obtaining and interpreting a Pearson product-moment correlation coefficient is presented.

Table 6.6 for 61 teams and Table 6.7 for 192 individuals show the intercorrelations of all the variables in this study – see also Appendix 6.3 for Correlation Tests Results (pages 442-446).

Table 6.6 : Correlation Results of Hong Kong Shiprepair Yards Survey - The Results of 61 Teams Data Analysis

The abbreviations for the scales and simple explanation are as the below:

A.	**Confidence in Team Dynamics:**	Confid (items A1~A4) (delete item A5, alpha increases from .65 to .74 and can't be improved)
B.	**Goal Interdependence:**	Coop (items B1~B5)
		Comp (items B6~B10)
		Indep (items B11~B16)
C.	**Constructive Controversy:**	OpenM (items C1~C9)
D.	**Chinese Cultural Values**	PowerDis (D1, D2, D3, D4) (delete items D5 and D6, alpha increases from .50 to .74 and can't be improved)
		Collect (items D7~D10) (delete items D11, alpha increases from .62 to .67 and can't be improved)
Internal Manager Questionnaire:		InternalM (items A1~A6)
External Manager Questionnaire:		ExternalM (items A1~ A5) (alpha = .66, can't be improved)

Correlation

	Mean	Std Dev	Confid	Coop	Comp	Indep	OpenM	PowerDis	Collect	InternalM	ExternalM
Confid	4.18	.27	(.74)								
Coop	4.18	.26	.53**	(.73)							
Comp	2.16	.48	-.20	-.38**	(.78)						
Indep	2.31	.53	-.31*	-.42**	.67**	(.78)					
OpenM	3.94	.33	.57**	.52**	-.45**	-.49**	(.80)				
PowerDis	3.77	.46	.19	.20	.00	-.19	.11	(.74)			
Collect	3.67	.45	.50**	.41**	-.19	-.37**	.40**	.35**	(.67)		
InternalM	4.10	.46	-.09	-.11	-.07	-.24	.00	.03	-.04	(.72)	
ExternalM	3.87	.43	.12	-.01	.15	.03	-.12	-.05	-.06	.13	(.66)

Note:
[a] N=61
[b] Values in bracket are reliability (coefficient alpha) estimates.
[c] **p<.01; *p<.05.

Table 6.7 : Correlation Results of Hong Kong Shiprepair Yards Survey - The Results of 192 Employees Data Analysis

The abbreviations for the scales and simple explanation are detailed from the previous table.

Correlation

	Mean	Std. Dev.	Confid	Coop	Comp	Indep	OpenM	PowerDis	Collect
Confid	4.18	.41	(.63)						
Coop	4.19	.42	.48**	(.70)					
Comp	2.17	.76	-.26**	-.28**	(.75)				
Indep	2.43	.78	-.24**	-.24**	.60**	(.72)			
OpenM	3.91	.49	.33**	.41**	-.40**	-.37**	(.78)		
PowerDis	3.75	.67	.21**	.22**	.06	-.03	.04	(.63)	
Collect	3.72	.66	.35**	.34**	-.14*	-.22**	.33**	.11	(.67)

Note:
[a] N = 192
[b] Values in bracket are reliability (coefficient alpha) estimates.
[c] **p<.01; *p<.05.

6.6 Crosstabulation and Chi-square Tests

Crosstabulations display the joint distribution of two or more categorical variables, and are commonly used to explore how demographic variables are related to various attitudes and behaviours (Rodeghier, 1996:86).

In this study, Crosstabulation and Chi-square tests are used to explore the relationship between Constructive Controversy (OpenM) and three demographic variables, namely, Age, Team Skill and Team Size respectively – see Appendix 6.4 for Crosstabulations and Chi-Square Tests Results (pages 449-458).

The Pearson Chi-Square values for Age, Team Skill and Team Size are 33.87 (page 451), 47.94 (page 454) and 24.58 (page 457), after rounding to 2

decimals with associated significance level (Asymp. Sig., 2-sided) of .29, .95 and .65 after rounding to 2 decimal places respectively. To be significant, the above Sig. value needs to be .05 or smaller (Pallant, 2001:259). In this study, these values are larger than .05; therefore, it can be concluded that Constructive Controversy is not significantly related to individual's age, the skill or the size of the team they worked with.

6.7 Test of Hypotheses

The following hypotheses formulated for this research can then be put for testing:

Hypothesis No. 1

HO1 The use of constructive controversy in problem solving is positively related to employees holding the traditional Chinese values of power distance and collectivism.

The use of constructive controversy in problem solving is hypothesised to be positively related to employees holding the traditional Chinese values of power distance and collectivism.

The confirmation of power distance and collectivism among Chinese employees in conflict is hypothesised to affect whether employees could have productive and constructive communication and problem solving (constructive controversy) in their interactions. This study intends to contribute to conflict management literature by using the Western developed Theory of Cooperation and Competition to

examine the dynamics of traditional Chinese cultural values of power distance and collectivism.

As there are more than 2 variables, testing of this hypothesis cannot be done using the correlation matrix. Regression is, therefore, run with Constructive Controversy (OpenM) as the dependent variable and Power Distance and Collectivism as the independent variables. The argument is that Chinese employees operating with the Chinese cultural values of power distance and collectivism will use constructive controversy in problem solving.

Multiple regression can be used to explore relationship between one continuous dependent variable and a number of independent variables or predictors (Pallant, 2001:134). The data are fit with a straight-line relationship, and the coefficients calculated for each variable measure the effect of one variable controlling for the others in the equation (Rodeghier, 1996:143). Stepwise multiple regression is used to choose predictors of a particular dependent variable on the basis of statistical criteria (Howitt and Cramer, 2001:219). Essentially, the statistical procedure decides which independent variable is the best predictor, the second best predictors, etc.

In this study, stepwise multiple regression had been run with the variables on both individual employees and teams. The testing of individual responses is considered necessary, as what we are looking at really is their individual responses. Results of the Multiple Regression are specified in Appendix 6.5 (pages 457-512).

Evaluating the Results

For demonstration purposes, the case at the individual employees level for Constructive Controversy (OpenM) with Power Distance, Collectivism and Conformity (albeit this variable has been taken out already for this study) is used for evaluation as follow (pages 470-474):

- The predictor that is entered on the first step of the stepwise analysis (Model 1) is the predictor which has the highest correlation with the criterion variable. In this case, this predictor is 'COLLECT' (as indicated in note 'a' immediately underneath this table).

- As there is only one predictor in the regression equation on the first step, Multiple R (page 470) is a single correlation coefficient. In this case it is .17 (after rounding to 2 decimal places)

- R Square (page 470) is the multiple correlation coefficient squared, which in this instance is .03. This indicates that 3% of the variance in the criterion variable is shared with or 'explained by' the first predictor.

- Adjusted R Square is R Square which has been adjusted for the size of the sample and the number of predictors in the equation. The effect of this adjustment is to reduce the size of R Square, so Adjusted R Square (page 470) is .025 or .03 to 2 decimal places.

- Beta in the table entitled 'Coefficient' (page 471) is the standardised regression coefficient, which is the same as the correlation when there is only one predictor.

- The variable which enters second in the regression is the predictor, which generally explains the second greatest significant proportion of the variance in the criterion variable. In this case, this variable is 'POWERDIS'.

- The Multiple R, R Square and adjusted R Square (page 470) are .30, .09 and .08 respectively after rounding to 2 decimal places.

- In other words, the two variables of 'COLLECT' and 'POWERDIS' explain or account for 8% of the variance in the criterion variable.

- R Square Change presented under 'Change Statistics' in the 'Model Summary' table shows the increase in the proportion of the variance in the criterion variable ('OPENM') by predictors that have been entered after the first predictor ('COLLECT'). In this case there is only one other predictor ('POWERDIS'). This predictor explains a further 5.7% of the variance in the criterion variable (page 471).

- Beta (page 471) is .46 (after rounding) for the first predictor (COLLECT) and -.37 for the second predictor (POWERDIS).

- The analysis stops at this point, as the third predictor ('CONFORM') does not explain a further significant proportion of the criterion variance. Notice that in the 'Excluded Variables' Table (page 472), 'CONFORM' has a *t* value of .69 (after rounding), and a significance level of .493. This tells us also that 'CONFORM' is a non-significant predictor of the criterion variable ('OPENM').

Reporting the Results

In the stepwise multiple regression, 'COLLECT' was entered first and explained 3% of the variance in 'OPENM' {F (1, 190 = 5.92, p< .016}. 'POWERDIS' was entered second and explained a further 5.7% {F (1, 189 = 11.88, p< .001).

From the above, it should be noted however even if the result is statistically significant, the variables only explain 8.7% of the variance in constructive controversy and thus the power of this model is very low – i.e. explains very little of the variability of the dependent variable.

From results of the printouts of the Stepwise Multiple Regression Tests in Appendix 6.5 (pages 458-459 & 493-494), predictors of Constructive Controversy are specified in following Table 6.8 (for individual level) and Table 6.9 (for team level):

Table 6.8 : For Individual Level - Stepwise Multiple Regression of Predictors of Constructive Controversy (only significant predictors are included)

Variable	Multiple R	*B*	Standard error *b*	Beta	*t*	Significance of *t*
Collectivism	.17	.34	.08	.46	4.25	.001
Power Distance	.30	-.27	.08	-.37	-3.45	.001

Table 6.9 : For Team Level - Stepwise Multiple Regression of Predictors of Constructive Controversy (only significant predictors are included)

Variable	Multiple R	*B*	Standard error *b*	Beta	*t*	Significance of *t*
Collectivism	.40	.30	.09	.40	3.40	.001

The results of the above multiple regression tests among variables provide an examination of the hypothesis linking power distance, collectivism and constructive controversy, and show that:

At individual level:

Collectivism - **Supports the hypothesis**

- **Positively related to Constructive Controversy**

Power Distance - Rejects the hypothesis

- Negatively related to Constructive Controversy

At the team level:

Collectivism - Supports the hypothesis

- Positively related to Constructive Controversy

Power Distance - Rejects the hypothesis

- No significant association

Hypothesis No. 2

HO2 Use of constructive controversy to solve problems in teams is positively related to cooperative team goals and negatively related to competitive goals and independent goals.

Based on the literature findings, it is hypothesised that the use of constructive controversy to solve problems in teams is positively related to cooperative team goals and negatively related to competitive goals and independent goals. Similarly to Hypothesis No. 1, this hypothesis involves more than two variables and multiple regression should be run for testing the relationship between the dependent variable Constructive Controversy and the independent variables cooperative, competitive and independent goals.

The results of the multiple regression tests on employees' goal interdependence show that goal interdependence affects constructive controversy dynamics.

From results of the Stepwise Multiple Regression Tests in Appendix 6.5 (pages 463-464 and 498-499), predictors of Constructive Controversy are specified in the following Table 6.10 (for individual level) and Table 6.11 (for team level):

Table 6.10 : For Individual Level - Stepwise Multiple Regression of Predictors of Constructive Controversy *(only significant predictors are included)*

Variable	Multiple R	*B*	Standard error *b*	Beta	*t*	Significance of *t*
Cooperation	.47	.31	.08	.27	4.02	.001
Competition	.39	-.20	.04	-.31	-4.52	.001

Table 6.11 : For Team Level - Stepwise Multiple Regression of Predictors of Constructive Controversy *(only significant predictors are included)*

Variable	Multiple R	*B*	Standard error *b*	Beta	*t*	Significance of *t*
Cooperation	.52	.49	.15	.39	3.33	.001
Independent	.60	-.21	.07	-.33	-2.85	.006

The above stepwise multiple regression results indicate that:

At individual level:

Cooperation	**- Supports the hypothesis**
	- Positively related to Constructive Controversy
Competition	**- Supports the hypothesis**
	- Negatively related to Constructive Controversy
Independent	**- Rejects the hypothesis**
	- No significant association

At the team level:

Cooperation	**- Supports the hypothesis**
	- Positively related to Constructive Controversy
Competition	**- Rejects the hypothesis**
	- No significant association
Independent	**- Supports the hypothesis**
	- Negatively related to Constructive Controversy

However, similarly to Hypothesis No. 1, even if the result is statistically significant, the power of the model is low, which leaves a lot of variability unexplained.

Hypothesis No. 3

HO3 Constructive controversy is positively related with confidence in team dynamics.

The correlations (Table 6.6 and Table 6.7, pages 163 and 164) are consistent with the hypothesis that constructive controversy among employees would develop strong confidence in their team dynamics. The results show that the employees' perceived team confidence through constructive controversy are positive and significant for both individual and team levels (α = .33, $p<.01$ and α = .57, $p<.01$ respectively) as follow:

At individual level:

Confidence - **Supports the hypothesis**
- **Positively related to Constructive Controversy**

At the team level:

Confidence - **Supports the hypothesis**
- **Positively related to Constructive Controversy**

Hypotheses No. 4 and No. 5

HO4 Confidence within teams in team dynamics is positively associated with quality customer service by the team as rated by internal customers.

H05 Confidence within teams in team dynamics is positively associated with quality customer service by the team as rated by external customers.

The Hypotheses No. 4 and No. 5 predict that while constructive controversy has strong effects on team effectiveness, it also has direct effects on both internal and external customers' ratings of team effectiveness. Shiprepair yard superintendents and shipping company managers or superintendents most knowledgeable about the outcomes of each team were asked to rate the effectiveness of the team in their capacities as internal and external customers respectively. The correlation results in Table 6.6, page 163, show that the perceived team effectiveness as rated by internal customers (α = -.09, not flagged, negative effect) and external customers (α = .12, not flagged, positive effect) are not significantly related with team confidence dynamics.

Confidence in Teams: Quality Customer Service rated by Internal Customers	**- Rejects the hypothesis** **- Not significant and negatively associated**
Confidence in Teams: Quality Customer Service rated by External Customers	**- Rejects the hypothesis** **- Not significant although positively associated**

6.8 Summary of the Results of the Hypotheses

Five hypotheses were formulated for the study. Multiple linear regression analysis was used to test the Hypotheses 1 and 2, whilst correlation was used to test the Hypotheses 3, 4 and 5.

Table 6.12 presents the results of the regression and correlation tests.

The regression test results show that at both individual and team levels in Hypothesis 1, the Chinese value of collectivism is supported (ß = 0.46 & 0.40), whilst power distance is not (ß = -0.37 and no significant association). Hong Kong is expected to be a collective society, where people are highly responsive to relationships (Earley, 1989; Hofstede, 1980). Hence, the support for collectivism in Hypothesis 1 is as expected. However, more surprising is that the use of constructive controversy in problem solving is found either negatively or not significantly related to the traditional Chinese value of power distance. The lack of support for the Chinese value of power distance is in contrast with previous studies. A Western stereotype is that with their high power distance values, Chinese people accept their superior's unilateral decision making. This result challenges that assumption and argues for additional research on the consequences of Western stereotype. Further studies are needed to explore this issue.

Hypothesis 2, relating to the association of cooperation and competition is supported at the individual level (ß = 0.27 and –0.31), whilst independence is not (ß = no significant association). But, at team level, it is found that cooperation and independence are supported (ß = 0.39 and –0.33), whilst competition is not (ß = no significant association). As expected, the regression results support the hypothesis that cooperative goals affect dynamics and outcomes. An unexpected finding is that there is no significant

Table 6.12: Results of Regression & Correlation Tests of Hypotheses

Factor	*Hypothesis*	*Variable*	*Beta or Alpha*	*p-Value*	*Supports Hypothesis*
Regression Test:					
1-a) At Individual Level: Chinese Values	H01	Collectivism	0.46	0.001	Yes
		Power Distance	-0.37	0.001	No
1-b) At Team Level: Chinese Values	H01	Collectivism	0.40	0.001	Yes
		Power Distance	-	-	No
Regression Test:					
2-a) At Individual Level: Interdependence Goals	H02	Cooperation	0.27	0.001	Yes
		Competition	-0.31	0.011	Yes
		Independent	-	-	No
2-b) At Team Level: Interdependence Goals	H02	Cooperation	0.39	0.001	Yes
		Competition	-	-	No
		Independent	-0.33	0.006	Yes
Correlation Test:					
3-a) At Individual Level: Team Confidence	H03	Confidence	0.33	<0.01	Yes
3-b) At Team Level: Team Confidence	H03	Confidence	0.57	<0.01	Yes
Correlation Test:					
4) Team Rating by Internal Customers	H04	Internal Customers	-0.90	Not flagged	No
Correlation Test:					
5) Team Rating by External Customers	H05	External Customers	0.12	Not flagged	No

negative association for independence at the individual level and for competition at the team level. With a strong predisposition toward cooperation, Hong Kong Chinese employees may not respond strongly to competitive and independent goals (Cox, Lobel, and McLeod, 1991). More research is needed to explore the findings on competitive and independent goals in the Hong Kong Chinese work settings.

The correlation test results show that at both individual and team levels in Hypothesis 3, team confidence is supported as expected (α = 0.33 and 0.57). Team members rated the extent to which the way they worked a team gave them the confidence, trust, strengthening of work relationship, reduction of stress and high morality.

However, in contrast to previous studies (Alper, Tjosvold and Law, 1998; Tjosvold, Moy and Sasaki, 1996), effective team performance ratings by internal customers (α = -.09, not flagged, negative effect) and external customers (α = .12, not flagged, positive effect) in Hypotheses 4 and 5 are not supported.

As the correlation results for both internal and external customers are not significantly associated, and bear no linear relationship with any of the other variables, additional statistical analysis have been performed with a view to check if there is any other form of relationship existed between them. These included "Scattergrams" of Internal & External Customers with each of the other variables, and pairwise distribution of team scores for Internal & External Customers with Constructive Controversy, with Confidence, with Cooperation and with Collectivism. The results of the "Scattergrams" and pairwise distribution of team scores, however, all have shown no pattern in

them, neither linear nor recognisably non-linear. So, this line of enquiry was abandoned.

This then leads us to incline to the view that what we have is a whole set of responses on how Chinese teams operate in a 'process' sense, which does not have anything to do with goal attainment, unlike in the Western system. The original Theory of Constructive Controversy is predicated on a 'goals' or 'ends' based approach to team operation whereas in the Chinese team context, the 'process' or relationship is the pivotal element. The tests of reliability in this study might only mean that the teams can be shown to be intercorrelated, not that the meaning derived is the meaning understood by the respondents. Therefore, there is the need to go beyond the tests for internal construct reliability to examine whether the different constructs we have indeed are different constructs. The next paragraph will describe how this is done with SPSS using "Factor Analysis".

6.9 Factor Analysis

Factor analysis is a technique used to identify factors that statistically explain the variations and covariation among measures. According to Green, Salkind and Akey (2000), the number of factors is considerably smaller than the number of measures and, consequently, the factors succinctly represent a set of measures. From this perspective, factor analysis can be viewed as a data-reduction technique since it reduces a large number of overlapping measured variables to a much smaller set of factors. If a study is well designed so that different sets of measures reflect different dimensions of a broader conceptual system, factor analysis can yield factors that represent these dimensions. More specifically, the factors can correspond to constructs (i.e., unobservable

latent variables) of a theory that helps us understand behaviour. Example of constructs that might emerge as factors from factor analysis includes altruism, test anxiety, mechanical aptitude, attention span, and academic self-esteem.

Factor analytic techniques have a number of different uses. They are used extensively by researchers involved in the development and evaluation of tests and scales. The scale developer starts with a large number of individual scale items and questions and, by using factor analytic techniques they can refine and reduce these items to form a smaller number of coherent subscales (Pallant, 2001). Factor analysis can also be used to reduce a large number of related variables to a more manageable number, prior to using them in other analyses such as multiple regression or multivariate analysis of variance.

There are two main approaches to factor analysis – explanatory and confirmatory. Explanatory factor analysis is often used in the early stages of research to gather information about (explore) the inter-relationships among a set of variables. Confirmatory factor analysis on the other hand, is a more complex and sophisticated set of techniques used later in the research process to test (confirm) specific hypotheses or theories concerning the structure underlying a set of variables.

The term factor analysis encompasses a variety of different, although related techniques. One of the main distinctions is between what is termed Principal Components Analysis (PCA) and Factor Analysis (FA). These two sets of techniques are similar in many ways and are often used interchangeably by researchers. Both attempt to produce a smaller number of linear combinations of the original variables in a way that captures (or account for) most of the variability in the pattern of correlations. However, they do differ in a number of ways. In Principal Components Analysis the original variables are

transformed into a smaller set of linear combinations, with all of the variance in the variables being used. In factor analysis, however, factors are estimated using a mathematical model, where only the shared variance is analysed (Tabachnick and Fidell, 1996).

6.9.1 Assumptions

Factor analysis attempts to identify a small set of factors that represent the underlying relationships among a group of related variables, and the following assumptions have to be observed (Pallant, 2001):

- Sample size. Ideally the overall sample size should be 150+ and there should be a ratio of around five cases for each of the variables (Tabachnick and Fidell, 1996).

- Factorability of the correlation matrix. To be considered suitable for factor analysis the correlation matrix should show at least some correlations of r = .3 or greater. The Bartlett's test of sphericity (Bartlett, 1954) should be statically significant at $p<.05$ and the Kaiser-Meyer-Olkin (KMO) value should be around .6 or above (Tabachnick and Fidell, 1996). These values are presented as part of the output from factor analysis.

- Linearity. Because factor analysis is based on correlation, it is assumed that the relationship between the variables is linear. Unless there is clear evidence of curvilinear relationship, it is

probably safe to proceed, providing there is an adequate sample size and ratio of cases to variables.

- Outliers among cases. Factor analysis can be sensitive to outliers, therefore, as part of initial data screening process, one should check for these and either remove or alternatively recode to a less extreme value.

6.9.2 Factor Analysis for the Questionnaire

SPSS factor analysis was conducted by using data from the 192 individual employee cases and all the individual questions in the constructs on Chinese values (power distance and collectivism), cooperative/individual and competitive goals, constructive controversy and confidence in team dynamics. The result of printouts of the SPSS Factor Analysis in Appendix 6.6 (pages 513-527) is interpreted as follows:

6.9.3 Part 1 : Interpretation of Output

Correlation Matrix and KMO & Bartlett's Test

The first step when performing a factor analysis is to assess the suitability of the data for factor analysis. This involves inspection of the correlation matrix for coefficients of .3 and above, and calculating the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Barlett's Test of Sphercity. The correlation matrix shows several correlation coefficients of above .3. The KMO value is .78 (page 523)

and the Bartlett's test is significant (p = .000). Linearity and outliers among cases have been checked in the Scatterplots of the previous Regression Tests. Therefore, the factor analysis is appropriate.

Total Variance Explained Table and Scree Plot

There are two techniques that can be used to assist in the decision concerning the number of factors to retain – Kaiser's Criterion and Scree Test. Using Kaiser's Criterion or the Eigenvalue Rule, only factors with an eigenvalue of 1.0 or more are retained for further investigation. The eigenvalue of a factor represents the amount of the total variance explained by that factor. Kaiser's criterion has been criticised, however, as resulting in the retention of too many factors in some situations. Another approach that can be used is Catell's scree test (Catell, 1966). This involves plotting each of the eigenvalues and inspecting the plot to find a point at which the shape of the curve changes direction and becomes horizontal. Catell recommends retaining all factors above the elbow, or break in the plot, as these factors contribute the most to the explanation of the variance in the data set.

Looking at the Total Variance Explained Table, only the first 14 components recorded eigenvlaues above 1 (7.97, 3.22, 2.60, 1.81, 1.72, 1.60, 1.43, 1.36, 1.28, 1.27, 1.16, 1.14, 1.04 and 1.02). These 14 components explain a total of 65.02 per cent of the variance (see Cumulative % column, page 524). Often using the Kaiser criterion, too many components are extracted, so it is important to also look at the scree plot provided by SPSS. What to look for is a change (or

elbow) in the shape of the plot and only components above this point are retained. In the scree plot, there is quite a clear break between the third and fourth components (page 525), therefore, Components 1, 2 and 3 explain or capture much more of the variance than the remaining components. From this plot, it is obvious that retaining (extracting) only 3 components is recommended.

Component Matrix

The final piece of output provided in the Part 1 analysis is the Component Matrix Table (pages 526-7). This shows the loading of each of the items on the 14 components. SPSS uses Kaiser criterion (retain all components with eigenvalues above 1) as the default. On this table, many items load quite strongly (above .4) on the first 3 components. Very few items load on the other 11 Components. This supports the previous conclusion from the scree plot to retain only 3 factors for further investigation.

6.9.4 Part 2 : Factor Rotation and Interpretation

Once the number of factors has been determined, the next step is to try to interpret them. To assist in this process the factors are 'rotated'. This does not change the underlying solution, but rather it presents the pattern of loading in a manner that is easier to interpret. In this case, 3 components will be extracted and rotated. Although there are a number of different rotation techniques, yet Varimax rotation, an orthogonal approach (which assumes that the factors are not related) is

used; as it is the most commonly used and tends to be easier and clearer to interpret.

Total Variance Explained Table

There are now 3 components listed in the right-hand section (as compared with 14 in the previous unrotated output). This is because only 3 components were selected for rotation. The distribution of the Variance explained has also been adjusted after rotation. Component 1 now explains 11.68 per cent of the variance, Component 2 explains 10.55 per cent and Component 3 explains 9.10 per cent. The total variance explained (31.33 per cent) does not change after rotation, just the way that is distributed between the 3 components (page 528).

Rotated Component Matrix Table

The loadings of each of the variables on the three factors that were selected are listed in Rotated Component Matrix Table. The items for the main loadings on Component 1 (questions B6-B13, B15-B16 & D13), Component 2 (questions C1-C4, C6-C9 & D5-D8, D10-D12) and Component 3 (questions A1-A5, B1-B5, D1-D4, & D9) are listed in Table 6.13 (see also page 529).

Table 6.13 : Varimax Rotation of Three Factor Solution

Items - Question No.	Component 1	Component 2	Component 3
Confidence - A1 to A5			
- A1			0.47
- A2			0.41
- A3			0.50
- A4			0.35
- A5			0.33
Cooperation - B1 to B5			
- B1			0.49
- B2			0.53
- B3			0.32
- B4			0.52
- B5			0.49
Competition - B6 to B10			
- B6	0.66		
- B7	0.63		
- B8	0.53		
- B9	0.62		
- B10	0.63		
Independence - B11 to B16			
- B11	0.61		
- B12	0.61		
- B13	0.64		
- B15	0.62		
- B16	0.58		
Constructive Controversy - C1 to C9			
- C1		0.62	
- C2		0.55	
- C3		0.48	
- C4		0.49	
- C6		0.41	
- C7		0.52	
- C8		0.54	
- C9		0.47	
Chinese values:			
Power Distance - D1 to D6			
- D1			0.63
- D2			0.55
- D3			0.42
- D4			0.52
- D5		0.53	
- D6		0.52	
Collectivism (Q - D7 to D11)			
- D7		0.45	
- D8		0.43	
- D9			0.31
- D10		0.48	
- D11		0.38	
Conformity (Q - D12 to D14)			
- D12		0.40	
- D13	0.32		
% of variance explained	**11.68%**	**10.55%**	**9.10%**

Note: Questions B14, C5 & D14 are not loaded into any factors, as only loadings above 0.3

are displayed.

6.9.5 Result Presentation of the Factor Analysis

The 44 items of the research questionnaire in the constructs on Chinese values (power distance and collectivism), cooperative, competitive and independent goals, constructive controversy and confidence in team dynamics were subjected to Principal Component Analysis (PCA) using SPSS. Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Oklin value was 0.78, exceeding the recommended value by Kaiser (1970, 1974) and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Principal Component Analysis revealed the presence of 14 components with eigenvalues exceeding 1, explaining a total of 65.02 per cent of the variance. An inspection of the scree plot revealed a clear break after the third component. Using Catell's (1966) scree test, it was decided to retain 3 components for further investigation.

To aid in the interpretation of the 3 components, Varimax rotation was performed. The rotated solution (presented in Table 6.13) revealed the presence of simple structure (Thurstone, 1947), with the 3 components showing a number of strong loadings, and all variables loading substantially on only 1 component. The 3 factor solution explained a total of 31.33 per cent of the variance, with Component 1 contributing 11.68 per cent of the variance, Components 2

contributing 10.55 per cent and Component 3 contributing 9.10 per cent.

6.9.6 Interpretation of the Factor Analysis

The Factor Analysis sought to confirm that the seven different constructs used in this study are indeed different constructs. If these constructs are distinct constructs, then the factors should load on seven factors, which should explain 65% or more of the variance, with an eigenvalue for each factor greater than 1. The findings of the Factor Analysis, however, indicate clearly that this is not the case and instead load into three distinct components.

In interpreting this result the researcher went back to the Chinese part of the literature in order to visualise what respondents implicitly were responding to in the questions and then re-name them as new constructs accordingly – see next paragraph for discussion on antecedents of cooperative goals and constructive conflict in Chinese work setting.

6.10 Antecedents of Cooperative Goals and Constructive Conflict in Chinese Work Setting

Research in North America has concentrated on the consequences of the type of goal interdependences; studies in China may stimulate progress in understanding its antecedents. How do Chinese develop cooperative goals? To understand and trace these antecedents for Chinese to develop cooperative goals, the unique aspect of the Chinese work behaviour with respect to their cultural values on collectivism and power distance should be carefully looked into in the light of the results of this study.

If we accept cross-cultural differences to exist, a natural move would be for us to investigate how two major cultures differ in their work behaviour, for instance in their negotiation styles and what are the respective prerequisites for negotiation success. While numerous studies have been conducted in the past to shed light on issues related to international negotiations, there is paucity of empirical studies to investigate how marketing decisions and negotiations are determined in a collectivist and power distance Chinese cultural context (Chan, 1998). According to Hwang (1987), the assumption that social behaviour patterns and rules of exchange are universal should be challenged, as recent studies show that the Chinese society and other similar societies follow patterns that differentiate them from those of the West. A number of authors have investigated how these two major cultural dimensions, collectivism and power distance, affect the social and marketing behaviour of the Chinese. Chan (1998) as listed in Table 6.13 presents a summary of seven such studies. The social behaviour under consideration comprises aggressive behaviour (Bond and Wang, 1983), reward allocation (Leung and Bond, 1984), procedural preferences (Leung 1987), and social behaviour (Hwang, 1987). These four studies can help to shed light on how a Chinese negotiator would behave under a collective cultural influence. Other authors have studied directly how collectivism and power distance have affected the marketing and negotiation behaviour of the Chinese. Areas under investigation are: negotiation behaviour (Shenkar and Ronen, 1987), marketing implications (Yau, 1988), and international marketing decisions (Tse et al. 1988). All these studies indicate that collectivism and power distance, two important concepts that differentiate the Chinese culture from the West, are affecting the social and marketing behaviour of people brought up in a Chinese cultural environment (Chan, 1998).

Table 6.14 : A Summary of Theoretical Work on Relationship between Collectivism and Power Distance with Social and Marketing Behaviour

Source: Chan (1998:78)

Study	Collectivist Antecedents		
	Outcomes	**Collectivism**	**Power Distance**
Bond and Wang (1983)	aggressive behaviour	harmony conformity ambivalence equality	harmony conformity suppress aggression
Leung and Bond (1984)	reward allocation	group solidarity	social evaluation
Leung (1987)	procedural preference	harmony solidarity	animosity reduction
Hwang (1987)	social behaviour	*guanxi* reciprocity	social norm *mianzi* (face)
Shenkar and Ronen (1987)	negotiation behaviour	harmony attraction kinship collective indebtedness friendship	harmony control hierarchy hidden motive leadership
Yau (1988)	marketing behaviour	harmony *mianzi* (face) interrelations favour kinship	harmony *mianzi* (face) modesty authority risk averse moderation
Tse et al. (1988)	international marketing decisions	harmony repayment	harmony face authority fatalism

From the social and marketing behaviour of the Chinese (see studies listed in Table 6.14), it can be seen that harmony and *quanxi* play important roles in the Chinese work context. Leung (1996, 1997) has argued that harmony in Chinese societies has two underlying motives. The first is instrumental in nature and regards maintaining harmony as means to other ends. Disintegration avoidance refers to the tendency to avoid actions that strain a relationship and lead to its disintegration. Under this motive, people use harmony-seeking behaviour as a way to further their self-interest and avoid potential problems with others. Harmony enhancement refers to the desire to engage in behaviour that strengthens relationships. It represents genuine concern for harmony as a value in and of itself.

Harmony enhancement is "solid" and involves feelings of intimacy, closeness, trust and compatible and mutually beneficial behaviour, whereas disintegration avoidance involves difference in values and interpersonal style as well as avoidance of contact and conflict (Hwang, 1996). Future research can explore the hypothesis that harmony enhancement induces cooperative goals and disintegration motives lead to competitive ones.

Apart from harmony, Chinese society has a unique relationship system, *guanxi*, wherein personal connection is central to work. Maintaining good relations is a key job motivator and ingredient in success (Chow and Luk, 1996). Particular ties, coming from the same village, attendance at the same school, and prior connections between fathers all build *guanxi* (Farh, Tsui, Xin and Cheng, 1998). Research on *guanxi* may illustrate how cooperative goals evolve. *Guanxi* may be beliefs of cooperative interdependence which in turn lead to mutual trust and assistance. *Guanxi* bases, however, do not inevitably result in mutual relationship. Perhaps the development of competitive goals between partners can explain the failure to capitalise on

guanxi bases. At present, it is unclear how *guanxi* may facilitate or hinder development of cooperative goals. Future studies could also explore the extent Westerners have similar relational ties that help them develop strongly cooperative relationships.

6.11 Re-naming the 3 New Constructs

The findings of the Factor Analysis clearly indicate that the factors load into three distinct components. From the social and marketing behaviour of the Chinese studies as listed in Table 6.14 (page 190), we can visualise a clear view of what the respondents in the Hong Kong shiprepair industry implicitly interpret in these 3 components. Using the terms in these studies, the 3 new constructs appear to reflect on the following aspects of Chinese culture and should be re-named accordingly to suit:

1. ***"AGGRESSION"*** for Components 1 (questions B6-B13, B15-B16 & D13)

   These questions were derived from previous studies based on "Western processes" and the research findings confirm the scores for work teams and individuals on these questions are very low. These questions seem to be interpreted by the respondents as evidence of an attitude of non-conformity with or rejection of the work group on their social aggressive behaviour, and hence should be re-named ***"AGGRESSION"*** accordingly.

   This aggressive behaviour might also be related to the action taken when Chinese people suffer a loss of face. Western research has

concentrated on demonstrating how people respond to believing they have appeared weak, referred to as an affront, loss or as a disconfirmation of face (Brown, 1970; Goffman, 1959). Those who have lost face do not act consistent with this image but attempt to assert themselves as strong. To make a concession in conflict is believed to confirm weakness whereas defiance and counter-attack are the aggressive action used to reassert face (Deutsch, 1973, 1962). Threats, negative concessions, claims of superiority and other aggressive strategies have been theorised to affront social face (Deutsch and Krasss, 1962). Experiments have suggested that in response, negotiators will retaliate, counterthreat, use aggression, make concessions slowly, deceive, and refuse to reach an agreement (Deutsch and Krauss, 1962, Brown, 1968). Therefore, the aggressive behaviour might be attributable to the action used to reassert face.

2. ***"HARMONY"*** (reflecting disintegration avoidance) for Component 2 (questions C1-C4, C6-C9 & D5-D8, D10-D12).

   The Chinese cultural value on harmony might implicitly include confirmation of face and maintaining cooperative goals to avoid affrontive disagreement. These questions reflect the aspects of harmony on the part of disintegration avoidance as described in item 6.10, page 191 – antecedents of cooperative goals and constructive conflict in Chinese work setting, where Chinese use harmony-seeking behaviour as way to further their self-interest and avoid potential problems with others. Component 2 should then be re-named ***"HARMONY"*** accordingly.

Table 6.15 : Correlation Results of Hong Kong Shiprepair Yards Survey after Re-naming the 3 New Constructs - The Results of 61 Teams Data Analysis

The abbreviations for the scales and simple explanation are as the below:

A.	***Aggression*:**	Questions B6-B13, B15-B16 and D13 – total 11 questions
B.	***Harmony*:**	Questions C1-C4, C6-C9, D5-8 and D10-12 – total 15 questions
C.	***Guanxi*:**	Questions A1-A5, B1-B5, D1-D4 and D9 - total 15 questions

Note: Questions B14, C5 and D14 are dropped because there are no loading on the components.

D.	***Internal Managers*:**	Questions A1~A6
E.	***External Managers*:**	Questions A1~ A5

Correlation

	Mean	Std. Dev.	*Aggression*	*Harmony*	*Guanxi*	*Internal Customer*	*External Customer*
Aggression	2.51	.49	(.86)				
Harmony	3.84	.30	-.43**	(.81)			
Guanxi	3.76	.23	-.36**	.53**	(.80)		
Internal Customer	3.2	.54	.23	-.07	-.09	(.72)	
External Customer	4.1	.46	-.20	-.09	-.04	-.14	(.66)

Note: [a] N = 61

[b] Values in bracket are reliability (Cronbach's alpha) estimates.

[c] **p<.01; *p<.05

Table 6.16 : Correlation Results of Hong Kong Shiprepair Yards Survey after Re-naming the 3 New Constructs - The Results of 192 Employees Data Analysis

The abbreviations for the scales and simple explanation are detailed from the previous table.

Correlation

	Mean	Std. Dev.	*Aggression*	*Harmony*	*Guanxi*
Aggression	2.54	.70	(.82)		
Harmony	3.83	.45	-.37**	(.81)	
Guanxi	4.02	.36	-.29**	.39**	(.75)

Note: [a] N = 192

[b] Values in bracket are reliability (Cronbach's alpha) estimates.

[c] **p<.01; *p<.05

3. ***"GUANXI"*** for Component 3 (questions A1-A5, B1-B5, D1-D4, & D9).

   The respondents appear to have implicitly interpreted these questions on the Chinese aspect of *guanxi*, which focuses on connection and relationship among the group. Maintaining good relations with personal connection is central to work in Chinese society. Particular connection from the same group, college, village, organisation etc. all maintain *guanxi*. The team members are closely tied together having served in a relatively small shiprepair fraternity for a considerable period and enjoy stable long-term relationship, which all build ***"GUANXI".***

Correlation analysis have been performed also on the above 3 new constructs and Table 6.15 for 61 teams and Table 6.16 for 192 individuals show the intercorrelations of the 3 new variables in this study – see also Appendix 6.7 (pages 530-546) for Results of Correlation Analysis and Reliability Tests for the 3 new constructs.

The correlations (Table 6.15 & 6.16) show that ***'AGGRESSION'*** is significant related negatively at both individuals and team levels to both ***'HARMONY'*** (α = -0.43 and -0.37) and ***'GUANXI'*** (α = -0.36 and -0.29), whilst ***'HARMONY'*** and ***'GUANXI'*** are significant related positively (α = 0.53 and 0.39) at both team and individual levels. However, the results of correlations between internal and external customers' ratings with the 3 new variables show no significant association.

6.12 Discussion of Test Results

Traditionally, cultural values have been used to understand difference in behaviour across nations, and these traditional cultural values are theorised to explain Chinese managers' tendency to avoid conflict compared to Western managers' willingness to discuss conflict openly (Ding, 1995; Ting-Toomey, 1988). However, cultural values are continually in flux and manifested in various ways (Morris et al, 1998; Yamagishi, Kikuchi & Kousi, 1999, Williams, 1970). Research is needed to understand how the situation and the expression of values alter their impact.

This research aims to link empirically the Western developed Deutsch's Theory of Cooperation and Competition with the innovation of teamwork, to help to understand the variance in the performance of these teams. Literature suggests that the relationships and interaction within the work teams can very much impact the overall performance of these work teams. The extent that these work teams are able to develop cooperative goals can promote productive and constructive communication and problem solving (constructive controversy) in their interactions. A constructive interaction leads to team members' perception of high team confidence. With trust, strong work relationship, team morale and perceived confidence, team effectiveness is enhanced on quality customer service (Alper, Tjosvold and Law, 1998; Tjosvold, Hui and Law, 1998; Tjosvold, Moy and Sasaki, 1996, 1999; Wong et al., 1999).

In line with previous studies, the results of the preliminary analysis support the hypothesized dynamics and outcomes that the use of constructive controversy is significant and positively related to the Chinese value of collectivism, cooperative goal interdependence and team confidence at both

team and individual levels. Nevertheless, the extent of the variance explained by these variables is low and for competitive and independent goals, the results only partially support the hypotheses. It is found that the use of constructive controversy is significant and negatively related with competitive goal interdependence at individual level only but not at team level. Whilst for the independent goal interdependence, it confirms significant relationship negatively at team level only but not at individual level. Contrary to expectation, however, the results show that there is no significant relationship between team confidence and quality customer service. Although the result indicates the Western Theory of Cooperation and Competition might be used as one alternative to understand the dynamics and outcome of conflict as experienced by Hong Kong Chinese in the shiprepair industry, yet it is not confirmatory to the hypotheses of the study, which fails to produce the link with effective team performance ratings by internal and external customers.

In order to explore explanations for above, the frequencies for both individual and team are firstly looked at. From the frequency statistics of the mean scores of goal interdependence (see Appendix 6.8, pages 545-554), it is interesting to find that all 61 teams and all but 6 employees out of the 192 individuals (about 3%) have rated themselves as cooperative. There is really no team and very few individuals with competitive or independent goals. Apparently one could argue that the workers in all the teams were having homogeneous characteristics and delivering more or less the same level of customer ratings, which places a question mark over the ultimate meaningfulness of the results of the regression and correlation analysis. When comparing with a Western study, this might prompt us to wonder whether the result we have is just a *'cultural'* result, as evidenced by the significant correlation results with collectivism and cooperation, and team confidence.

Is the constructive controversy measure of this study really measuring what it purports to? Do the measures for the constructs of constructive controversy, cooperation and collectivism have separate identities in the respondents' minds? It is clear that the research shows that even with significant correlation between the constructs, we may indeed not be capturing concepts, which are different in the minds of the shiprepair yards respondents in Hong Kong. What does the correlation really mean? The significant correlations are there but these can only now be definitely interpreted as a measure of co-variability between the various variables. What then is the deeper meaning of this?

We have used the questionnaires to try to derive scale measures for "Chinese Culture", but it appears now that in terms of discussion of Chinese cultural values in Chapter 3, there are other elements of Chinese culture such as *'mianzi'* (face), 'harmony', '*guanxi*' (relationship) etc. that are not fully reflected in the Model, Fig. 3.4 in page 66. It is not clear that the constructs (page 160) and their contributing indicators are within the Chinese context, interpreted in a way, which is equivalent to the interpretation of a Western context.

There could be many possible reasons leading to the lack of diversity in response of the working teams. As discussed previously, the shiprepair teams that we are analysing do not have the education, training and exposure etc. of the shiprepair yards and/or shipping company superintendents/managers. The analysis of the teams suggests they have low education and low exposure to Western style of influences in the workplace. It also shows that the Hong Kong shiprepair industry nowadays is relying on older workers. Most of the team members are middle aged to their early fifties. The team members know each other fairly well for a long time, having worked together in the fairly

small and close shiprepair fraternity, and having served apprenticeship in the same shipyard or sailed sometime previously in the same ship or some other sisterships of the same shipping company. Thus they have the opportunity to influence each other while it is possible that any who did not conform have left the industry.

Apart from the above, we have also investigated whether the high cooperative measure shared by almost all workers could be a consequence of external settings laid down by the companies (for examples through group appraisal/reward or other incentive systems), but there are no such schemes operating at present in the Hong Kong shiprepair industry.

The research with the shiprepair yard managers who have been exposed to Western style of training and influences, and also in regular contacts with foreign shipping company superintendents/managers may show that they have been influenced by the Western style of concepts in the workplace. However, looking at previous research, this study is believed to be the first research that has dealt with teams with low education levels and/or low exposure to Western influences. Thus, it is reasonable to find that the respondents of the Hong Kong shiprepair industry are reflecting back on their indigenous Chinese values, whilst completing the questionnaire.

In our study, it is possible that the Chinese respondent, when responding to each of the indicators in the questionnaire on say, collectivism, cooperation, or team confidence is responding within the Chinese values of *mianzi*, harmony and *guanxi*. The result of this study apparently merely show that the collectivism and cooperative goals are measuring aspects of one phenomenon, which is Chinese cultural values operating within teams.

This study suggests an approach to cross-cultural management research. The findings suggest that what the respondents have seen in common in the research questions and implicitly interpreted is only a typical *'cultural'* result. The problem here which we have touched on earlier is the issue of adapting a questionnaire designed in one culture and trying to use it in another culture. Obviously, the efforts (see page 136) taken during designing of the questionnaires to ensure this shall not be a problem have apparently not been successful.

Findings of this study again lead to questioning of whether a Western theory or research instrument derived is appropriate for application to a non-Western context. Although it is useful to test concepts developed in one culture to another, yet theories from the West cannot be assumed to apply in the East (Hofstede, 1993; Triandis, 1983; Bond and Wang, 1983).

An important finding of this research is that the Theory of Cooperation and Competition may not be applicable to a work group of very low education and or exposure and training to the modern workplace practices and influences. The critical incident methodology of interview (Flanagan, 1954) in previous studies adopted by Tjosvold et al. in Hong Kong and China, where employees described their experiences of when they tried to deliver quality service might not be suitable to be applied in a work group of very low education level. Problems would be encountered during the interview as interviewees of low level of education would find it difficult to describe their experiences and sooner or later would lose interest to interact with the researchers. Future research would be needed to further investigate this issue.

6.13 Applying a Western Theory in the Chinese Work Context

This section is a continuation of previous discussion for the questions raised on the same topic in Chapter 3, page 103-105 on whether a Western theory can be applied in the Chinese work setting and how and under what conditions Chinese develop cooperative goals and constructive conflict?"

Deutsch's original theory (1949a, 1949b) aims to explain the development of relationships and values. Players are assumed to have motives and goals but without assuming particular values and preconditions. Therefore, the theory might not be applicable in all situations and the work context of diverse cultures (Tjosvold, Leung and Johnson, 2000). Since 1994, much of the research on the theory has been by experiments, surveys and interview methods to understand goal interdependence and conflict as well as their effects in such areas as organisational teamwork, quality service, and effective leadership (Tjosvold, Leung, and Johnson, 2000, Tjosvold, 1999b). This study provides yet another opportunity to test how Chinese traditional cultural values and other preconditions would affect cooperative and competitive management of conflict.

Many researchers are sceptical and have challenged the validity and usefulness of applying a Western theory to such a collectivist culture as China. The imposed theoretical framework captures only the cultural experience of the West and must have inherent weakness in understanding other cultures such as China. It has been argued that researchers should use indigenous values and perspectives to understand and appreciate how Chinese people actually experience goal interdependence and conflict. The Theory of Cooperation and Competition assumes that individuals are self-interested (Tjosvold, Leung and Johnson, 2000) and their actions and feelings are

hypothesised to depend on whether they believe their self-interests are cooperatively or competitively related. Due to their collectivist inclination, Chinese are highly oriented toward cooperation where competition and independence are avoided. Is Deutsch's assumption that self-interest motivates group behaviour justified then in the Chinese work setting where group interests are emphasised rather than individual interests? Are the Chinese employees able to interact competitively and independently in the workplace?

Traditionally, Chinese society is also power distance oriented. Chinese society is highly hierarchical, where employees readily defer to their superior and would not confront their decisions. A persistent stereotype is that Chinese leadership is autocratic, where followers quickly and automatically follow the wishes and decision of their leader. Consistent with this image, power distance has been widely used to understand leadership in China (Hofstede, 1980). Chinese employees are thought to accept unilateral decision-making and prefer their leaders to be benevolent autocrats. Is constructive controversy then consistent with organisation values in China?

Research in North America has concentrated on the consequences of the type of goal interdependence; studies in China may stimulate progress in understanding of antecedents. In addition to the practical importance of understanding management of conflict in the global market place, studying conflict in varied cultural contexts can challenge and refine the present understanding of conflict management.

The cultural values are continually changing and manifested in various ways, and the operations of the theory depend on the situational and cultural contexts (Unterman, 1988).

Studying conflict in varied cultural contexts can challenge and refine the present understanding of conflict management as incorporating ideas and practices of other cultures can develop more enduring, elegant, and universal theories (Gergen, et al. 1996; van de Vijver and Leung, 1997). However, all the research for the theory so far conducted within Chinese cultural context has yet to manifest this possibility. For instance, it is not certain under which conditions competitive or independent goals are productive nor the conditions in which cooperative goals to conflict are costly and risky (Tjosvold, Leung and Johnson, 2000).

Research in China is just beginning to challenge and extend the theory. Documenting Chinese conflict management will take many years of research.

The research so far demonstrates an alternative that Chinese people have in managing their conflict, and it explodes stereotypes and assumptions that interfere with our understandings. However, the constructive effects of these studies depend on the Chinese people's understanding that their goals are cooperative – a condition that cannot be assumed.

Previous research in China might support the Theory of Cooperation and Competition in China, but the results do not imply that goal interdependence is operational in China in a way highly similar to that in the West (Tjosvold, Leung and Johnson, 2000). Although the genotype (the underlying conceptual structure of the theory) appears to be similar, the phenotypes (how the theory is manifested in particular situations) often are not. In particular the actions that develop cooperative goals or communicate an attempt to discuss conflict open-mindedly may be quite different in China than in North America, as may be the general level of goal interdependence and cooperative conflict.

Although some studies suggest utility of a cooperative approach between East and West (Tjosvold, Lee and Wong, 1992) more research is needed to document its potential for managing cross-cultural conflicts.

Like other conflict theories, the Theory of Cooperation and Competition cannot offer simple techniques that dissolve conflict. Rather it outlines the relationship and skills needed to deal directly and constructively with them (Tjosvold, 1993). At present, it is still too early to say if the Theory of Cooperation and Competition can be applied in Chinese work setting. More experimentation should be needed to understand how to use this knowledge to deal with the many often complex cross-cultural conflicts in order to be successfully applied in Hong Kong and China (Tjosvold, Leung and Johnson, 2000).

Chapter Seven
Conclusions, Implications and Recommendations

Recommendations are stated cautiously as the researcher does not have intimate knowledge of the manager's situation. Although a research user may desire the researcher to provide recommendations, both parties must realise that the researcher's recommendations are being made based solely on the knowledge gained from the research project. Other information, if made known to the researcher, may totally change the researcher's recommendations.

(Burns and Bush, 2000:659)

7 Introduction

This chapter summarises the results of the previous chapters and interprets the implications of applying the Theory of Cooperation and Competition to the Hong Kong Chinese work setting of the shiprepair industry. A mental model "Towards a Negotiated Reality" is prescribed to suit the present Hong Kong shiprepair yards work setting and a new integrated cross-cultural organisational Model – "The Chinese Hand in Western Glove" is proposed for Chinese and Westerners to manage conflicts together. Finally, limitation of the study together with recommendations and future research are addressed.

7.1 Conclusions and Implications

7.1.1 Research Results

This study aims to test the Theory of Cooperation and Competition in a Hong Kong Chinese work context to identify the social processes that help these teams grapple with problems and work effectively. Teams with highly cooperative goals are hypothesised to discuss their opposing views open-mindedly and constructively which in turn develops confidence in team dynamics that contributes to effective team performance. Competitive and independent goals are hypothesised to interfere with constructive controversy, confidence and effectiveness.

Results of this study show significant correlation of collectivism, cooperation and team confidence and suggest that the Western derived Theory of Cooperation and Competition, if appropriately and skillfully expressed, might have the potential as an alternative to understand the goal interdependence dynamics. However, the result is not confirmatory to the main hypothesis of this research that team confidence is significantly related to quality customer service. The missing link with team performance ratings by internal and external customers may be explained by the fact that this study is really the first research that has dealt with work teams with so low education levels and in such tough working environment as can be experienced in the shiprepair industry. The analysis has shown that all the 61 work teams and all but 6 employees out of the 192 individuals have rated themselves as cooperative, which might simply reflect that the respondents are reporting back to their indigenous Chinese values of *mianzi*, harmony and *guanxi*. This can be evidenced by the significant correlation results with collectivism, cooperation and team confidence, which might virtually mean that the collectivism,

cooperative goals and team confidence dynamics results are measuring aspects of Chinese cultural values operating within teams.

This study uses a Western developed Theory of Cooperation and Competition to explore and understand conflict management and relationships in the Hong Kong Chinese shiprepair environment. Researchers have argued that Chinese culture alters drastically the attitudes and interaction in conflicts, and question whether theories developed in North America apply to the Chinese work setting (Bond and Wang, 1983). Whilst the result shows the Western Theory of Cooperation and Competition might be used as an alternative to understand conflict management in the Hong Kong Chinese workplace, Chinese and Westerners cannot be assumed to deal with conflict similarly. How cooperative goals are developed to combat conflicts constructively might be quite different in a Hong Kong Chinese work setting than in the West. Indeed, it depends on the meaning given to goals or whether we identify goals in the same way – e.g. for the Westerners the goal is an outcome of the work while for the Chinese it can be how the work is done (i.e. it reflects Chinese values). The underlying conceptual structure of the theory appears to be similar, but how the theory is manifested in particular situations is often not (Tjosvold, Leung and Johnson, 2000). Even if the people from diverse culture have common goals, they are most likely to have different views of how they should manage conflicts (Kirkbride, Tang and Westwood, 1991). In particular, it challenges the concept that a research instrument derived from the West may be suitable to apply in a non-Western context. An important finding of this research is, however, that this Western derived theory might not be suitable to be applied in a work group of very low level of education and/or low exposure to the modern Western workplace practice and influence.

7.1.2 Towards a "Negotiated Reality"

Figure 7.1 shows three different models of organising (derived from Whiteley, 1995:61). Mental models 1 and 2 are models of *"prescribed reality"* demonstrating the two organisation practices based on the philosophical doctrines of Chinese cultural values of *guanxi* and relationship and Western concept of work relationships or Leader-Member Exchange (LMX): one controlled and one more benign. Mental model 3 is a model of "*negotiated reality*", prescribed to suit the present Hong Kong shiprepair yards Chinese work environment. Under mental model 3, Chinese concept of *guanxi* and Western concept of work relationship are overlaid to construct a synthesized third, unique, truly cross-cultural *"negotiated reality"*. The shiprepair yard managers shall act as "cultural interpreters" outwardly with the foreign shipping company external customers and inwardly as "facilitators" to train and assist the shiprepair yard employees to build up effective teamwork in the workplace for enhancing quality customer service in meeting Western expectation.

The shiprepair yard managers need to contribute to the management team the special information about impending crises, the need for change and future directions. Rather than communicating a new vision and then persuading or motivating the shipyard employees to accept it, managers need to design an organisation where the vision is created collectively and collaboratively. This might be very difficult and not be possible in the first formative stages of culture building. However, as the employees become more versed and educated in the issues, individuals and groups can input their values to build effective teams and enhance quality customer service.

"Towards a Negotiated Reality"

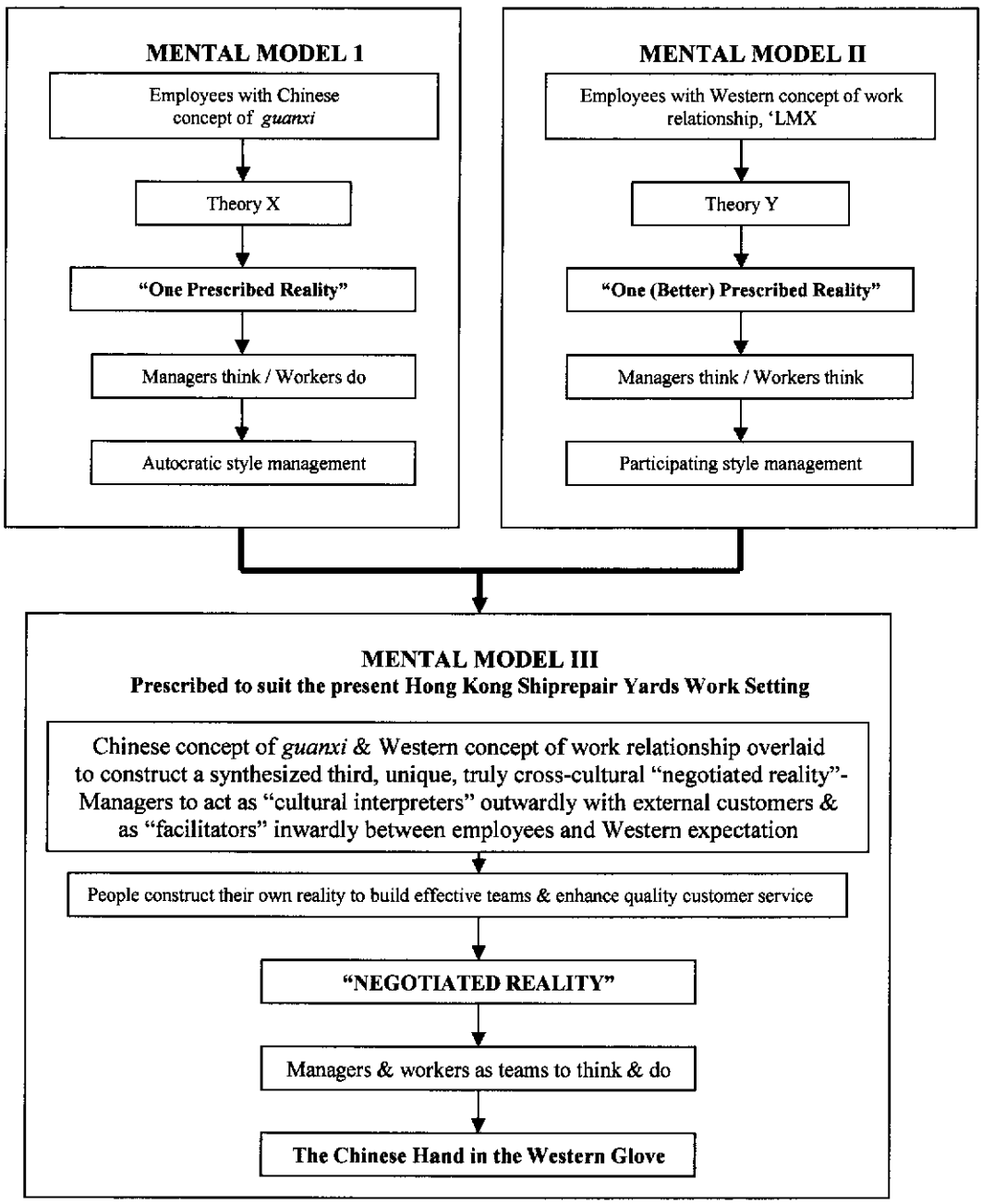


Figure 7.1 : Towards a "Negotiated Reality"- The Chinese Hand in the Western Glove

Adapted from Whitely (1995:61) based on 'You Inc.'- Limerick and Cunnigham (1993)

7.1.3 Introduction of a New Cross-cultural Organisation Model – The Chinese Hand in the Western Glove

In a recent article appearing in the Chinese newspaper of "Apple Daily" in Hong Kong, N. S. Cheung (2003), a well-known economist and a former Professor of Economics in the University of Hong Kong wrote: "Economist whilst diagnosing the organisation structure of a corporation may use either Western medical or Chinese medical methods. Western medical method normally feeds in large amount of economic data into the computer and using mathematical formulae and statistical regression analysis etc. to obtain direction for change. However, inferior Western trained medical doctors are in abundance and very often give wrong diagnosis. How about Chinese medical style of economist? Likewise, there are very few good Chinese doctors. However, an experienced versatile Chinese medical style of economist would very often use experience and intuition to survey the economical market and afterwards went home, lay in bed and soon would figure out what exactly is the problem". In the past 20 odd years, he admitted his basic economical direction is to "use Western rationale as foundation for analysis" and "use Chinese philosophical approach for administration". This is the new integrated Chinese and Western Economics.

There is no doubt that Western management theories are useful and some of it can be adapted in China. However, it would be naive to believe that by learning Western management theories, China will fully adopt capitalism, or solve all her problems. According to Garratt (1981), "what is transferred from the West is likely to be carefully selected, then redesigned and developed to suit specific Chinese needs rather than adopted wholesale to please Westerners and make them rich". In the end, Chinese managers will realize that they cannot depend solely on the West for the solutions to their problems. They must develop their indigenous management techniques, to seek

solutions, which eventually will prove to be useful, affordable and adaptable for their own problems.

The transition to a market economy and relatively relaxed political climate in China has produced the demand for Western management marketing system. However, the transfer of Western management to China is a complex and long-term task, which is subject to the influence of many factors, among which the cultural factor is the most important. Understanding the context, content and cultural constraints of the transfer process are of vital importance to the success of cross-cultural business management, which requires organisational culture and an underlying set of organisational practices that are acceptable to both Chinese and the Westerners.

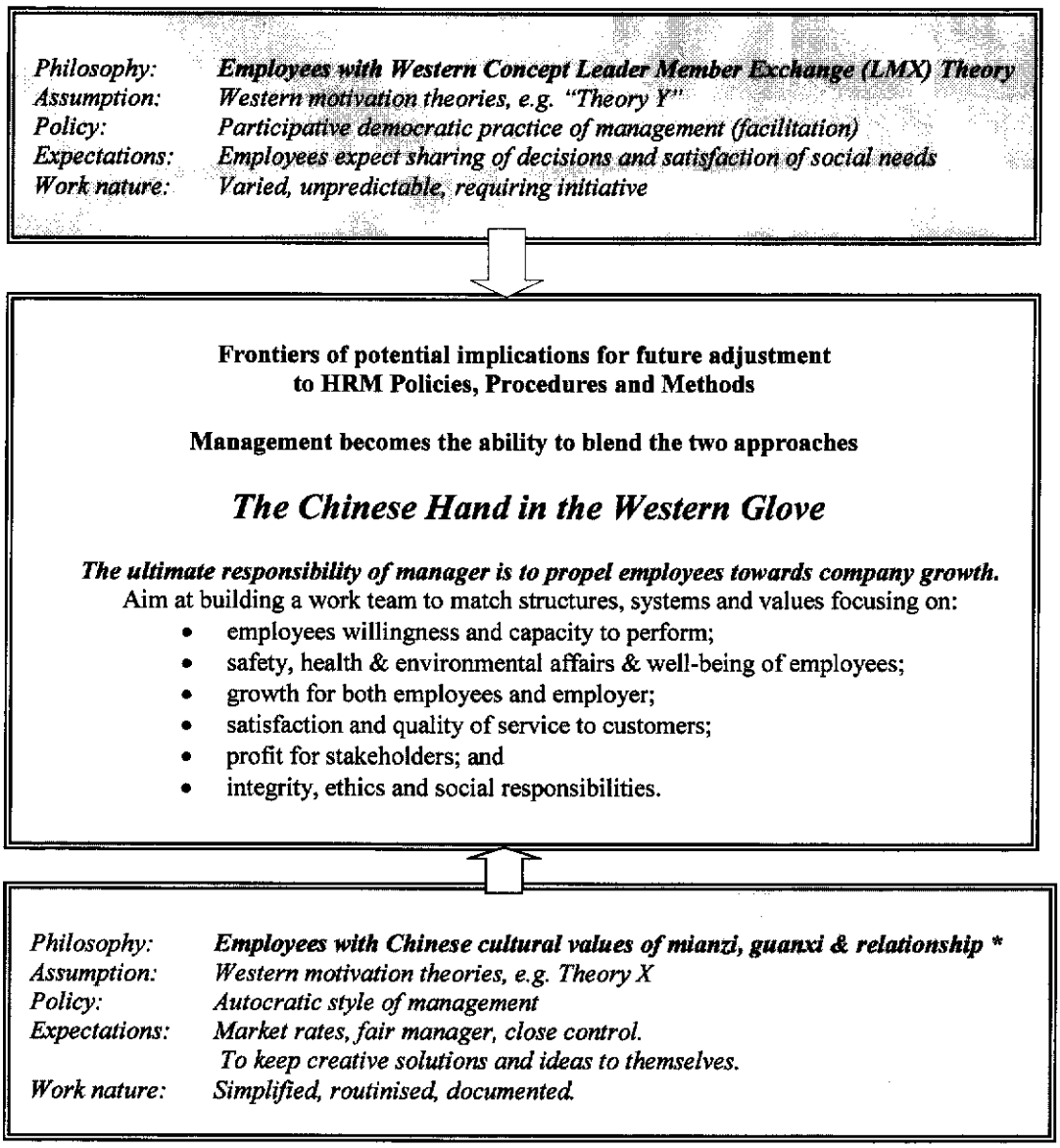
Guanxi in China, and work relationships in America, are constructs that have universal applications as well as culturally unique manifestations (Bond and Hwang, 1986). Because the Chinese concept of *guanxi* and the Westerners concept of work relationships or Leader-Member Exchange (LMX) are both constructs of fundamental importance to people, creating an integrated culture of *guanxi* and working relationships may be a key to successful business management between Chinese and Westerners (Hui and Graen, 1997). A period of learning is needed now so that shared understanding and mutual respect for each other can transcend business transactions. Perhaps, some of the relational capabilities possessed by the Chinese people could be built into business activities and practices.

It is important that the cultural negotiators should seek ways of showing respect for other dimensions of the two cultures in organisational procedures. Clearly, *guanxi* and LMX are different relationships, but cross-cultural business ventures in China involve both and thus must be dealt with constructively when China is developing her own indigenous theory and

Figure 7.2 : ***The Chinese Hand in the Western Glove - A suggested Model for Managers' Philosophy and Different Managerial Assumptions within the Hong Kong Business Environment***

Concept from Whiteley (1991:58) Managerial Assumptions and Job Design in S.F.Y.Tang & A.M. Whiteley (eds), Management Case Studies in Hong Kong, Hong Kong: Longman

Managers' Philosophies and Assumptions



* ***The Chinese cultural values would not assume that employees are lazy and irresponsible but that they should be fixed in their subordinate positions where it may be improper to 'correct' the supervisor or offer ideas and solutions. The effect on policy, expectations and practices might be similar to Western Theory X.***

practice by blending the best of both East and West. What is needed now is a new cross-cultural organizational Model (Figure 7.2) - "The Chinese Hand in the Western Glove" (Whiteley, 1991), where both sides contribute towards constructing a third, unique, truly cross-cultural reality, which has the cultural values and practices that are acceptable to the people of different cultural groups involved. In this Model, Westerners and Chinese are confident that they are able to manage their conflicts together.

The ultimate responsibility of the manager is to propel employees towards company growth. This would entail a change of mental model (Senge, 1990) or paradigm for the management to blend the two different cultural approaches in building a work team to match structures, systems and values focusing on the following:

- employees willingness and performance capacity of the team;
- safety, health and environmental affairs;
- growth for both employees and employers;
- satisfaction and quality of services to customers;
- profit for stakeholders; and
- integrity, ethics and social responsibilities.

7.1.4 Future of the Hong Kong Shiprepair Industry

From results of the demographic data collected, the shiprepair industry in Hong Kong is relying mainly at present on workers between 41 to 66 years of age (nearly 70% of the respondents), and is experienced difficulty in attracting young blood to join the trade. All of the employees are Chinese males and nearly all of them are married and have family burden. The

majority of them (over 70%) did not complete high school education, which shows the general low levels of education of the employees in this industry. The work teams consist mainly of general work groups, like 'Fitters', 'Steel Fabricators', 'Electricians', 'Riggers' and "Painters" etc., which indicates that there is a lack specialised work groups to cope with the new demands for modern equipment and technologies in the industry.

The shiprepair yard superintendents or managers interviewed by us are all Chinese by origin, average 44 years of age and all possess good working experience before being promoted to their present position. Their jobs are quite stable and secure. Consistent with the shipyard workers, generally low levels of education are evident. Nevertheless, they all can write and speak English fairly well, are well trained and exposed to modern workplace practice.

Average age for the shipping company superintendents or managers is 46 years. They are all male and being in responsible positions, all are mature and possess field experience. 63% of them are from Hong Kong and China mainly for the coastal vessels trading between Hong Kong and the coastal ports of China; the rest of them are foreigners, mainly from Europe and Japan. Their education is far better than the local shiprepair yards employees and their jobs are quite secure and stable.

During our survey at the shiprepair yards, apart from eliciting scaled responses from the shipyard employees, general discussions were held with the management with anecdotal notes taken. These served to add depth to the study conducted in the Hong Kong shiprepair industry. In order to maintain competitive edge in this sector of the industry, the following points should be

carefully considered by the local shiprepair yards whilst making future strategic planning:

- Since the mid-1990s, the Hong Kong shiprepair yards have faced a decline of business, and the number of shiprepair yards in this sector of the industry has gradually fallen from over forty to less than ten at the present.

- There is a general shortage of labour in the Hong Kong shiprepair industry. The survey findings reveal that the majority of the employees nowadays are between 41 to 66 years of age with a general low education level. This indicates that there is very little young blood to join the trade. The low level of education also confirms that majority of the workers should be within the 'old' age bracket, as the modern craftsmen or technicians in this sector of industry nowadays have to be fully trained by serving a modern 3-4 years apprenticeship scheme, which demands the young trainees to work in the shiprepair yards with attendance at a relevant part-time day release craft course, up to at least high school graduate technical school level. The shiprepair jobs would require also high technical skill with good physical strength to cope with the strenuous demands of work in a dirty environment over long and irregular hours. Therefore, there is not much incentive for the young high school graduates to join the trade.

- As witnessed from the results of the demographic data collected, the shiprepair industry in Hong Kong at present is relying on old skilled workers, average age 46. With very few young recruits to join the industry, shortage of labour will be a major problem faced by the Hong Kong shipreparing industry in the immediate future.

- In the shiprepair industry, the local labour cost greatly affects the cost of the repairs, as the labour cost will count for more the 60 per cent of total repair cost. During the present competitive and turbulent climate, every shiprepair yard is reducing their normal tariff in order to attract new customers or regain customers' loyalty. This is done mainly by enhancing management methods, introducing modern machines and equipment, reducing labour cost through out-sourcing or utilising cheap labour from neighbouring countries or districts. The shiprepair costs in Hong Kong nowadays are amongst the highest in Asia, mainly because there is a general shortage of labour in this sector of industry. This is primarily caused by the stringent policy of the Hong Kong SAR Government to deter the import of skilled labour from China, and lack of young recruits to join the trade.

- Apart from intervention to restrict the import of skilled labourers from China, the Hong Kong SAR Government also laid down a strict policy in restricting the water districts within the Hong Kong Harbour for permission to moor floating docks. This means apart from the only two major dockyards, Yiu Lian Dockyards Co. Ltd. and The Hongkong and Whampoa Dockyards Ltd., who already obtained the 'safe mooring permits' for their floating docks, there is practically no possibility for new comers to break in.

Owing to the favourable location and a good natural harbour, there should be still a demand in the future for the Hong Kong shiprepair industry due to the number of vessels calling regularly to Hong Kong. The local shiprepair yards still attract particularly owners of the specilised trade vessels such as container vessels and offshore drilling platforms or rigs from the South China

Oil Field. However, unless the Hong Kong SAR Government can change her policy in the immediate future to relax regulations for import of skilled labourers from China, allocate extra water districts to allow mooring of new floating docks, set up scholarships or grants in to attract young blood to join the trade and/or introduce new schemes to encourage and attract investment from local and foreign companies, we cannot envisage any future for the shiprepair industry in Hong Kong.

7.2 Limitations of the Study

This study examines the nature of teamwork for developing quality customer service within the Hong Kong shiprepair industry. Several caveats are in order. Results of this study are limited by the sample and operations. For instance, the researcher had to rely on the shiprepair yards to allocate the work teams and vessels undergoing repairs at their yards for survey, and the shiprepair yards might refrain from allowing the researcher to interview respondents from not so successful work teams. The results are more confidently generalised to Chinese employees in Hong Kong than from those in mainland China or other overseas Chinese. These data are also correlational and do not provide direct evidence of casual links between goal interdependence, interaction and effectiveness. Limitations of this study should be considered in the context of previous research that provides experimental support with behavioural measures.

The researcher has worked in the local shiprepair yards and shipping community for over 30 years and has good connection and relationship with all the ship repairers and shipping companies in Hong Kong. Hence, the

information obtained from the respondents might be subject to bias due to this "insider issue".

7.3 Recommendations

7.3.1 For the Hong Kong Shiprepair Industry

The shiprepair industry will have to take note of this study. For the industry to survive, the Hong Kong SAR Government has to relax existing regulations to allow import of skilled and qualified labourers/technicians/engineers from China and to grant more 'mooring permits' for safe mooring of additional floating docks. New incentive schemes have to be introduced in order to encourage and attract investment from local and foreign companies. Sufficient scholarships and grants should be set up by the Hong Kong SAR Government and the industry to attract young recruits to join the trades. Regular ongoing training courses on safety and modern work practice and techniques should be conducted for the shiprepair yard managers and employees.

7.3.2 Future Role of the Hong Kong Shiprepair Yard Managers to Bridge the Cultural and Communication Gaps

The shiprepair managers in the Hong Kong shiprepair industry should in future be handling the important twin roles to bridge the cultural and communication gaps outwardly with the foreign shipping company technical managers, and also inwardly between the shiprepair yard employees and Western expectations.

7.3.2.1 Outwardly with the Foreign Shipping Company Managers

Today's effective managers face an oncoming tide of change as their skills, or lack of them, become a competitive factor for success or failure in the global marketplace. Therefore, it is of vital importance that the shiprepair yards should make their managers aware of the priority of improving intercultural communication. The managers should be trained for sensitivity and knowledge about cultural differences and act as "cultural interpreters" for the shiprepair yards to communicate with the foreign shipping company technical managers. One of the important jobs for the "cultural interpreters" is to mediate when conflicts require negotiation and to whom shiprepair yard employees and foreign shipping company technical managers can look for explanation of misunderstandings. Attempting to change with the local shipyard employees and foreign external customers' thinking about how to achieve a solution may not be realistic, but at least the two sides can try to understand each other by adopting following steps:

- Select and train personnel, who are sensitive to and knowledgeable about cultural differences;

- Include not only initial, but continued, cross-cultural communication training on the list of management priorities;

- Conduct ongoing education programs, which would consist of several days of intensive awareness training and many hours of discussion of about specific situations that can spark conflicts and problems; and

- Cover other topics, which might include attitudes toward:
  - managerial communication styles;
  - time management;
  - conflict resolution;
  - productivity; and
  - cooperation.

Though the above measures will not close all cultural gaps, they should help make managers and employees more sensitive to the role such differences play in the day-to-day operation.

7.3.2.2 Inwardly between the Shiprepair Yard Employees and Western Expectations

Due to the low levels of education and lack of exposure to the Western modern work practice and influences, the Hong Kong Chinese shiprepair yard employees would naturally behave and reflect on Chinese cultural influence during work, which would very often upset the foreign external customers due to misunderstanding and lack of interpersonal communication.

To bridge the cultural and communication gaps, efforts should be focused on building up effective teamwork for quality customer service. Before this can be achieved, the important tasks for the management is to raise the general education levels of the employees and to train employees to build effective teamwork for enhancing quality customer service. Incentive schemes should be set up to attract young recruits to join the trade, which should include at least attractive remuneration, social benefits and prospect for promotion. Scholarships and grants should be set up in collaboration with Government,

shipping companies and shiprepair yards to recruit high school graduates to take up the related craftsmanship, technician and/or engineers courses in marine engineering, shipbuilding or naval architecture. The management should organise regular on-going training courses for upgrading employees to meet future challenges on industrial safety management regulations and shipping company's demand for quality service. However, training of young recruits will need several years to reap result. As an intermediate measure, efforts should be made with the Hong Kong SAR Government to relax existing regulation to allow import of skilled and qualified craftsmen/technicians/engineers from China to temporarily solve the problem of the present shortage of labour in the Hong Kong shiprepair industry.

Developing countries and regions on the Asia Pacific rim like China and Hong Kong should take advantage of the Western learning at an accelerated pace (Krugman, 1994). Employees with good potential should be sent abroad to manufacturers of marine machineries and equipment for training and familiarisation courses to gain first hand knowledge of the modern workshop practices and exposure to Western influences. These new breed of young shiprepair yard technicians/engineers when fully trained and exposed to Western influences should in future be often persuaded in the light of later experience back home to reconcile their Western training with indigenous Chinese techniques.

The shiprepair yard managers should, therefore, in future also take up the vital role inwardly as "facilitators" to train and assist the employees to build up effective teamwork in the workplace for enhancing quality customer service to meet Western expectation.

7.4 Future Research

Although this study suggests the utility of cooperative conflict approach in the Hong Kong Chinese work setting, more research is needed on how Chinese values of collectivism, power distance, conformity, harmony, *mianzi* (face) and *guanxi* (relationship) as well as their aggressive behaviour during negotiation etc. and settings have an impact on the underlying dynamics of cooperation and goal interdependence. It is, therefore, recommended that research is needed to develop further knowledge with regard to the critical ways the theory is operationalised. A future challenge is to develop understanding and methods so that Chinese people and Westerners can together confront their difference directly and discuss issued open-mindedly.

The result of this study also challenges the view that a Western derived theory can translate directly to the Chinese work setting. No doubt, the Western management theories are useful and some of it, if appropriately modified to suit the Chinese work setting can be applied in China. However, not much work so far has been done in using studies in China to modify the theory.

This study does suggest that the research instruments developed in the West cannot be translated directly for a traditional Chinese work group with very low levels of education; more research should be done to investigate this issue.

The customer ratings for the Hong Kong shiprepair yards are clustered rather closely together, which makes statistical comparison of service quality difficult. Extending the study to shiprepair yards in China in future should increase diversity and give more useful comparison.

The result shows that the workers in all the teams of this study were having homogeneous characteristics and delivering more or less the same level of customer ratings. Apart from Chinese culture and the low educational level mentioned, there could be other reasons leading to the homogeneity of the working teams. The high cooperative measure shared by almost all workers could be the workers had been working together for a long time so that they influenced each other and the non-conformers had left. In particular, why workers holding the traditional Chinese values (high scores on collectivism and power distance) were yet having a high constructive controversy score should be addressed. Could it be due to the long-term service of the workers and the managers such that they were very familiar with each other? Could it be the management style of the manager or other reasons? Other issues such as the interaction of the teams of Chinese traditional workers with more sophisticated and educated supervisors, interaction on teams over time, interaction between teams, and impact of technological change on the theory should deserve serious attention. In this study, it has been recommended that the shiprepair managers should in future be handling the import twin roles to bridge the cultural and communication gaps outwardly with foreign shipping company technical managers and inwardly between the shiprepair yard employees and Western expectation. In order to address these issues and to accomplish the goal towards a "Negotiated Reality" – "The Chinese Hand in the Western Glove" as described in Figure 7.1 on page 209, it is suggested that some qualitative analysis in the form of a brainstorming focus group study should be performed in the future. For each shiprepair yard, the focus group may be made up of say 2 team members from 4 different work teams, 2 shiprepair yard managers and 2 managers from shipping companies who are regular customers of the shipyard, thus making a total of 12 persons in each focus group with the researcher as the moderator. The goal of the brainstorming focus group is to draw out ideas, feelings, and experiences

about a certain issue that would be obscured or stifled by more structured methods of data collection. According to Burns and Bush (2000:237), the use of a small group allows the operation of group dynamics and aids in making the participants feel comfortable in a strange environment. It is called a "focus" group because the moderator serves to focus the discussion on the topic and does not let the group move off onto tangents or irrelevant points.

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Appendix 3.1

Some Field Studies for Organisations in China and Hong Kong by Tjosvold et al. in recent years

Appendix 3.1 : Some Field Studies for Organisations in China and Hong Kong by Tjosvold et al. in recent years

I. Field Studies on Teamwork and Quality Service

Researchers	Title of the Study	Setting
1) **Tjosvold, Moy & Sasaki (1996)**	Managing for Customers and Employees in Hong Kong: The Quality and Teamwork Challenges	Restaurants employees in Hong Kong

Results: Cooperative, open-minded discussions of service problems helped restaurant employees work together to serve their customers.

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2) **Tjosvold & Wang (1998)**	Cooperatives & Constructive Controversy in Work Teams in China: Antecedents for Performance	Work teams (39 groups and their supervisors) in Hanzhou, China

Results: Constructive discussion of opposing teams promoted quality and cost reduction. These discussions were more likely with cooperative than competitive goals.

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3) **Tjosvold, Hui Ding, & Hu (1998)**	Conflict Values and Team Relationships: Conflict's Contribution to Team Effectiveness and Citizenship	106 pairs of employees and leaders from State Owned Enterprises in Shanghai and Nanjing in China

Results: Employees described their conflict attitudes and relations; immediate supervisors rated team effectiveness and citizenship. Teams that believed conflict was positive were able to work together more effectively and developed stronger relationship. These relationships in turn laid the foundation for team effectiveness and employee citizenship.

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4) **Tjosvoid, Sasaki and Moy (1998)**	Developing Commitment Japanese Organisations in Kong: Interdependence Interaction, Relationship and Productivity	Chinese staff with Japanese Managers in Japanese Companies in Hong Kong

Results: Cooperative, constructive controversy interactions were found critical for Chinese staff to work productively and develop relationships with Japanese managers; outcomes that in turn built commitment to their Japanese companies.

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5) **Tjosvold, Cho, Park, Liu, Liu & Sasaki (1998)**	Interdependence & Managing Conflict with Sub-Contractors in the Construction Industry in East China	Building Contractors and their Sub-contractors in Hong Kong, Korea, Taiwan and Japan.

Results: Cooperative conflict but not competitive or avoiding conflict helped Hong Kong, Korean, Taiwanese, and Japanese building contractors work successfully with their sub-contractors.

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6) **Wong, Tjosvold, Wong & Liu (1999)**	Relationships for Quality Improvement in the Hong Kong-China Supply Chain: A Study in the Theory of Cooperation and Competition	Manufacturing managers in Hong Kong with their suppliers in mainland China

Results: Manufacturing managers in Hong Kong who handled conflict cooperatively used their frustrations with suppliers in mainland China to improve product quality.

II. Field Studies on Leadership

Researchers	Title of the Study	Setting
7) **Tjosvold, Hui, & Law (1998)**	Empowerment in the Leadership Relationship in Hong Kong: Interdependence & Controversy	89 Hong Kong leaders and employees

Results: An open-minded discussion of opposing views between leaders and employees were found to be highly crucial, resulting in productive work, strong work relationships, experiencing the leader as democratic, and believing that both the leader and employees are powerful.

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8) **Tjosvold & Moy (1998)**	Managing Employees in China from Hong Kong: Interaction, Relationships and Productivity as Antecedents to Motivation	Senior accounting managers in Hong Kong with employees working in mainland China

Results: Hong Kong senior accounting managers were found to be able to lead employees working in the mainland China when they had cooperative goals, not competitive or independent. Then they were able to discuss their views open-mindedly that led to stronger relationships and productivity, consequences that in turn induced future internal motivation.

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9) **Law, Hui and Tjosvold (1998)**	Relational Approach to Understanding Conflict Management: Integrating the Theory of Cooperation and Competition, Leader-Member Relationship, and In-role & Extra-role Performance	170 supervisors-subordinate dyads in a watch case manufacture factory in southern China

Results: Strong cooperative goals were found to be critical for high quality leader relationship, and this relationship in turn led to employees being good orgnisational citizens.

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10) Hui, Tjosvold, & Ding (1998)	Organisational Justice and Citizenship Behaviour in China: Goal Interdependence as Mediator	Teams (106 pairs of employees & their leaders) from State Owned Enterprises in Shanghai and Nanjing, China

Results: Results supported the model that a strong sense of justice promotes cooperative goals, but not competitive or independent ones, which led to constructive controversy and in turn resulted in job performance and citizenship behaviour.

III. Field Studies on Positive Power

Researchers	Title of the Study	Setting
11) Tjosvold & Sun (1998a)	Faces of Power in China: Effects of Social Contexts on use of Managerial Power	80 undergraduates recruited from a University in Guangzhou, China to participate on a study on communication in decision making

Results: Supports the reasoning that high compared to low power provides the capacity to assist employees and cooperative goals very much contributes to managers' trusting, and empowerment of employees as well as providing concrete assistance.

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12) Tjosvold & Sun (1998b)	Openness among Chinese in Conflict: Effects of Direct Discussion and Warmth on Integrated Decision Making	Follow-up experiment to above.

Results: The follow-up experiment also found that the use of power depended upon goal interdependence. High power managers were more willing to use their resources to support and empower employees with cooperative than competitive or independent goals.

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13) Poon, Tjosvold & Pike (1998)	Budget Participation in Hong Kong: Goal Interdependence and Controversy as Contributors to Budget Quality	149 managers of budget teams in a public utility in Hong Kong

Results: Results indicated that to the extent team members had power, they managed their conflicts cooperatively which resulted in high quality budgets.

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14) Tjosvold, Coleman & Sun (1999)	Effects of Power Concepts on Using Power to Affect Performance in China	Follow-up experiment to above.

Results: This follow-up experiment indicated the traditional idea power is limited so that if the leader has more and the employee has less leads managers to develop a competitive relationship and withhold their resources from employees. In contrast, believing that power is expandable fostered cooperative goals and providing useful assistance, especially when employees lacked the ability rather than the motivation to perform well.

Appendix 5.1

Some Letters from Shiprepair Yards in Hong Kong Supporting this Study:

1. Yiu Lian Dockyards Limited
2. Hongkong United Dockyards Limited
3. Wang Tak Engineering & Shipbuilding Co., Ltd.
4. Chu Kong Group Shipyard Co., Ltd.

RECEIVED 12 OCT 2000

友聯船廠有限公司
YIU LIAN DOCKYARDS LIMITED
電傳(TELEX NO.): 34647 YLDHX HX
傳真(FAX): (852) 2436 0712 電郵(EMAIL): dptygm@yiulian.com.hk
香港新界青衣島
西草灣路1-7號
No.1-7, SAI TAO WAN ROAD,
TSING YI ISLAND,
N.T. HONG KONG
總機(TEL): (852) 2436 7800

Our Ref. No. M/mis/200010 Hong Kong, Date October 11, 2000

Your Ref. No.

Peter Y. C. Ng & Co., Ltd.

6th Floor, Golden Star Building,
20 – 24 Lockhart Road,
Wanchai,
Hong Kong

For the attention of Mr. Peter Y. C. Ng

Research in preparation of doctoral thesis

I am replying to your inquiry of October 5 and welcome the opportunity to support your application for conducting a research within our Tsing Yi yard in preparation of your doctoral thesis.

Your faithfully,

友聯船廠有限公司
YIU LIAN DOCKYARDS LIMITED

Deputy General Manager

P. Y. Li
Deputy General Manager

Hongkong United Dockyards Ltd

HUD

TYTL 108, Sai Tso Wan Road,
Tsing Yi Island, N.T.,
Hong Kong.
Web Site: http://www.hud.com.hk

Tel : (852) 2431 2828
Fax: (852) 2433 0180
Telex : 43547 HUDHK
E-Mail: marine@hud.com

Our Ref. No : MCM-CO-001142

12nd October, 2000

Mr. Peter Y. C. Ng
c/o Peter Y. C. Ng & Co., Ltd.
6/F Golden Star Building
20-26 Lockhart Road
Wanchai
Hong Kong

Dear Peter,

"CO-OPERATIVE TEAMWORK FOR QUALITY CUSTOMER SERVICE IN THE HONG KONG SHIPREPAIR YARDS ENVIRONMENT" – QUESTIONNAIRE

We refer to your letter dated 9th October 2000 and subsequent teleconversation on captioned subject.

Our company has no objection for you to carry out the questionnaire survey for your research.

Please advise us the proposed dates for this survey when known so that we can make the necessary arrangements.

Yours sincerely
Hongkong United Dockyards Limited

Simson S. K. Lee
Marine Commercial Manager

SKL/fl

WANG TAK ENGINEERING & SHIPBUILDING CO., LTD.
宏德機器鐵工廠有限公司
Wang Tak Building, 85 Hing Wah Street West, Lai Chi Kok, Kowloon, Hong Kong
香港九龍荔枝角興華街西85號宏德大廈
Telephone (電話) : (852) 2746 2888 Facsimile (傳真) : (852) 2307 5500 E-mail (電子郵件) : wangtak@pacific.net.hk
Telex (電傳) : 43133 WANGE HX Cable (電報) : WANGENGINE HONG KONG

Our ref : MC/00/136/001

13th October 2000

Mr. Peter Ng
6/F Golden Star Building
20-24 Lockhart Road
Hong Kong

Dear Mr. Ng,

Re : Research Survey

In response to your request dated 04/OCT/00, for the participation of our company within your research project, for "Cooperative Teamwork for Quality Customer Service in the Hong Kong Shiprepairing Yards Environment", we will be delighted to offer our assistance on this matter. Please contact the undersigned for coordination of attendance in survey.

Look forward to receive your notice to participate.

Yours faithfully,
For and on behalf of
WANG TAK ENGINEERING & SHIPBUILDING CO., LTD.

Feat Szeto
Director

FS/hc

CKS 珠江集團船廠有限公司
Chu Kong Group Shipyard Co., Ltd.

Chu Kong Group Shipyard Building,
93 Hing Wah Street West, Lai Chi Kok, Kln., H. K.
Tel : (852) 2815 0333 Fax: (852) 2815 2188
E-mail: admin@ybckgs.com.hk

香港九龍荔枝角興華街西93號
珠江集團船廠大廈
電話：(852) 2815 0333 傳真：(852) 2815 2188
電子郵件: admin@yhckgs.com.hk

25th October 2000

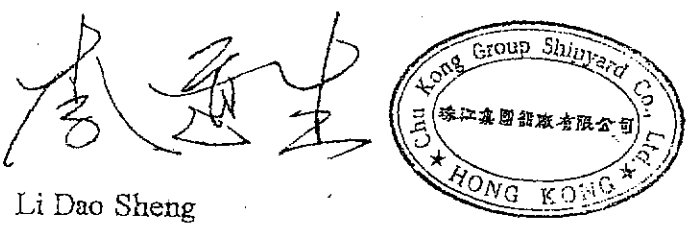
Mr. Peter Y.C. Ng
c/o Peter Y.C. Ng & Co., Ltd.
6/F Golden Star Building
20-26 Lockhart Road
Wanchai, Hong Kong

Dear Mr. Ng

Re: Research Study on Working in Hong Kong Shiprepair Yards

We refer to our teleconversation on above, and would like to confirm that our company will support the proposed research study to be carried out in our repair yard. Kindly contact the undersigned for coordination and arrangement for your survey in due course.

Yours faithfully
CHU KONG GROUP SHIPYARD CO., LTD.



Li Dao Sheng
Director & Deputy General Manager

Appendix 5.2

Definition of Trade Divisions in the Shiprepairing Industry as Defined by Vocational Training Council of Hong Kong in the 1996 Manpower Survey Report for:

1. Shiprepair Technical Employees

2. Shipyard Repairs Managers/Superintendents and

3. Shipping Company and Offshore Engineering Company Technical Managers/Superintendents

1. **Trade Divisions of Technical Employees in the Shiprepairing Industry** as defined in the 1996 Manpower Survey Report published by the Hong Kong Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council (1996:74-77):

Fitter :	Fits, assembles, erects, services, repairs and tests plant and machinery on board or in workshop.
Electrician :	Tests, overhauls and installs electrical plant and equipment, and wiring for power and lighting.
Machinist :	Sets up and operates machine tools, and machines parts to drawings and specifications.
Steel Fabricator : (Boiler Makers/ Steel Platers/ Riveters/Caulkers/ Blacksmith)	Carries out the fabrication and erection of steel structures on marine crafts
Marine pipeworker:	Fabricates, assembles, installs, maintains and repairing piping systems on board ships.
Joiners :	Carries out all joinery work in accommodation of ships including furniture, bulkhead linings and ceilings.

Air-conditioning Mechanics:	Fits, assembles, erects, installs, commissions, services, operates, maintains and repairs air-conditioning plant fitted on-board ships.
Welder :	Performs cutting of ferrous metals, joining and depositing of ferrous and non-ferrous metal by means of welding with an electric arc, an oxy-acetylene or oxy-butane flame.
Painter :	Undertakes surface preparation and painting works on ship.
Rigger :	Responsible for the rigging of ship's derricks, mass, lifeboat davits, staging and other rope work.

2. **Shipyard Repairs Managers/Superintendents** as defined in the 1996 Manpower Survey Report published by the Hong Kong Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council (1996:72):

Shipyard Repairs Manager or Superintendent :	Organises and directs the building, repairs and maintenance: discusses and negotiates with Owners' representatives on design, technical, cost and related matters.

3. **Shipping Company and Offshore Engineering Company Technical Managers or Superintendents** as defined in the 1996 Manpower Survey Report published by the Hong Kong Shipbuilding, Shiprepair and Offshore Engineering Industry Training Board of the Vocational Training Council (1996:72):

Shipping & Offshore Engineering Company Technical Manager or Superintendent :	Organises and directs the building, repair and maintenance of ships and offshore structures; acts as company consultant on design, technical, cost and related matters.

Appendix 5.3

Research Questionnaires

1. Questionnaire I - for shiprepair yard technical workers (pages 283-288)

2. Questionnaire II - for internal customers (pages 289 – 290)

3. Questionnaire III - for external customers (pages 291 – 292)

Code No.: _____

QUESTIONNAIRE I 問卷一

A Study on Working in Hong Kong Shiprepair Yards
香港修船業工作研究

Curtin University of Technology, Perth, Western Australia
西澳大利亞州珀斯市科廷科技大學
and 和
Lingnan University, Hong Kong
香港嶺南大學

INSTRUCTIONS 說明

This survey is concerned with how you and your co-workers work together in Hong Kong shiprepair yards. This Questionnaire I is to be completed by the group members and supervisor within a specific work group classified by trade disciplines such as "Steel fabricators", "Fitters", "Electrician" etc.
本研究旨在了解您和您的香港修船業小組成員如何一起工作。問卷一須由修船廠的每一獨立行業，例如 "鐵工"、"機工"、"電工" 等小組成員和組長作答。

Choose your answers based on your thoughts about how you work with your co-workers on this particular shiprepair work. Please read through each question and circle a number from "1" to "5" that indicates how well it describes your relationship with your co-workers. There are no right or wrong answers. Simply respond based on your experience.
對於此次修船工程，請就您本人與其他小組成員的工作關係作答。請在細閱每條問題後，從 "1" 至 "5" 圈出一個數字，以便最貼切地描述您和其他所屬小組成員的工作關係。答案不存在對或錯，請根據您的經驗來應答。

Use the following scale to record your answers (please try not to rely on "3" as your answer):
請用下列的量表去表達您對以下每題的同意程度 (請盡可能避免挑選 "3" 作答):

1.	Strongly disagree	極之不同意
2.	Disagree	不同意
3.	Neither agree nor disagree	中立
4.	Agree	同意
5.	Strongly agree	極之同意

Example: 舉例:

B3. Group members seek compatible goals. 1 2 3 4 (5)
本小組成員尋求兼容的目標。

Explanation 解釋:

If you circle "5", this represents you strongly agree that group members seek compatible goals.
如你圈出 "5"，即代表您極之同意本小組成員尋求兼容的目標。

PART I : WORK GROUP 第一部份：工作小組

A. ATTITUDES TOWARDS YOUR WORK GROUP
您對工作小組成員的態度

The following questions ask you how you respond to your work group co-workers.
就下列問題，請根據您對工作小組成員的反應作答。

		極之不同意 Strongly Disagree				極之同意 Strongly Agree
A1.	The way I relate to my group members inspires me to a better job performance. 我與小組成員的關係激勵我把工作做得更好。	1	2	3	4	5
A2.	The way I relate to my group members makes me want to stay in my job. 我與小組成員的關係使我願意繼續幹下去。	1	2	3	4	5
A3.	I have a high degree of trust in my group members' job competence. 我高度信任本小組成員的工作能力。	1	2	3	4	5
A4.	I have a high degree of trust in my group members' motives and intentions. 我高度信任本小組成員的動機和意圖。	1	2	3	4	5
A5.	I have a high degree of trust in my group members' interpersonal competence. 我高度信任本小組成員的人際能力。	1	2	3	4	5

B. RELATIONS IN YOUR WORK GROUP
工作小組成員之間的關係情況

The following questions ask you how you and your co-workers in your work group relate to each other.
就下列問題，請根據您和您的工作小組成員之間的關係作答。

B1.	Group members help me to find ways to achieve my objectives. 本小組成員幫助我達到我的目的。	1	2	3	4	5
B2.	Group members 'swim or sink together'. 本小組成員同舟共濟。	1	2	3	4	5
B3.	Group members seek compatible goals. 本小組成員尋求兼容的目標。	1	2	3	4	5
B4.	The goals of group members go together. 本小組成員目標一致。	1	2	3	4	5
B5.	When my group members work together, we usually have common goals. 當本小組成員一起工作時，彼此有共同目標。	1	2	3	4	5

	極之不同意 Strongly Disagree				極之同意 Strongly Agree
B6. Group members have a 'win-lose' relationship. 本小組成員之間存在您勝我負的對立關係。	1	2	3	4	5
B7. Group members like to show that they are superior to each other. 本小組成員喜歡顯示出他們較小組其他成員優勝。	1	2	3	4	5
B8. Group members' goals are incompatible with each other. 本小組成員的目標互相衝突。	1	2	3	4	5
B9. What helps my group members, gets in my way. 凡是有助本小組成員的事情都會妨礙我達到目標。	1	2	3	4	5
B10. Group members give high priority to the things they want to accomplish and low priority to the things other group members want to accomplish. 本小組成員看重自己的目標，多過小組其他成員的目標。	1	2	3	4	5
B11. My group members do not know what I want to accomplish. 我的小組成員不了解我要達到的目標。	1	2	3	4	5
B12. Each group member 'does his or her own thing'. 小組每個成員各行其事。	1	2	3	4	5
B13. Group members work for their own independent goals. 本小組成員各自為獨立的目標而工作。	1	2	3	4	5
B14. One group member's success is unrelated to others success. 任何一個小組成員成功與否，對其它成員毫無影響。	1	2	3	4	5
B15. Group members like to get their rewards through their own individual work. 本小組成員喜歡憑著自己的獨立工作得到獎賞。	1	2	3	4	5
B16. Group members are most concerned about what they accomplish when working by themselves. 本小組成員至為關注他們獨立完成的事情。	1	2	3	4	5

C. DISCUSSION AMONG CO-WORKERS
小組成員如何協商

The following questions ask you about how your group members communicate with each other as you discuss issues and problems.
就下列問題，請根據您與工作小組成員在討論問題時如何溝通作答。

C1. We seek a solution favourable and acceptable to all group members. 我們尋求一個有利並為各小組成員接受的方案。	1	2	3	4	5

C2.	Group members express their own views directly to each other. 本小組成員之間可以直抒己見。	1	2	3	4	5
C3.	We listen carefully to each other's opinions. 本小組成員都仔細聆聽大家的意見。	1	2	3	4	5
		極之不同意 **Strongly Disagree**				極之同意 **Strongly Agree**
C4.	Group members try to understand each other's concerns. 本小組成員嘗試理解大家的關注。	1	2	3	4	5
C5.	Group members try to use each other's ideas. 本小組成員嘗試採用對方的想法。	1	2	3	4	5
C6.	Even when we disagree, we communicate respect for each other. 即使有不同的意見，我們也會表達互相間的尊重。	1	2	3	4	5
C7.	We work for decisions we both accept. 我們作出大家都能接受的決定。	1	2	3	4	5
C8.	All views are listened to, even if they are in the minority. 我們聽取各種不同的意見，包括少數人的意見。	1	2	3	4	5
C9.	We use our opposing views to understand the problem. 我們用與自己相對立的觀點理解問題。	1	2	3	4	5

PART 2 : GENERAL ATTITUDES 第二部份：一般態度

D. The following questions do not pertain your work group. We want you to indicate your general attitudes and values towards leadership and group.
下列問題與您的工作小組無關，我們想您對領導及小組的一般態度和價值觀作表態。

D1.	The leader is like the head of a household. Employees should obey his or her decisions on all matters. 領導等於是大家長，無論任何事員工都應聽從他的決定。	1	2	3	4	5
D2.	The best way to avoid mistakes is to follow the instructions of the leader. 要避免發生錯誤，最好的辦法是聽從領導的指示。	1	2	3	4	5
D3.	When employees are in dispute, they should ask the leader to decide who is right. 如果員工因事爭執不下，應請領導主持公道。	1	2	3	4	5
D4.	Those who are respected by the leader should be respected by his or her employees. 領導敬愛的人，其他員工也應敬愛。	1	2	3	4	5

D5.	If the leader makes a mistake, employees can argue with him by reason. 領導犯了錯，其他員工可以據理力爭。	1	2	3	4	5
D6.	If employees believe that what they think is reasonable, they should insist even if their leader disagrees. 員工如果覺得自己的想法合理，即使領導反對，也應據理力爭。	1	2	3	4	5

		極之不同意 **Strongly Disagree**				極之同意 **Strongly Agree**
D7.	Members of a group usually sacrifice their self-interest for benefit of the group. 小組成員通常為小組利益而犧牲個人利益。	1	2	3	4	5
D8.	It is important for members of a group that they respect decisions made by the group. 小組成員應尊重小組作出的決定。	1	2	3	4	5
D9.	Members of a group feel they should stick together, no matter what sacrifices are required. 小組成員應不惜任何犧牲，團結一起。	1	2	3	4	5
D10.	Members of a group take care of each other, even when they may have to sacrifice what they want. 小組成員應互相照應，甚至不惜犧牲個人利益。	1	2	3	4	5
D11.	Members of a group respect the majority's wishes. 小組成員應尊重大多數人的意願。	1	2	3	4	5
D12.	Members of a group are ready to follow willingly other members' decision, even if they do not agree. 即使不同意，小組成員亦會願意跟隨小組其他成員的決定。	1	2	3	4	5
D13.	Keeping dissatisfaction to themselves, members of a group pretend to have reached an agreement with the other members. 小組成員會私下壓抑了不滿，假裝和其他成員達成協議。	1	2	3	4	5
D14.	Members of a group prepare themselves to tackle the problems which the other members' decision might bring about. 小組成員自己準備解決由小組其他成員的決定所帶來的難題。	1	2	3	4	5

E. Background Information
背景資料

The following questions are about your position and background information. Your information will be held completely confidential and used together with information from other team members on group analysis for academic purposes only. Please tick the appropriate column and/or fill in the information.
請提供有關您的職位及背景資料。您的資料僅供學術研究，並且只會和其他它小組成員之資料一齊作整體分析。我們對您提供的任何資料絕對保密，請放心在適當的地方打勾或填答。

Personal Information : 個人資料：

E1. Gender: 性別 Male 男 ____ (1) Female 女 ____ (2)

E2. Age: 年齡 _____ years 歲 **E3.** Place of birth: 出生地點 _____

E4. Nationality: 國籍 _____ **E5.** Race: 種族 _____

E6. Marital status: 婚姻狀況

Single 未婚 ____ (1) Married 已婚 ____ (2) Divorced 離婚 ____ (3)

E7. Education: 教育程度 (please choose one) (請選一)

Below high school 高中以下 ____ (1) High school graduate 高中畢業 ____ (2)

University graduate 大學畢業 ____ (3)

E8. Your position: 職位

Group member 小組成員 ____ (1) Supervisor 小組長 ____ (2)

E9. How long have you worked for this shiprepair yard? _____ years 年
請問您在此船廠工作了多久?

E10. Which shiprepair group do you belong to? _____
您隸屬於那個修船小組?

E11. What type of shiprepair has been carried out? _____
本次修船您從事哪類修理工程?

E12. What is the size of your group?
您的小組有多少人? _____ persons 人

E13. How long have you worked in this position? _____ years 年
您在現時的職位有多久?

E14. How many times have you been promoted in this organisation? _____ times 次
您加入此船廠後晉升了多少次?

END OF QUESTIONNAIRE I
WE ARE GRATEFUL FOR YOUR PARTICIPATION
問卷一完成， 我們非常感激您的參與。

Code No.: _____

QUESTIONNAIRE II 問卷二

A Study on Working in Hong Kong Shiprepair Yards
香港修船業工作研究

Curtin University of Technology, Perth, Western Australia
西澳大利亞州珀斯市科廷科技大學
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INSTRUCTIONS 說明

This survey is concerned with how you as shiprepair yard repair manager or superintendent rate the quality of service provided by each independent shiprepair group such as "Steel fabricators", "Fitters", "Electrician" etc. in Hong Kong shiprepair yards.
本研究旨在了解您本人作為香港修船廠修船經理或總管對香港修船業小組服務質量所作的評估。此修船業小組可從修船廠的每一獨立行業，例如 "鐵工"，"機工"，"電工" 等修船工種選出。

Please read through each question and circle a number from "1" to "5" that indicates how well it rates the quality of service provided by this independent shiprepair group to this particular shiprepair work. There are no right or wrong answers. Simply respond based on your experience.
請在細閱每條題目後，從 "1" 至 "5"圈出一個數字，以便最貼切地描述您對此香港修船業小組這次修船工程服務質量所作的評估。答案不存在對或錯，請根據您的經驗來應答。

Use the following scale to record your answers (please try not to rely on "3" as your answer):
請用下列的量表去表達您對以下每題的同意程度 (請盡可能避免挑選 "3" 作答)。

1.	Strongly disagree	極之不同意
2.	Disagree	不同意
3.	Neither agree nor disagree	中立
4.	Agree	同意
5.	Strongly agree	極之同意

Example 舉例:

A1. Group members work effectively. 1 2 3 (4) 5
小組成員工作效率高。

Explanation 解釋:

If you circle "4", this represents you agree that group members work effectively.
如你圈出"4", 即代表您同意小組成員工作效率高。

A. Internal Customer's Rating of Quality Service for this particular shiprepair work by Shiprepair Yard Repair Manager or Superintendent
修船廠修船經理或總管對這次修船工程服務質量作內部僱客評估

	極之 Strongly 不同意 Disagree				極之 Strongly 同意 Agree
A1. Group members work effectively. 小組成員工作效率高。	1	2	3	4	5
A2. Group members put considerable effort into their jobs. 小組成員相當努力工作。	1	2	3	4	5
A3. Group members are committed to producing quality work. 小組成員致力從事高質量工作。	1	2	3	4	5
A4. Group members do their part to ensure that their repair work will be delivered in time. 小組成員確保獲分派的工作依工期完成。	1	2	3	4	5
A5. Group members carry out repair work satisfying the Surveyors' requirements of vessel's Classification Society and Administration (Flag State). 小組成員完成的修船工程能滿足船級社和船旗國驗船師的要求。	1	2	3	4	5
A6. Group members do not have to carry out remedial work as demanded by external customers due to poor quality workmanship. 小組成員的工作沒有因質量問題而要按外部僱客的要求作出補救。	1	2	3	4	5

B. Personal Information: 個人資料

B1. Your gender: 性別 Male 男 _____ (1) Female 女 _____ (2)

B2. Your age: 年齡 _____ years 歲 **B3.** Place of birth: 出生地點 _____

B4. Nationality: 國籍 _____ **B5.** Race: 種族 _____

B6. Education: 教育程度 (please choose one) (請選一)

Below high school 高中以下 ____ (1) High school graduate 高中畢業 ____ (2) University graduate or above 大學畢業或以上 ____ (3)

B7. Your position: 職位

Shiprepair yard repair manager 修船廠修船經理 ____ (1) Shiprepair yard repair superintendent 修船廠修船總管 ____ (2)

B8. How long have you worked in this field? _____ years 年
你從事了這樣的工作多久?

END OF QUESTIONNAIRE II
WE ARE GRATEFUL FOR YOUR PARTICIPATION
問卷二完成，我們非常感謝您的參與。

Code No.: _____

QUESTIONNAIRE III 問卷三

A Study on Working in Hong Kong Shiprepair Yards
香港修船業工作研究

Curtin University of Technology, Perth, Western Australia
西澳大利亞州珀斯市科廷科技大學
and 和
Lingnan University, Hong Kong
香港嶺南大學

INSTRUCTIONS 說明

This survey is concerned with how you as external client's technical personnel in charge of this particular shiprepair work, i.e. shipping company technical manager/superintendent or Underwriters' ship surveyor (in case of a marine casualty repair), rate the quality of service provided by each independent shiprepair group such as "Steel fabricators", "Fitters", "Electrician" etc. in Hong Kong shiprepair yards.
本研究旨在了解您本人作為外部顧客主管此次修船工作技術的人員，即船務公司技術經理 / 總管或保險公司驗船師 (如屬海損修理)等人，對香港修船業小組服務質量所作的評估。此修船業小組可從修船廠的般每一獨立行業，例如"鐵工"，"機工"，"電工" 等修船工種選出。

Please read through each question and circle a number from "1" to "5" that indicates how well it rates the quality of service provided by this independent shiprepair group to this particular shiprepair work. There are no right or wrong answers. Simply respond based on your experience.
請在細閱每條題目後,從"1"至"5"圈出一個數字，以便最貼切地描述您對香港修船業小組此次修船工作服務質量所作的評估。答案不存在對或錯，請根據您的經驗來應答。

Use the following scale to record your answers (please try not to rely on "3" as your answer):
請用下列的量表去表達您對以下每題的同意程度 (請盡可能避免挑選"3"作答)。

1.	Strongly disagree	極之不同意
2.	Disagree	不同意
3.	Neither agree nor disagree	中立
4.	Agree	同意
5.	Strongly agree	極之同意

Example 舉例:

A5. As external customer, I am satisfied with the performance of the repair work.
作為外部僱客，我滿意修船廠這次修船工作的表現。 1 2 3 (4) 5

Explanation 解釋:
If you circle "4", this represents you agree that as external customer, you are satisfied with the performance of the repair work.
如你圈出"4", 即代表您同意作為外部僱客，您滿意修船廠這次修船工作的表現。

A. **External Customer Technical Personnel's Rating of Quality Service for this particular shiprepair work by Shipping Company Technical Manager/Superintendent or Underwriters' Ship Surveyor in case of a marine casualty repair (On completion of repairs, this person should be responsible both for checking the repair invoice contents and agreeing on costs as fair and reasonable with the repairyard).**
外部顧客主管修船工作的技術人員，例如船務公司技術經理 / 總管或保險公司驗船師 (如屬海損修理) 等人對這次修船工程服務質量作評估 (當修船工作完成後，此人須要負責同時與修船廠核對有關修船工程項目的內容及同意價錢為公平和合理)。

	極之 Strongly 不同意 Disagree				極之 Strongly 同意 Agree
A1. As external customer, I consider the repair work has been effectively completed by the shiprepair group. 作為外部僱客，我認為修船小組已妥為完成這次修船工作。	1	2	3	4	5
A2. As external customer, I consider the quality of the repair work can satisfy the Surveyors' requirements of vessel's Classification Society and Administration (Flag State). 作為外部僱客，我認為這次修船工作質量能滿足船級社和船旗國驗船師的要求。	1	2	3	4	5
A3. As external customer, I am satisfied with the cost of the repair work. 作為外部僱客，我滿意這次修船工作的費用。	1	2	3	4	5
A4. As external customer, I am satisfied with the delivery time of the repair work. 作為外部僱客，我滿意這次修船工作的時間。	1	2	3	4	5
A5. As external customer, I am satisfied with the performance of the repair work. 作為外部僱客，我滿意這次修船工作的表現。	1	2	3	4	5

B. **Personal Information: 個人資料**

B1. Your gender: 性別 Male 男 _____ (1) Female 女 _____ (2)

B2. Your age: 年齡 _____ years 歲 **B3.** Place of birth: 出生地點 _____

B4. Nationality: 國籍 _____ **B5.** Race: 種族 _____

B6. Education: 教育程度 (please choose one) (請選一)

Below high school 高中以下 ____ (1) High school graduate 高中畢業 ____ (2) University graduate or above 大學畢業或以上 ____ (3)

B7. Your position: 職位

Shipping company technical manager 船公司技術經理 ____ (1) Shipping company repair superintendent 船公司修船總管 ____ (2)

Underwriters' ship surveyor 保險公司驗船師 ____ (3)

B8. How long have you worked in this field? _____ years 年
你從事了這樣的工作多久?

END OF QUESTIONNAIRE III
WE ARE GRATEFUL FOR YOUR PARTICIPATION
問卷三完成，我們非常感謝您的參與。

Appendix 5.4

Survey Procedure

Appendix 5.4: Survey Procedure

Because of the level of education is variable among the shiprepair yard employees, the data collection process of this study took the form of researcher administered simultaneous completion method, which was done in a face-to-face encounter with all members of the team present in the survey. The role of the researcher was simply to ensure a good response rate and that the survey would be reliable.

There are a number of advantages in having a questionnaire administered by an researcher rather than the respondent. First of all, this kind of surveys typically attain good response rate than mail surveys. As it turned out, the response rate for this study is more than 98% as out of 62 teams interviewed; only the result of one team was not used since the respondents were getting impatient, lacked of interest and simply blindly copied the same answers from their adjacent team mates.

To start the survey, the researcher firstly greeted all the team members present and thank them for their participation. A pre-written letter was then read out by the researcher, explaining to them the purpose of the study. All members were assured that their responses will be treated with the strictest confidence and under no circumstance will their responses be released to others. There are no right or wrong answers and the respondents were asked to respond based on their experience and feeling. The answer would be reported back in summary form only, and they would not be identified in any way. Moreover, their participation will be on a voluntary basis only.

They were explained that the presence of the researcher was generally to eliminate the number of "don't know" or "no answers". Researchers could provide a guard against confusing questionnaire items. If the respondent misunderstood the intent of a question or indicated that he did not understand, the researcher could clarify matters, thereby obtained relevant responses.

The researcher then commenced the survey by reading out the first question aloud, explained the purpose of the question, and tried to eliminate any evidence of misunderstanding. Then the researcher should entertain any questions or comments from the floor to ensure that there was no evidence of misunderstanding. Sometimes respondents might require probes in eliciting responses and in such cases such probes must be completely neutral and must not in any way affect the nature of the subsequent responses.

From the experienced gained in this study with the Hong Kong shiprepair yard employees, apart from a few, majority of the team members showed keen interest and were serious during the survey.

Appendix 5.5

Number of Workers and Managers/Superintendents in the Hong Kong Shiprepair Yards with various Shipping Company Technical Managers/Superintendents who took part in this survey

Chu Kong Group Shipyard Co., Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	PENG LAI HU	26-02-01	CKGS-01	Engine Fitters	Overhaul of P. & S. Main engines	4 + 1 + 1 = 6
2	P. L. 84	26-02-01	CKGS-02	Engine Fitters	Overhaul of P. & S. main engines	5 + 1 + 1 = 7
3	GAO MING	26-02-01	CKGS-03	Steel Workers	Renewal of side shell aluminium plates	5 + 1 + 1 = 7
3 teams	3 ships	1 visit				14 + 3 + 3 = 20 persons

1. Total: 3 teams, 3 ships, and 1 visit.
2. All teams interviewed by P. Ng, except team 3 by Eric Ng.

Hong Kong Shipyard Limited

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	MAN LOK	11-04-01	HKS-01	Carpenters	Preparing wood chocks and cap pieces for slipping of vessel	2 + 1 + 1 = 4
2	Same as above	11-04-01	HKS-02	Painters	Bottom painting	2 + 0 + 0 = 2
3	Same as above	11-04-01	HKS-03	Engine Fitters	Propeller survey & repairs	3 + 0 + 0 = 3
4	AQUAN ONE	11-04-01	HKS-04	Electrical Fitters	Electrical works for re-engine	3 + 1 + 1 = 5
5	Same as above	11-04-01	HKS-05	Engine Fitters	Re-engine	2 + 0 + 0 = 2
6	XIN JIE	17-05-01	HKS-06	Engine Fitters	Main engine overhaul	3 + 1 + 1 = 5
7	Same as above	17-05-01	HKS-07	Painters	Bottom painting	2 + 0 + 0 = 2
8	Same as above	17-05-01	HKS-08	Electrician	Generator overhaul	2 + 0 + 0 = 2
9	Same as above	17-05-01	HKS-09	Riggers	Main engine overhaul	2 + 0 + 0 = 2
10	Same as above	17-05-01	HKS-10	Machinists	Tailshaft	2 + 0 + 0 = 2
11	Same as above	17-05-01	HKS-11	Carpenters	Slipping works	2 + 0 + 0 = 2
11 teams	3 ships	2 visits				25 + 3 +3 = 31 persons

1. Total: 11 teams, 3 ships and 2 visits.
2. All teams interviewed by Peter Ng.

Hongkong United Dockyards Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	HANOVER EXPRESS	28-12-00	HUD-01	Steel Workers	Steel plates renewal in fuel oil settling tank	3 + 1 + 1 = 5
2	Same as above	28-12-00	HUD-02	Engine Fitters	Dismantling of propeller and refitting	5 + 0 + 0 = 5
3	BOSPHO-ROUS BRIDGE	06-01-01	HUD-03	Painters/Grit Blasters	Bottom painting & grit blasting	5 + 1 + 1 = 7
4	Same as above	06-01-01	HUD-04	Steel Workers	Modification of hatch covers	4 + 0 + 0 = 4
5	Same as above	06-01-01	HUD-05	Engine Fitters	Main engine overhaul	5 + 0 + 0 = 5
6	CHINA SEA DIS-COVERY	19-01-01	HUD-06	Electrician	Installation of air-conditioning units	3 + 1 + 1 = 5
7	Same as above	19-01-01	HUD-07	Steel Workers	Repair of funnel dampers	3 + 0 + 0 = 3
8	VICTORIA BRIDGE	19-01-01	HUD-08	Docking Squad	Docking and undocking of vessel	4 + 1 + 1 = 6
9	Same as above	19-01-01	HUD-09	Machine Shop Fitters	Main engine cylinder covers repairs	4 + 0 + 0 = 4
10	DUSSEL-DORF EXPRESS	19-01-01	HUD-10	Pipe Workers	Repair of sea water cooling pipes in cargo holds	4 +1 + 1 = 6
11	MAJESTIC MAERSK	27-02-01	HUD-11	Electrician	Renewal of cables and lighting at masts	4 + 1 + 1 = 6
12	Same as above	27-02-01	HUD-12	Steel Workers	Renewal of wave breaker plates at forecastle	3 + 0 + 0 = 3
13	Same as above	27-02-01	HUD-13	Berthing Squad	Berthing of ship alongside wharf	5 + 0 + 0 = 5
14	Same as above	27-02-01	HUD-14	Engine Fitters	Overhaul of windlass	3 + 0 + 0 = 3
15	SETO BRIDGE	12-03-01	HUD-15	Docking Squad	Docking and undocking of vessel	4 + 1 + 1 = 6
16	Same as above	12-03-01	HUD-16	Painters and Grit Blasters	Bottom grit blasting and painting	5 + 0 + 0 = 5
17	Same as above	12-03-01	HUD-17	Machinists	Main engine cylinder cover	3 + 0 + 0 = 3
18	ESSEN EXPRESS	12-03-01	HUD-18	Steel Workers	Renewal of wave breaker steel plate	3 + 1 + 1 = 5
18 teams	8 ships	5 visits				70 + 8 + 8 = 86 pers

1. 18 teams, 8 ships, and 5 visits.

2. All teams interviewed by P. Ng, except teams 5 & 9 by Eric Ng and teams 13 & 14 by Lu Xiang Jun.

Ocean Shipbuilding & Engineering Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	FLORES	08-05-01	OS-01	Engine Fitters	Overhaul port auxiliary engine	2 + 1 + 1 = 4
2	Same as above	08-05-01	OS-02	Electrical	Generator cleaning	2 + 0 + 0 = 2
3	Same as above	08-05-01	OS-03	Non-Destructive Testing	Ultrasonic measurement	2 + 0 + 0 = 2
4	PICO	08-05-01	OS-04	Air-conditioning	Air-conditioning repairs	2 + 1 + 1 = 4
5	Same as above	08-05-01	OS-05	Welders	Foil strut fractures repairs	2 + 0 + 0 = 2
6	Same as Above	08-05-01	OS-06	Safety Officers	General safety during repair period at shipyards	2 + 0 + 0 =2
7	CORVO	08-05-01	OS-07	Hydraulic System Fitters	Actuator repairs	2 + 1 + 1 = 4
8	Same as above	08-05-01	OS-08	Engine Propulsion Fitters	Main turbine repairs	2 + 0 = 0 = 2
8 teams	3 ships	1 visit				16 + 3 + 3 = 22 persons

1. Total: 8 teams, 3 ships and 1 visit.

2. All teams interviewed by Peter Ng.

Wang Tak Engineering & Shipbuilding Co., Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	HAI BIN	27-11-00	WT-01	Engine Fitters	M/E alignment and laying of 'chock-fast'	3 + 1 + 1 = 5
2	Same as above	27-11-00	WT-02	Pipe Workers	Modification of pipe work for M/E renewal	3 + 0 + 0 = 3
3	UNIVERSAL 2002	14-12-00	WT-03	Steel Workers	Modification of engine room hatch cover	4 + 1 + 1 = 6
4	GAS BAUHINIA	03-05-01	WT-04	Carpenters	Repair of lifeboat woodworks	2 + 1 +1 = 4
5	Same as above	03-05-01	WT-05	Steel Workers	Repair of lifeboat steel fittings	2 + 0 + 0 = 2
6	Same as above	03-05-01	WT-06	Electrician	Repair of cooling pump electrical motor	2 + 0 + 0 = 2
7	Same as above	03-05-01	WT-07	Engine Fitters	Sea valves overhaul	2 + 0 + 0 = 2
7 teams	3 ships	3 visits				18 + 3 +3 = 24 persons

1. Total: 7 teams, 3 ships and 3 visits.

2. All teams interviewed by P. Ng.

Turbo Jet Shipyard Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	MK 2006	15-01-01	TJS-001	Engine Fitters	'KAMEWA' water jet overhaul	2 + 1 + 1 = 4
2	MK 2003	28-03-01	TSJ-002	Electrical Fitters	Main engine electrical installation overhaul	8 + 1 + 1 = 10
2 teams	2 ships	2 visits				10 + 2 + 2 = 14 persons

1. 2 teams, 2 ships, 2 visits.
2. All teams interviewed by Peter Ng except team 2 by Eric Ng.

Yiu Lian Dockyards Ltd.

Teams	Ship's Name	Date	Ref. No.	Work Group	Nature of Work	Persons Interviewed
1	HUA QUAN	14-12-00	YL-01	Engine Fitters	Main engine cylinders units overhaul	4 + 1 + 1 = 6
2	Same as above	14-12-00	YL-02	Engine Fitters	Tailshaft withdrawal	5 + 0 + 0 = 5
3	XUEN LONG NO. 1	26-03-01	YL-03	Engine Fitters	Tailshaft withdrawal	4 + 1 + 1 = 6
4	NAI HAI NO. 6	26-03-01	YL-04	Engine Fitters	Windlass overhaul	5 + 1 + 1 = 7
5	Same as above	26-03-01	YL-05	Engine Fitters	Stern thruster overhaul	4 + 0 + 0 = 4
6	SANTOSA HAWK	09-05-01	YL-06	Steel Workers	Bottom plates renewal	4 + 1 + 1 = 6
7	Same as above	09-05-01	YL-07	Welders	Built up pitted bottom shell plates	2 + 1 + 1 = 4
8	LUCKY MARINE	09-05-01	YL-08	Electrician	Megger testing	3 + 0 + 0 = 3
9	Same as above	09-05-01	YL-09	Steel Workers	Bilge keel repairs	2 + 0 + 0 = 2
10	Same as above	09-05-01	YL-10	Steel Workers	Side shell plate repairs	2 + 0 + 0 =2
11	Same as above	09-05-01	YL-11	Steel Workers	Hatch cover repairs	2 + 0 + 0 = 2
12	Same as above	09-05-01	YL-12	Carpenters	Accommodation woodworks	2 + 0 + 0 = 2
12 teams	5 ships	3 visits				39 + 5 + 5 = 49 persons

1. Total: 12 teams, 5 ships and 3 visits.
2. All teams interviewed by Peter Ng except team 3 by Eric Ng.

Total 61 teams, 27 ships, 17 visits and 246 persons interviewed (inclusive of 192 repair teams employees, 27 shipyard superintendents and 27 shipping company superintendents.

Appendix 5.6

Introduction Letters in English and Chinese read out by Researcher prior to Collecting Data

To: Members of the Hong Kong Shiprepair Community

A Study on Working in Hong Kong Shiprepair Yards

My name is Peter Y.C. Ng and I am pursuing a Doctorate Degree Program in Business Administration with Curtin University of Technology, Perth, Western Australia and Lingnan University, Hong Kong. I would be grateful if you could assist in a research study on working in Hong Kong shiprepair yards, which aims to provide an overview of teamwork for quality service within Hong Kong shiprepair yards environment.

Your participation as a member of the shiprepair community in this study is most welcome, and I assure you that your responses will be treated with the strictest confidence. Under no circumstance will your responses be released to others. All your answers will be reported back in summary form only, and they will not be identified in any way. Any personal details and company information will be confidential and will not be disclosed unless with prior written permission.

On completion, please return the questionnaire direct to the researcher. If you require further information, you may contact me or the Supervisor of the study, Prof. Dean Tjosvold at Lingnan University, Hong Kong.

Mr. Peter Y.C. Ng, c/o Peter Y.C. Ng & Co., Ltd., 6/F Golden Star Building, 20-26 Lockhart Road, Wanchai, Hong Kong. Tel: 2528 4018 Fax: 2861 2478	Professor Dean Tjosvold, Chair Professor and Head, Lingnan University, Dept. of Management, Tuen Mun, New Territories, Hong Kong. Tel: 2616 8324 Fax: 2467 0982

Thank you for donating your time to assist me with this research. If you like, I will be glad to share with you the result of this study.

Yours faithfully,

Peter Y.C. Ng

致：各位香港修船業同人

香港修船業工作研究

本人吳業銓，現正修讀澳洲西澳大利亞州珀斯市科廷科技大學和香港嶺南大學合辦的工商管理博士學位課程。非常感謝您協助進行這項有關香港修船業工作的研究，這項研究旨在了解有關香港修船業團隊協同工作對服務質量影響的概況。

非常歡迎您作爲修船業的一份子參與這項研究，本人向您保証：您的回應將會絕對保密，在任何情況下都不會向他人泄露。您的回應只會以摘要的形式來匯報，並不會以任何形式去查証消息來源。本人會把所有個人和公司的資料保密，在未得到您的書面同意之前絕不會向他人透露。

完成問卷後，請直接交回研究員。如有進一步的查詢，請與本人或負責此項研究的導師香港嶺南大學謝霍堅教授聯繫。

香港洛克道二十至二十六號 金星大廈六樓 吳業銓公證行有限公司 吳業銓先生 電話: 2528 4018 傳真: 2861 2478	香港 屯門 嶺南大學 管理學系講座教授及主任 謝霍堅教授 電話: 2616 8324 傳真: 2467 0982

多謝您抽出寶貴時間協助本人進行這項研究。如您有興趣，本人樂意與您分享這項研究的結果摘要。

吳業銓上

Appendix 6.1

FREQUENCY TABLE

1. For 192 individual employees – Each question - ordinal scale (pages 305-351)

2. For 192 individual employees – Each construct – interval scales (pages 352-359)

3. For 61 teams – Each question - interval scale (pages 360-397)

4. For 61 teams – Each construct - interval scale (pages 398-405)

5. For internal and external customers (pages 406-408)

6. For age, skill and size of teams (pages 409-412)

Appendix 6.1

FREQUENCY TABLE

for 192 individual employees – Each question - ordinal scale
(pages 305-351)

Statistics

		C1	C2	C3	C4	C5	C6	C7	C8	C9	D1
N	Valid	192	192	192	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		4.1510	3.8802	3.9427	3.9063	3.9010	4.0104	4.0260	3.8333	3.5573	3.7708
Median		4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.5045	.9160	.8754	.7247	.7627	.7725	.7619	.8703	1.0010	1.0076
Variance		.2546	.8390	.7663	.5252	.5818	.5967	.5805	.7574	1.0019	1.0153
Range		3.00	4.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
Minimum		2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Sum		797.00	745.00	757.00	750.00	749.00	770.00	773.00	736.00	683.00	724.00

Statistics

		D2	D3	D4	D7	D8	D9	D10
N	Valid	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0
Mean		3.9896	4.0677	3.1771	3.3177	4.1458	3.5104	3.6615
Median		4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.8313	.6715	1.2406	1.1294	.5313	1.1209	1.0000
Variance		.6910	.4509	1.5392	1.2755	.2823	1.2564	1.0000
Range		4.00	4.00	4.00	4.00	3.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	2.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00
Sum		766.00	781.00	610.00	637.00	796.00	674.00	703.00

Statistics

		C1	C2	C3	C4	C5	C6	C7	C8	C9	D1
N	Valid	192	192	192	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		4.1510	3.8802	3.9427	3.9063	3.9010	4.0104	4.0260	3.8333	3.5573	3.7708
Median		4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.5045	.9160	.8754	.7247	.7627	.7725	.7619	.8703	1.0010	1.0076
Variance		.2546	.8390	.7663	.5252	.5818	.5967	.5805	.7574	1.0019	1.0153
Range		3.00	4.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
Minimum		2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Sum		797.00	745.00	757.00	750.00	749.00	770.00	773.00	736.00	683.00	724.00

Statistics

		D2	D3	D4	D7	D8	D9	D10
N	Valid	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0
Mean		3.9896	4.0677	3.1771	3.3177	4.1458	3.5104	3.6615
Median		4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.8313	.6715	1.2406	1.1294	.5313	1.1209	1.0000
Variance		.6910	.4509	1.5392	1.2755	.2823	1.2564	1.0000
Range		4.00	4.00	4.00	4.00	3.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	2.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00
Sum		766.00	781.00	610.00	637.00	796.00	674.00	703.00

Frequencies - Individuals Rating on Confidence - Questions A1 to A4

Statistics

		A1	A2	A3	A4
N	Valid	192	192	192	192
	Missing	0	0	0	0
Mean		4.1458	4.1667	4.2083	4.2083
Median		4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00
Std. Deviation		.5313	.5996	.6852	.4781
Variance		.2823	.3595	.4695	.2286
Range		3.00	3.00	3.00	3.00
Minimum		2.00	2.00	2.00	2.00
Maximum		5.00	5.00	5.00	5.00
Sum		796.00	800.00	808.00	808.00

Frequencies - Individuals Rating on Confidence - Question A1

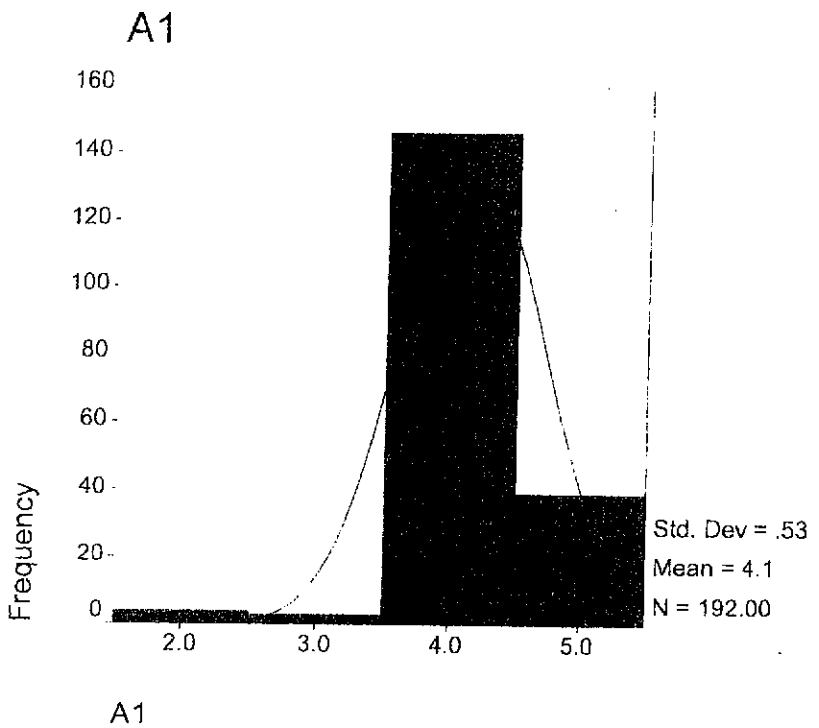
Statistics

A1

N	Valid	192
	Missing	0
Mean		4.1458
Median		4.0000
Mode		4.00
Std. Deviation		.5313
Variance		.2823
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		796.00

A1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	4	2.1	2.1	2.1
	3.00	3	1.6	1.6	3.6
	4.00	146	76.0	76.0	79.7
	5.00	39	20.3	20.3	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Rating on Confidence - Question A2

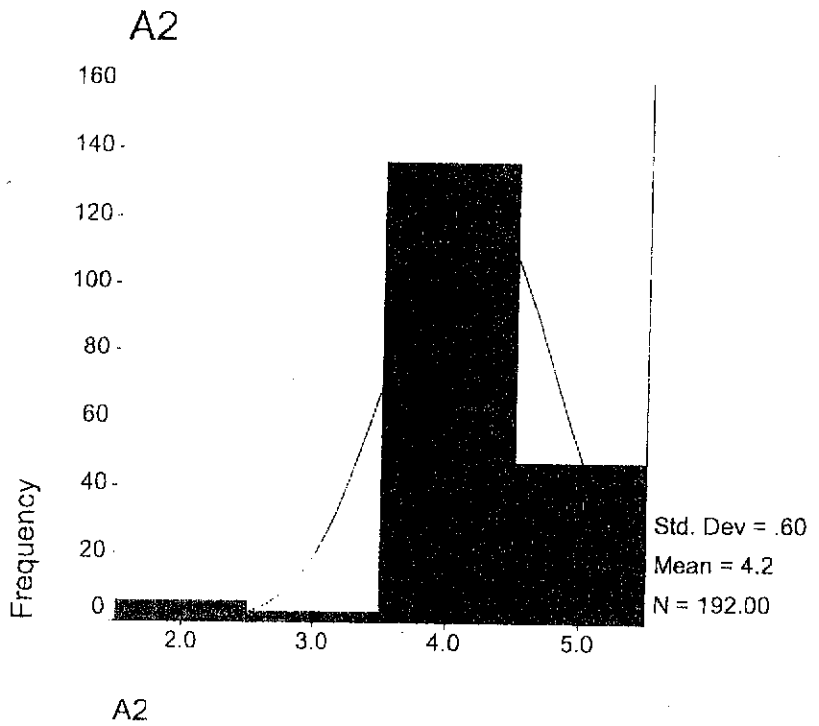
Statistics

A2

N	Valid	192
	Missing	0
Mean		4.1667
Median		4.0000
Mode		4.00
Std. Deviation		.5996
Variance		.3595
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		800.00

A2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	6	3.1	3.1	3.1
	3.00	3	1.6	1.6	4.7
	4.00	136	70.8	70.8	75.5
	5.00	47	24.5	24.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Confidence - Questions A3

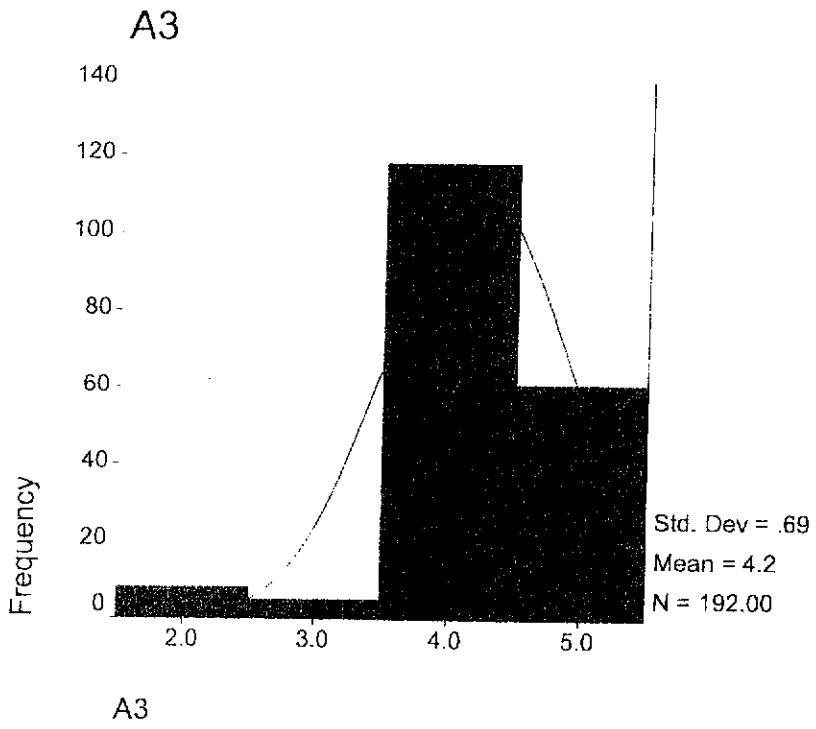
Statistics

A3

N	Valid	192
	Missing	0
Mean		4.2083
Median		4.0000
Mode		4.00
Std. Deviation		.6852
Variance		.4695
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		808.00

A3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	8	4.2	4.2	4.2
	3.00	5	2.6	2.6	6.8
	4.00	118	61.5	61.5	68.2
	5.00	61	31.8	31.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Confidence - A4

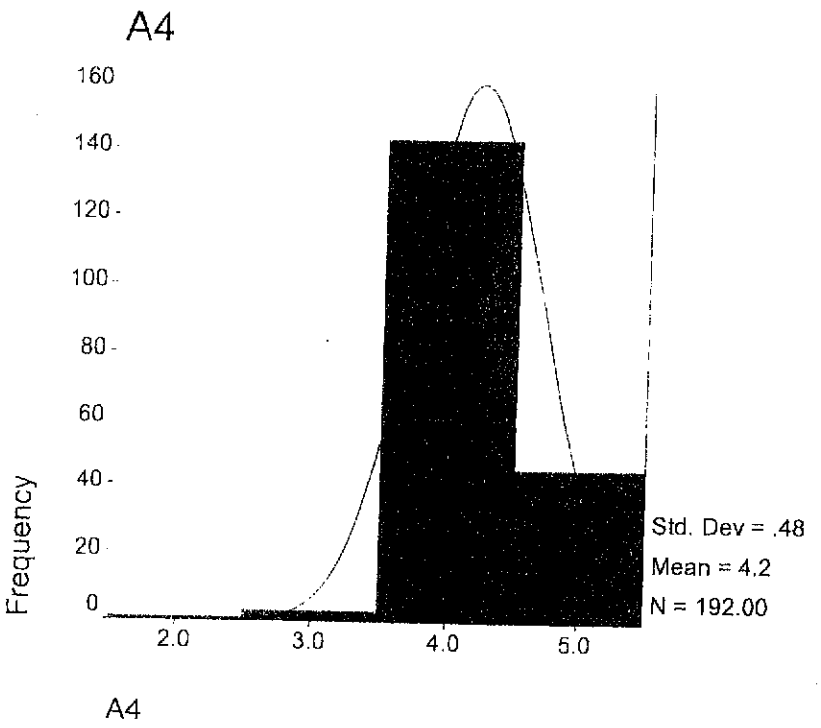
Statistics

A4

N	Valid	192
	Missing	0
Mean		4.2083
Median		4.0000
Mode		4.00
Std. Deviation		.4781
Variance		.2286
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		808.00

A4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	1	.5	.5	.5
	3.00	3	1.6	1.6	2.1
	4.00	143	74.5	74.5	76.6
	5.00	45	23.4	23.4	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Cooperation - Questions B1 to B5

Statistics

		B1	B2	B3	B4	B5
N	Valid	192	192	192	192	192
	Missing	0	0	0	0	0
Mean		4.2396	4.1719	4.0938	4.2500	4.2865
Median		4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00
Std. Deviation		.4744	.6363	.5892	.6390	.5845
Variance		.2250	.4049	.3472	.4084	.3416
Range		3.00	3.00	3.00	3.00	3.00
Minimum		2.00	2.00	2.00	2.00	2.00
Maximum		5.00	5.00	5.00	5.00	5.00
Sum		814.00	801.00	786.00	816.00	823.00

Frequencies - Individual Ratings on Cooperation - Question B1

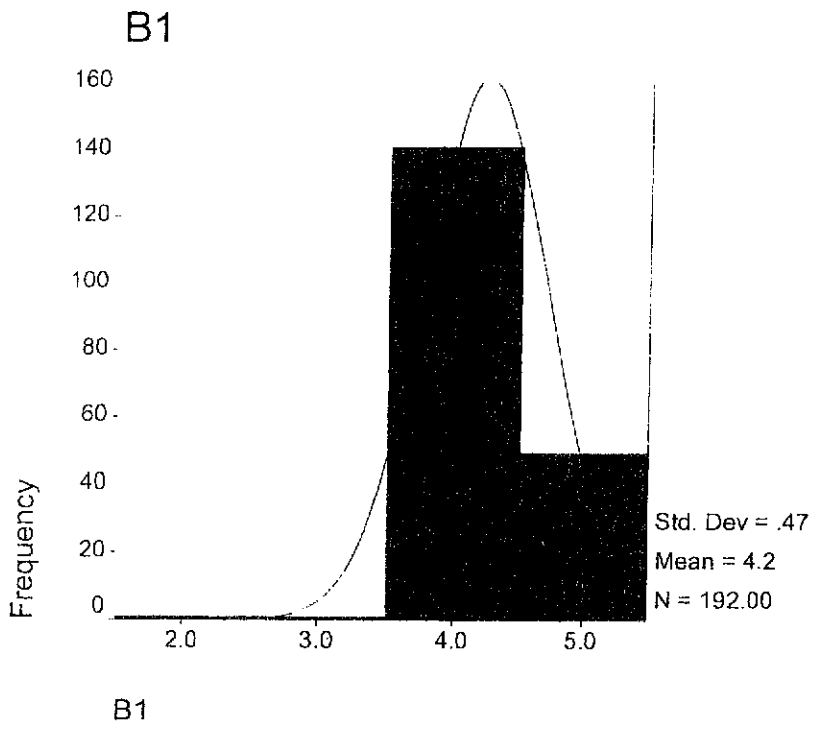
Statistics

B1

N	Valid	192
	Missing	0
Mean		4.2396
Median		4.0000
Mode		4.00
Std. Deviation		.4744
Variance		.2250
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		814.00

B1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	1	.5	.5	.5
	3.00	1	.5	.5	1.0
	4.00	141	73.4	73.4	74.5
	5.00	49	25.5	25.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Cooperation - Question B2

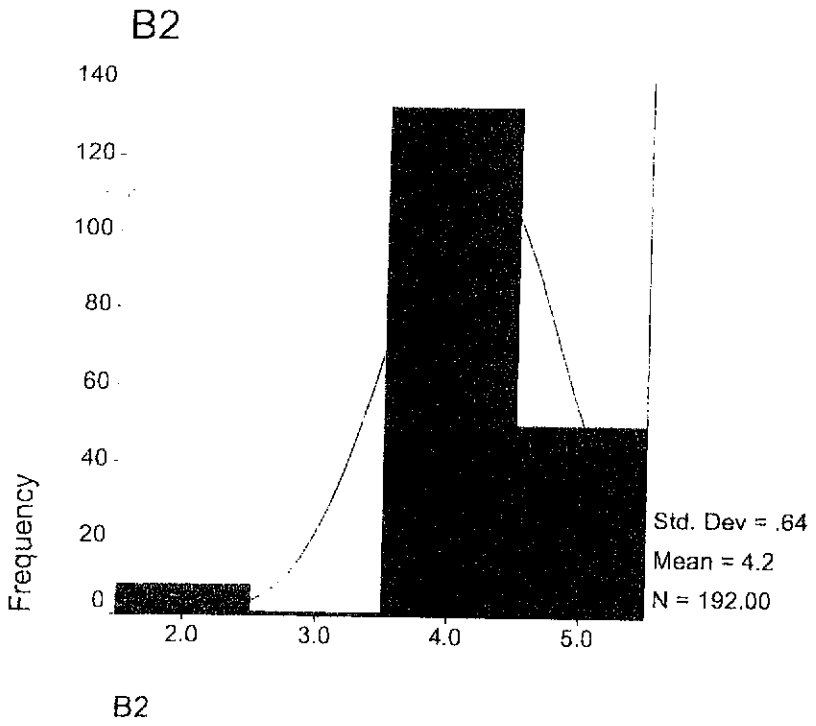
Statistics

B2

N	Valid	192
	Missing	0
Mean		4.1719
Median		4.0000
Mode		4.00
Std. Deviation		.6363
Variance		.4049
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		801.00

B2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	8	4.2	4.2	4.2
	3.00	1	.5	.5	4.7
	4.00	133	69.3	69.3	74.0
	5.00	50	26.0	26.0	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Cooperation - Question B3

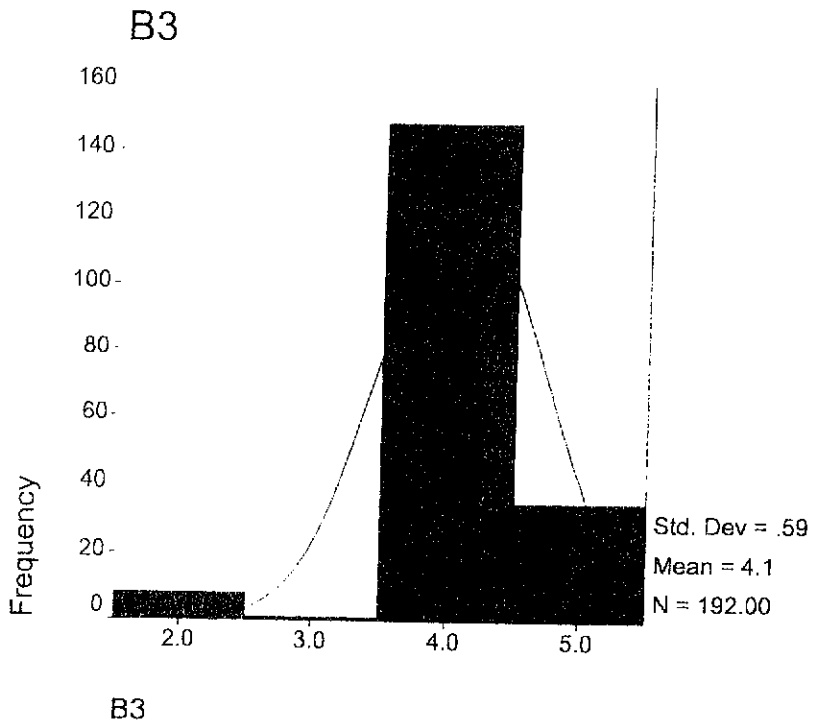
Statistics

B3

N	Valid	192
	Missing	0
Mean		4.0938
Median		4.0000
Mode		4.00
Std. Deviation		.5892
Variance		.3472
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		786.00

B3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	8	4.2	4.2	4.2
	3.00	1	.5	.5	4.7
	4.00	148	77.1	77.1	81.8
	5.00	35	18.2	18.2	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Cooperation - Question B4

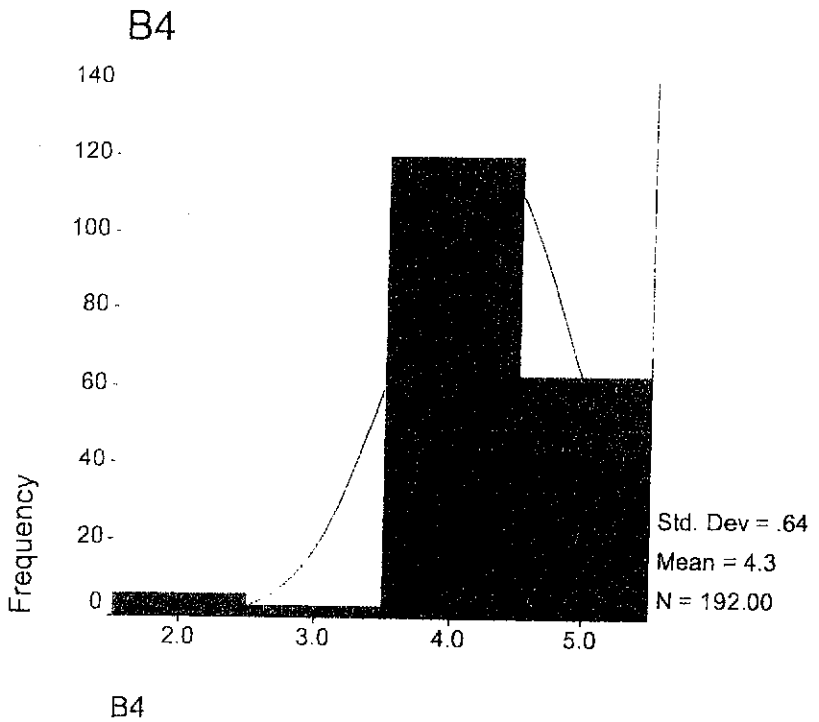
Statistics

B4

N	Valid	192
	Missing	0
Mean		4.2500
Median		4.0000
Mode		4.00
Std. Deviation		.6390
Variance		.4084
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		816.00

B4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	6	3.1	3.1	3.1
	3.00	3	1.6	1.6	4.7
	4.00	120	62.5	62.5	67.2
	5.00	63	32.8	32.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Cooperation - Question B5

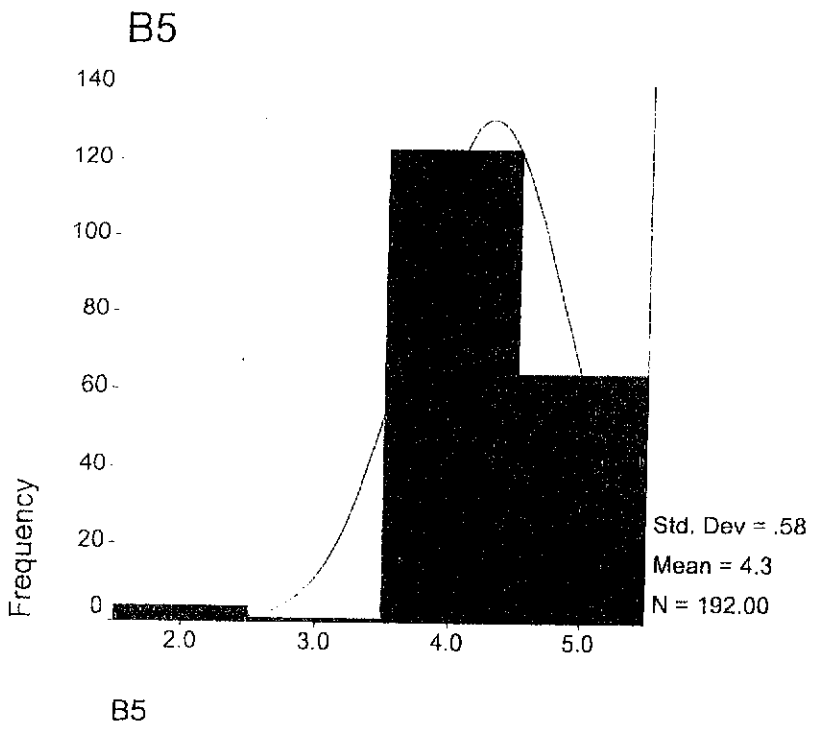
Statistics

B5

N	Valid	192
	Missing	0
Mean		4.2865
Median		4.0000
Mode		4.00
Std. Deviation		.5845
Variance		.3416
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		823.00

B5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	4	2.1	2.1	2.1
	3.00	1	.5	.5	2.6
	4.00	123	64.1	64.1	66.7
	5.00	64	33.3	33.3	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Questions B6 to B10

Statistics

		B6	B7	B8	B9	B10
N	Valid	192	192	192	192	192
	Missing	0	0	0	0	0
Mean		2.0104	2.5156	1.8542	2.1927	2.3490
Median		2.0000	2.0000	2.0000	2.0000	2.0000
Mode		2.00	2.00	2.00	2.00	2.00
Std. Deviation		.9653	1.2150	.8559	1.0923	1.1294
Variance		.9318	1.4762	.7325	1.1930	1.2755
Range		4.00	4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00
Sum		386.00	483.00	356.00	421.00	451.00

Frequencies - Individuals Ratings on Competition - Question B6

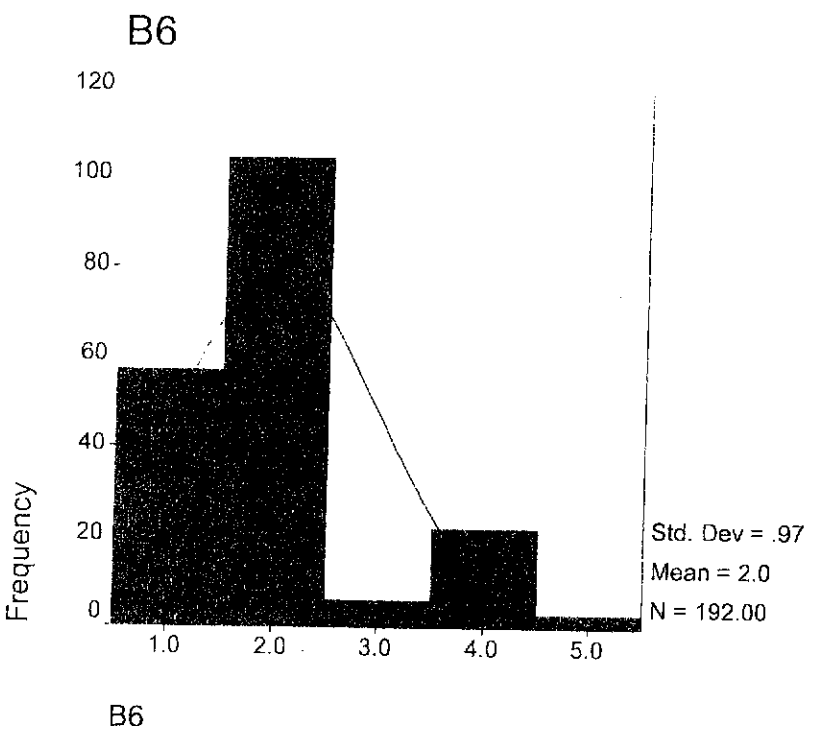
Statistics

B6

N	Valid	192
	Missing	0
Mean		2.0104
Median		2.0000
Mode		2.00
Std. Deviation		.9653
Variance		.9318
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		386.00

B6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	57	29.7	29.7	29.7
	2.00	104	54.2	54.2	83.9
	3.00	6	3.1	3.1	87.0
	4.00	22	11.5	11.5	98.4
	5.00	3	1.6	1.6	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Question B7

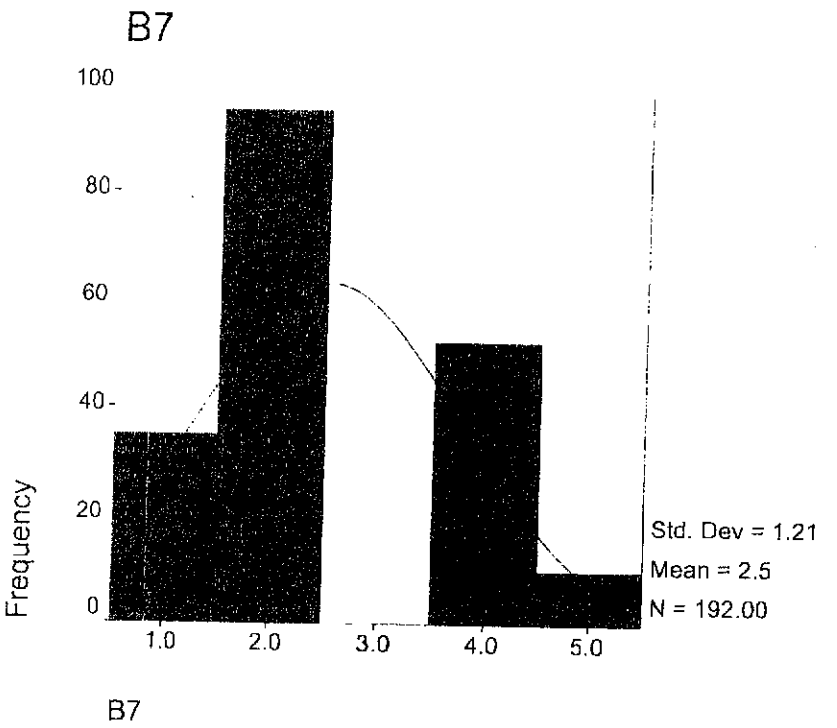
Statistics

B7

N	Valid	192
	Missing	0
Mean		2.5156
Median		2.0000
Mode		2.00
Std. Deviation		1.2150
Variance		1.4762
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		483.00

B7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	35	18.2	18.2	18.2
	2.00	95	49.5	49.5	67.7
	4.00	52	27.1	27.1	94.8
	5.00	10	5.2	5.2	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Question B8

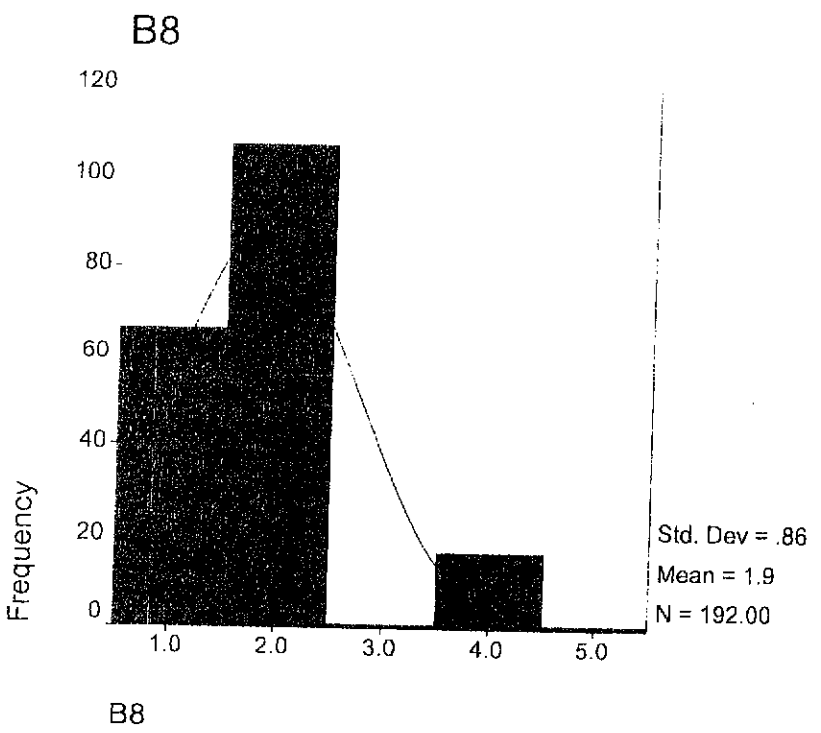
Statistics

B8

N	Valid	192
	Missing	0
Mean		1.8542
Median		2.0000
Mode		2.00
Std. Deviation		.8559
Variance		.7325
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		356.00

B8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	66	34.4	34.4	34.4
	2.00	107	55.7	55.7	90.1
	3.00	1	.5	.5	90.6
	4.00	17	8.9	8.9	99.5
	5.00	1	.5	.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Question B9

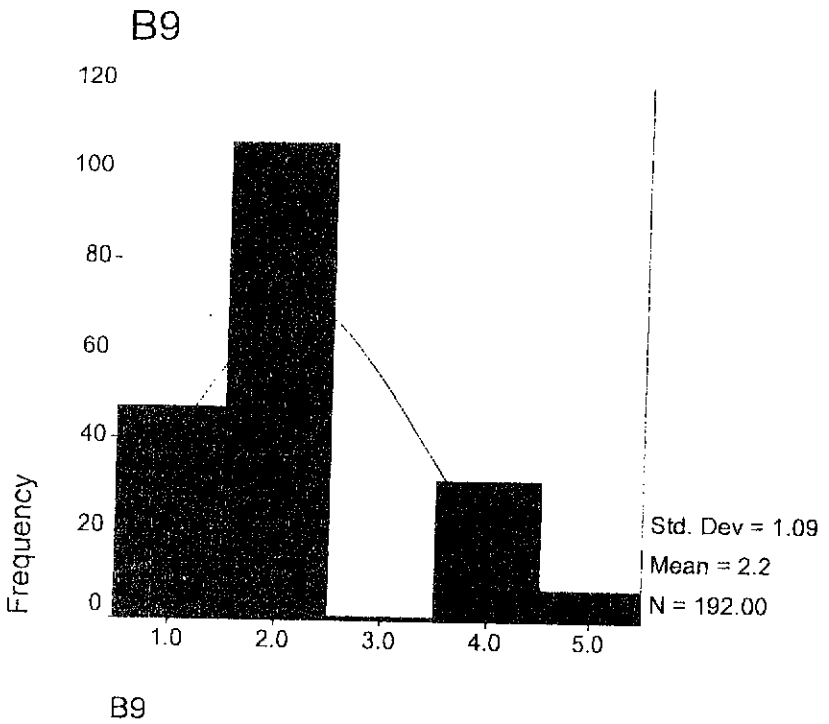
Statistics

B9

N	Valid	192
	Missing	0
Mean		2.1927
Median		2.0000
Mode		2.00
Std. Deviation		1.0923
Variance		1.1930
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		421.00

B9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	47	24.5	24.5	24.5
	2.00	106	55.2	55.2	79.7
	3.00	1	.5	.5	80.2
	4.00	31	16.1	16.1	96.4
	5.00	7	3.6	3.6	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Question B10

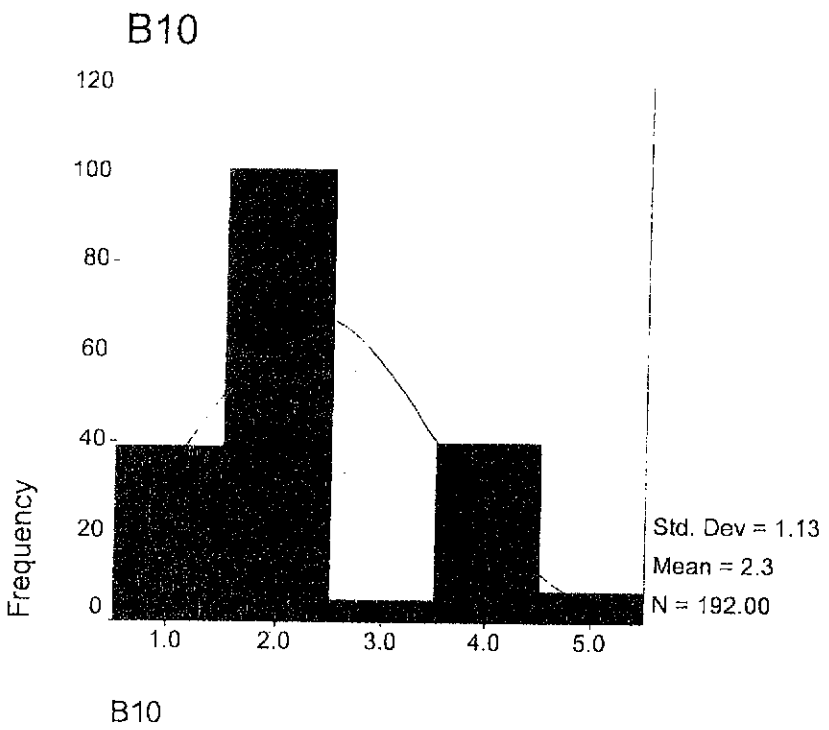
Statistics

B10

N	Valid	192
	Missing	0
Mean		2.3490
Median		2.0000
Mode		2.00
Std. Deviation		1.1294
Variance		1.2755
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		451.00

B10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	39	20.3	20.3	20.3
	2.00	101	52.6	52.6	72.9
	3.00	5	2.6	2.6	75.5
	4.00	40	20.8	20.8	96.4
	5.00	7	3.6	3.6	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Questions B11 to B16

Statistics

		B11	B12	B13	B14	B15	B16
N	Valid	192	192	192	192	192	192
	Missing	0	0	0	0	0	0
Mean		2.0833	2.1719	2.2656	2.4740	2.4010	2.6927
Median		2.0000	2.0000	2.0000	2.0000	2.0000	2.0000
Mode		2.00	2.00	2.00	2.00	2.00	2.00
Std. Deviation		.9397	1.1425	1.1243	1.2404	1.1443	1.2383
Variance		.8831	1.3054	1.2642	1.5386	1.3095	1.5333
Range		4.00	4.00	4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00
Sum		400.00	417.00	435.00	475.00	461.00	517.00

Frequencies - Individuals Ratings on Independence - Question B11

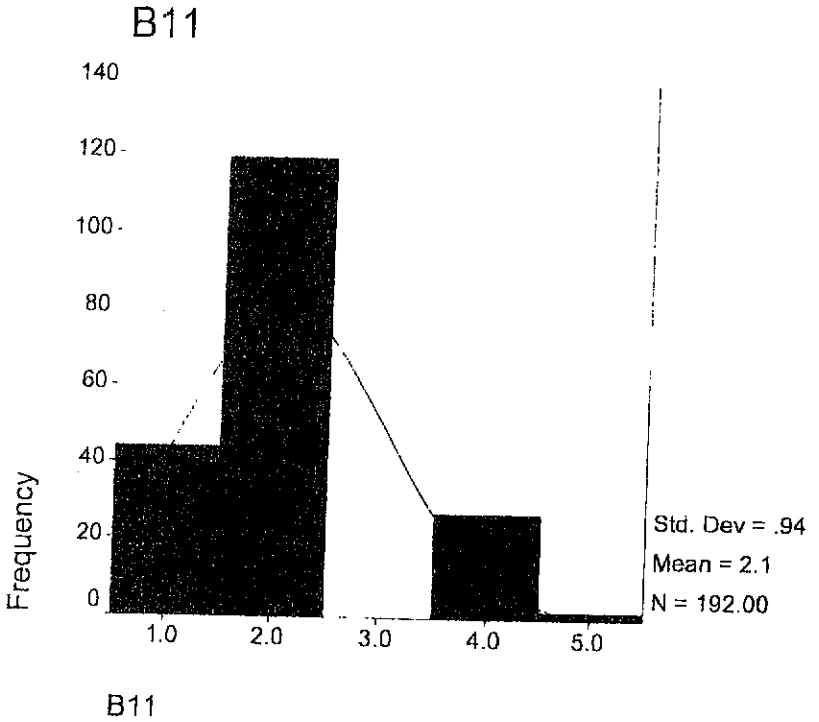
Statistics

B11

N	Valid	192
	Missing	0
Mean		2.0833
Median		2.0000
Mode		2.00
Std. Deviation		.9397
Variance		.8831
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		400.00

B11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	44	22.9	22.9	22.9
	2.00	119	62.0	62.0	84.9
	4.00	27	14.1	14.1	99.0
	5.00	2	1.0	1.0	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Question B12

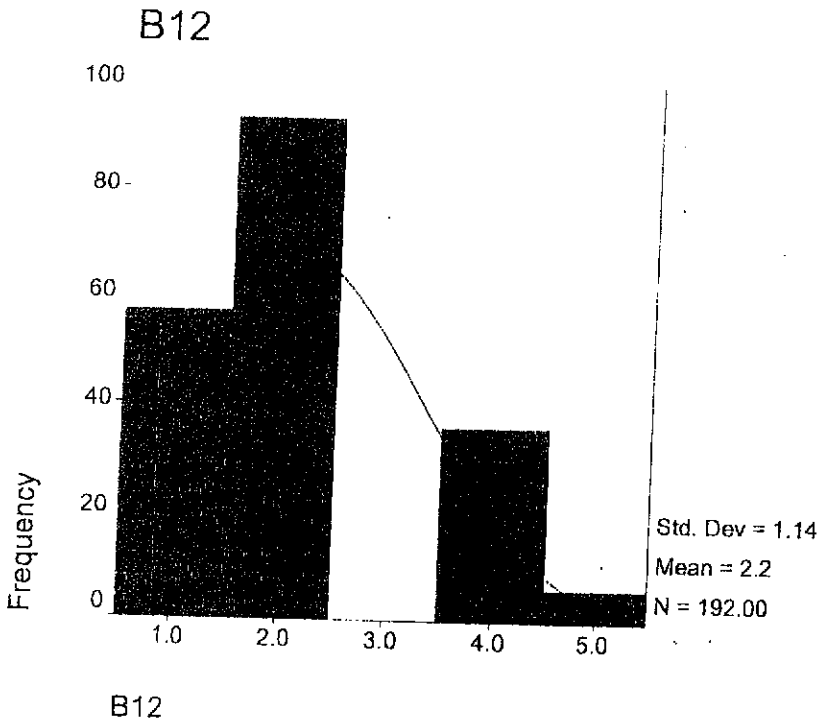
Statistics

B12

N	Valid	192
	Missing	0
Mean		2.1719
Median		2.0000
Mode		2.00
Std. Deviation		1.1425
Variance		1.3054
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		417.00

B12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	57	29.7	29.7	29.7
	2.00	93	48.4	48.4	78.1
	4.00	36	18.8	18.8	96.9
	5.00	6	3.1	3.1	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Indpendence - Question B13

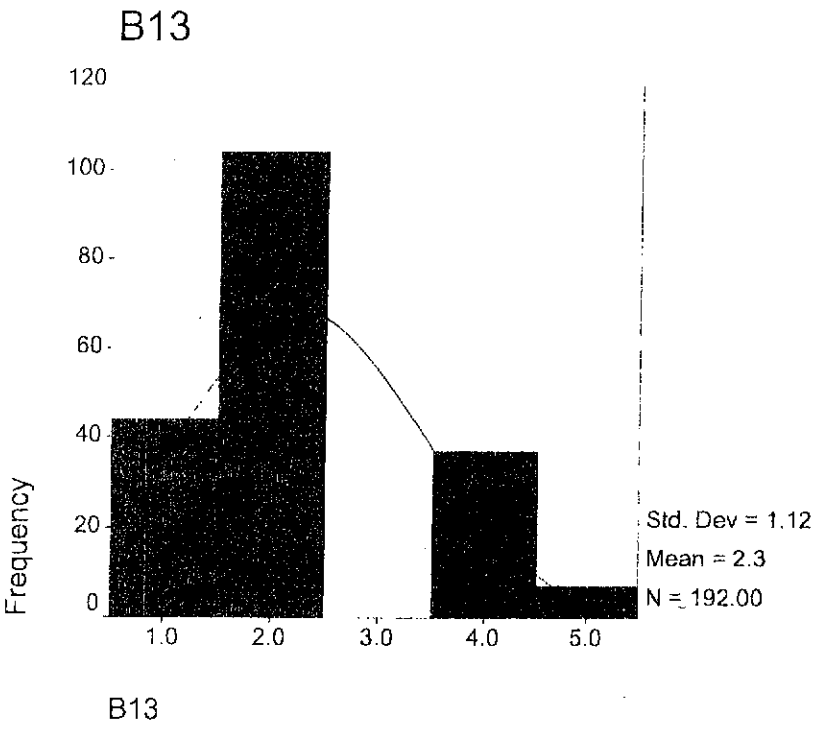
Statistics

B13

N	Valid	192
	Missing	0
Mean		2.2656
Median		2.0000
Mode		2.00
Std. Deviation		1.1243
Variance		1.2642
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		435.00

B13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	44	22.9	22.9	22.9
	2.00	104	54.2	54.2	77.1
	4.00	37	19.3	19.3	96.4
	5.00	7	3.6	3.6	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Question B14

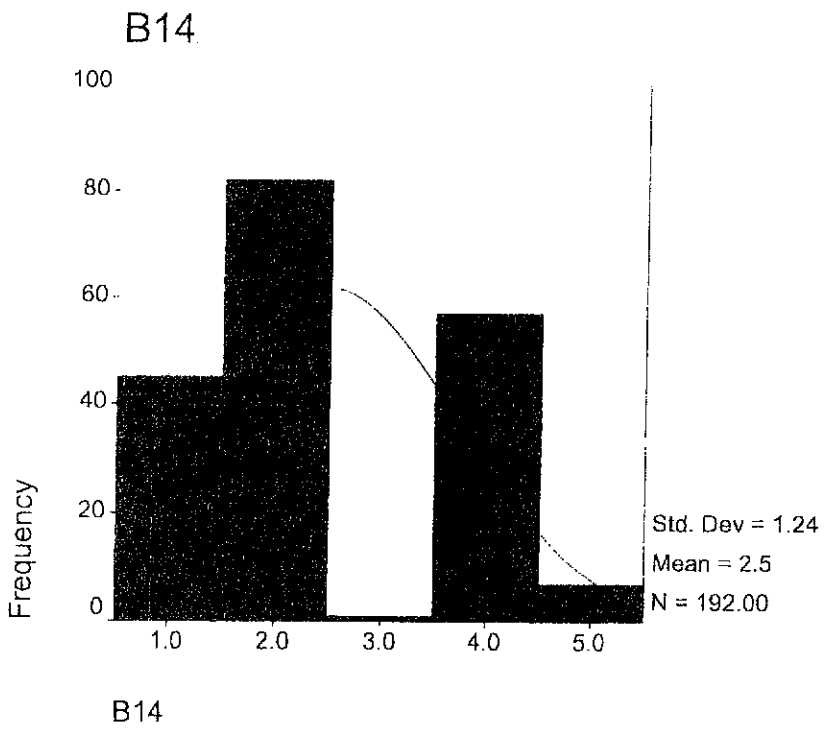
Statistics

B14

N	Valid	192
	Missing	0
Mean		2.4740
Median		2.0000
Mode		2.00
Std. Deviation		1.2404
Variance		1.5386
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		475.00

B14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	45	23.4	23.4	23.4
	2.00	82	42.7	42.7	66.1
	3.00	1	.5	.5	66.7
	4.00	57	29.7	29.7	96.4
	5.00	7	3.6	3.6	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Question B15

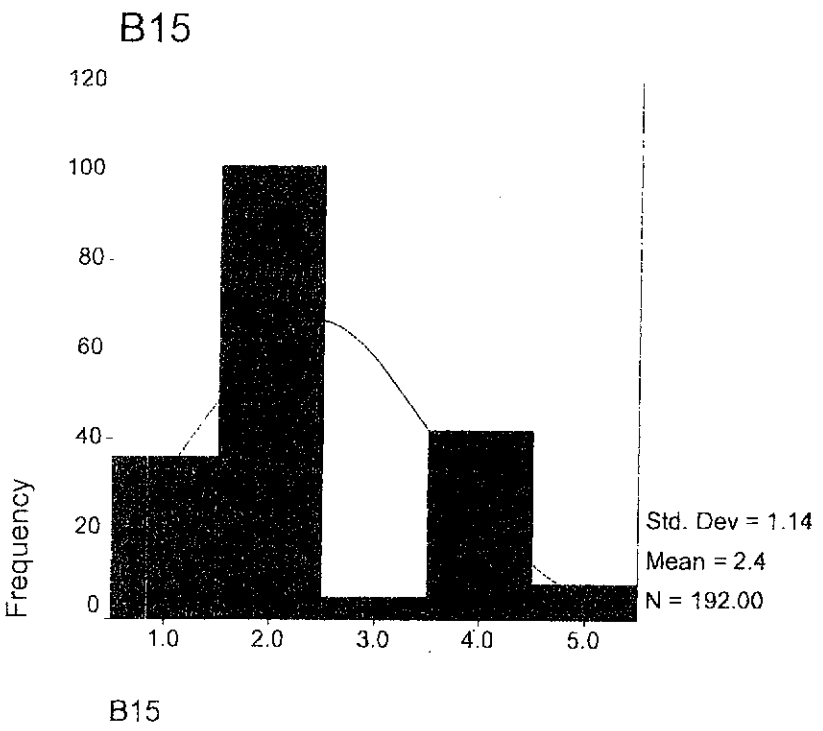
Statistics

B15

N	Valid	192
	Missing	0
Mean		2.4010
Median		2.0000
Mode		2.00
Std. Deviation		1.1443
Variance		1.3095
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		461.00

B15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	36	18.8	18.8	18.8
	2.00	101	52.6	52.6	71.4
	3.00	5	2.6	2.6	74.0
	4.00	42	21.9	21.9	95.8
	5.00	8	4.2	4.2	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Question B16

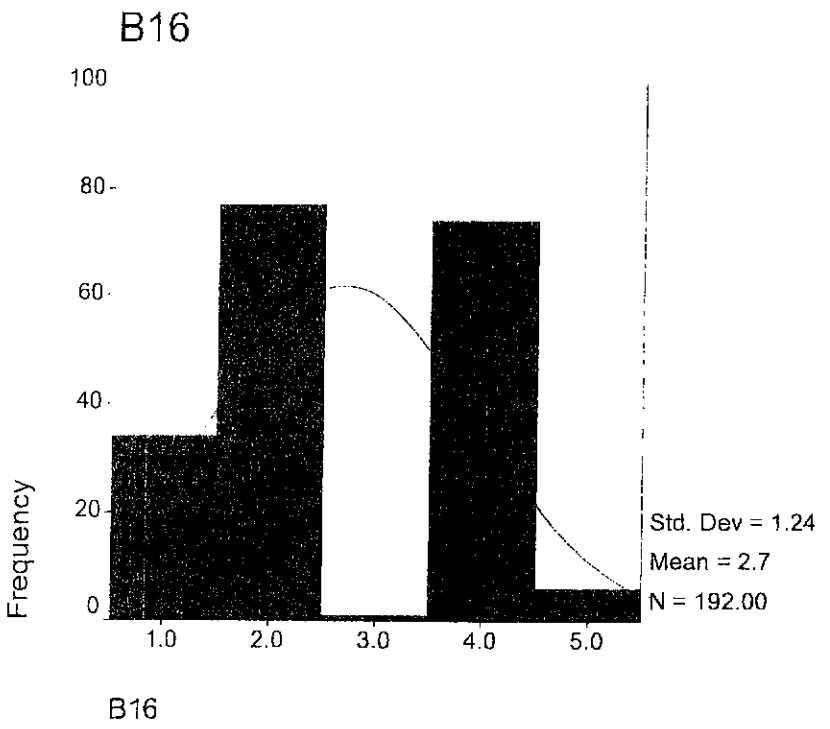
Statistics

B16

N	Valid	192
	Missing	0
Mean		2.6927
Median		2.0000
Mode		2.00
Std. Deviation		1.2383
Variance		1.5333
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		517.00

B16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	34	17.7	17.7	17.7
	2.00	77	40.1	40.1	57.8
	3.00	1	.5	.5	58.3
	4.00	74	38.5	38.5	96.9
	5.00	6	3.1	3.1	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Questions C1 to C9

Statistics

		C1	C2	C3	C4	C5	C6	C7	C8	C9
N	Valid	192	192	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0	0	0
Mean		4.1510	3.8802	3.9427	3.9063	3.9010	4.0104	4.0260	3.8333	3.5573
Median		4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Std. Deviation		.5045	.9160	.8754	.7247	.7627	.7725	.7619	.8703	1.0010
Variance		.2546	.8390	.7663	.5252	.5818	.5967	.5805	.7574	1.0019
Range		3.00	4.00	4.00	3.00	3.00	4.00	4.00	4.00	4.00
Minimum		2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Sum		797.00	745.00	757.00	750.00	749.00	770.00	773.00	736.00	683.00

Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C1

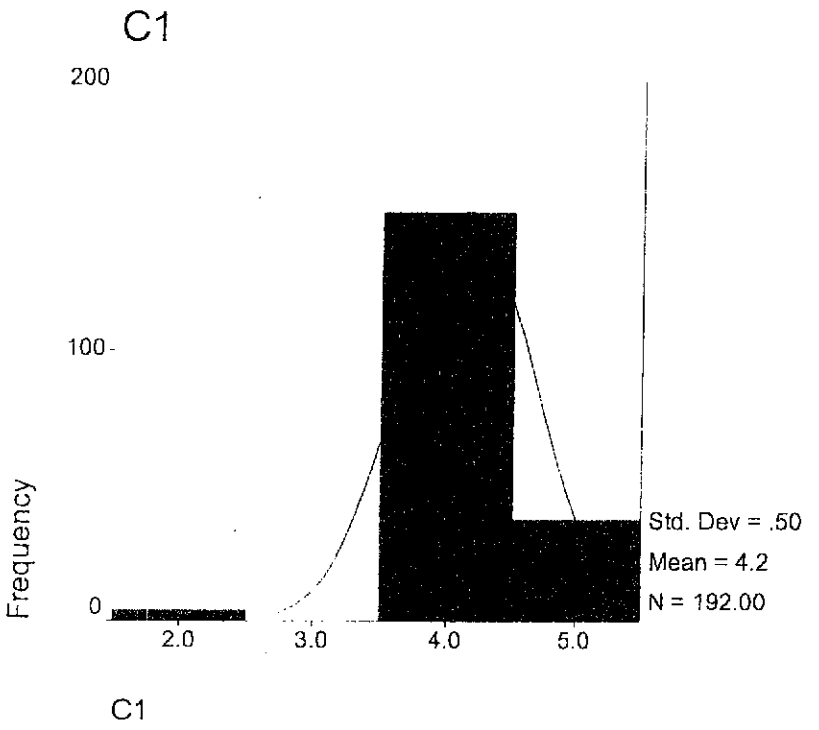
Statistics

C1

N	Valid	192
	Missing	0
Mean		4.1510
Median		4.0000
Mode		4.00
Std. Deviation		.5045
Variance		.2546
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		797.00

C1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	4	2.1	2.1	2.1
	4.00	151	78.6	78.6	80.7
	5.00	37	19.3	19.3	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Contstructive Controversy) - Question C2

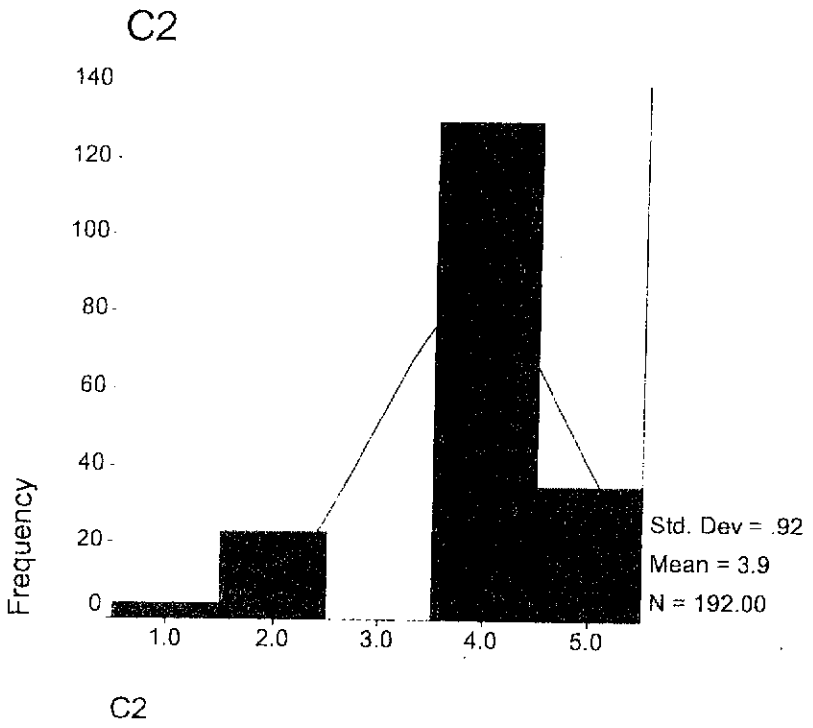
Statistics

C2

N	Valid	192
	Missing	0
Mean		3.8802
Median		4.0000
Mode		4.00
Std. Deviation		.9160
Variance		.8390
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		745.00

C2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	4	2.1	2.1	2.1
	2.00	23	12.0	12.0	14.1
	4.00	130	67.7	67.7	81.8
	5.00	35	18.2	18.2	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C3

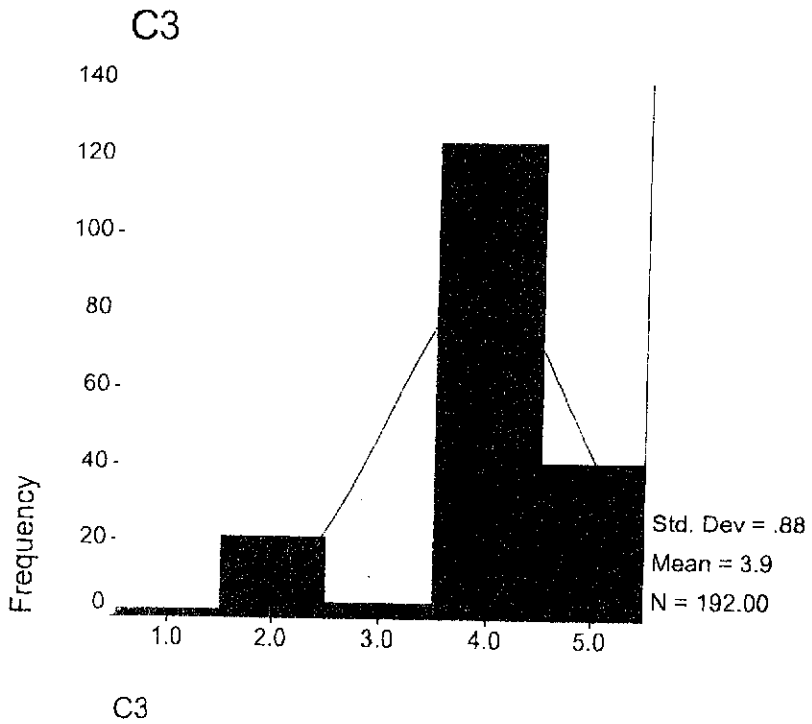
Statistics

C3

N	Valid	192
	Missing	0
Mean		3.9427
Median		4.0000
Mode		4.00
Std. Deviation		.8754
Variance		.7663
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		757.00

C3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	1.0	1.0	1.0
	2.00	21	10.9	10.9	12.0
	3.00	4	2.1	2.1	14.1
	4.00	124	64.6	64.6	78.6
	5.00	41	21.4	21.4	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C4

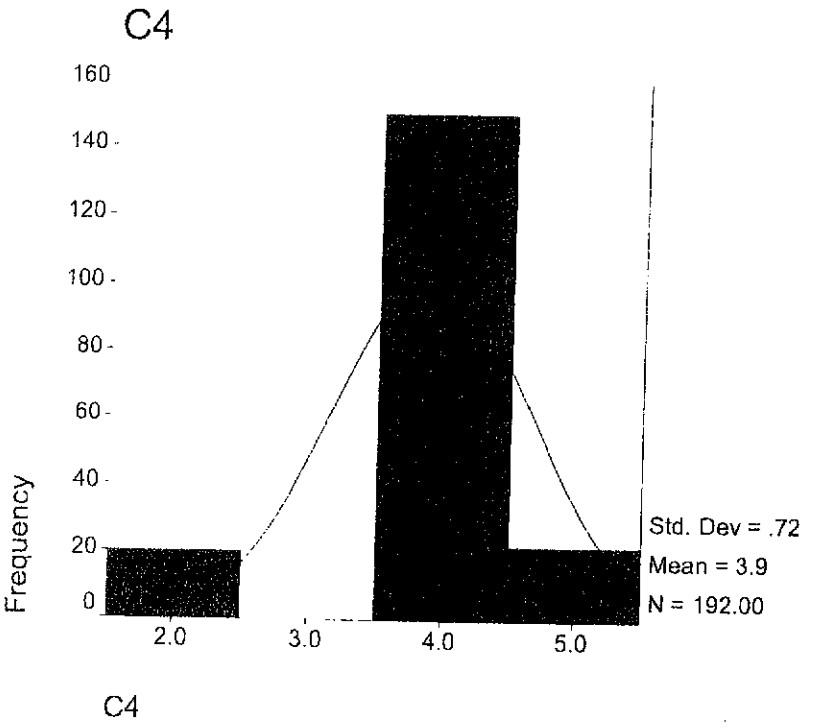
Statistics

C4

N	Valid	192
	Missing	0
Mean		3.9063
Median		4.0000
Mode		4.00
Std. Deviation		.7247
Variance		.5252
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		750.00

C4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	20	10.4	10.4	10.4
	4.00	150	78.1	78.1	88.5
	5.00	22	11.5	11.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constuctive Controversy) - Question C5

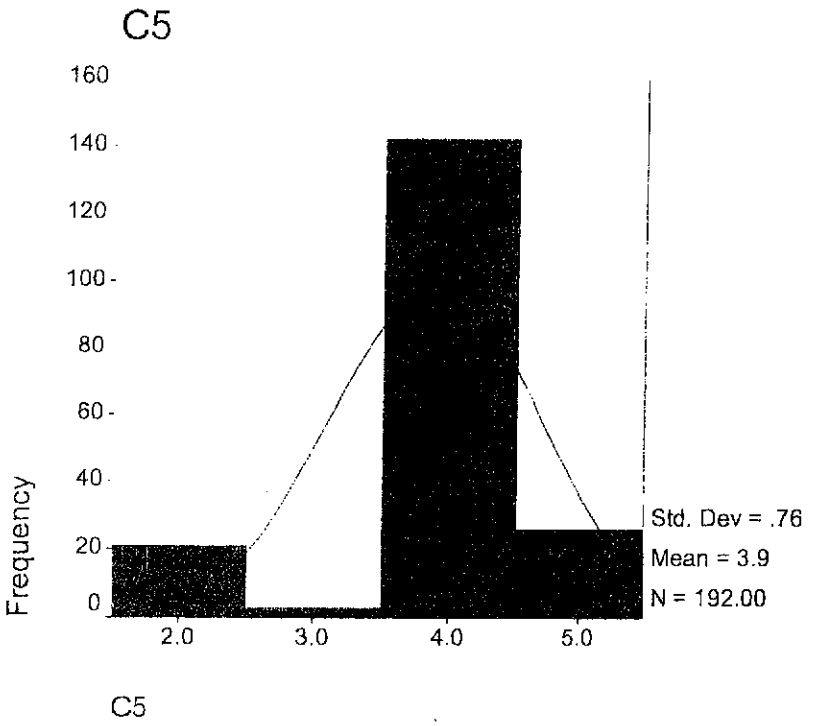
Statistics

C5

N	Valid	192
	Missing	0
Mean		3.9010
Median		4.0000
Mode		4.00
Std. Deviation		.7627
Variance		.5818
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		749.00

C5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	21	10.9	10.9	10.9
	3.00	3	1.6	1.6	12.5
	4.00	142	74.0	74.0	86.5
	5.00	26	13.5	13.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C6

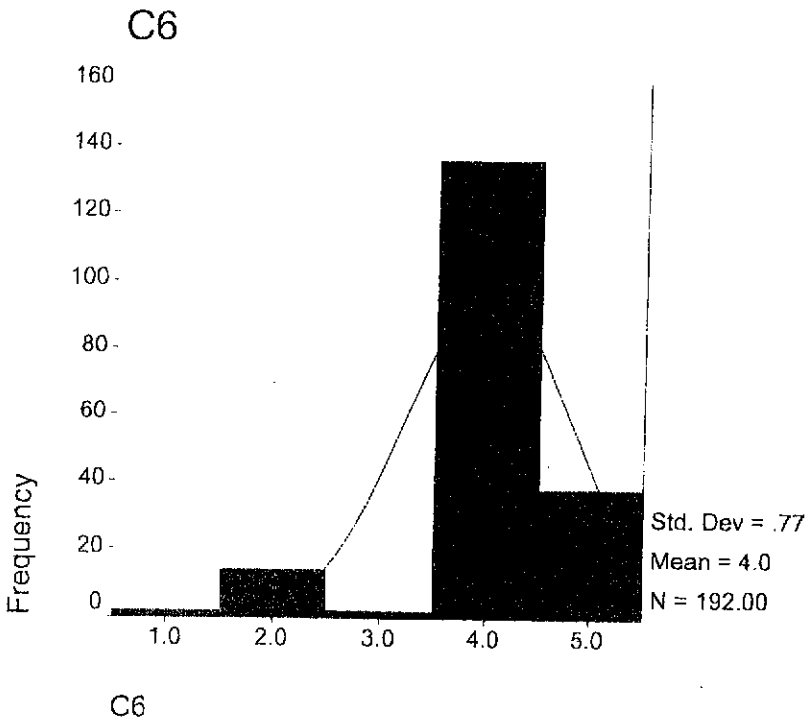
Statistics

C6

N	Valid	192
	Missing	0
Mean		4.0104
Median		4.0000
Mode		4.00
Std. Deviation		.7725
Variance		.5967
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		770.00

C6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	1.0	1.0	1.0
	2.00	14	7.3	7.3	8.3
	3.00	2	1.0	1.0	9.4
	4.00	136	70.8	70.8	80.2
	5.00	38	19.8	19.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C7

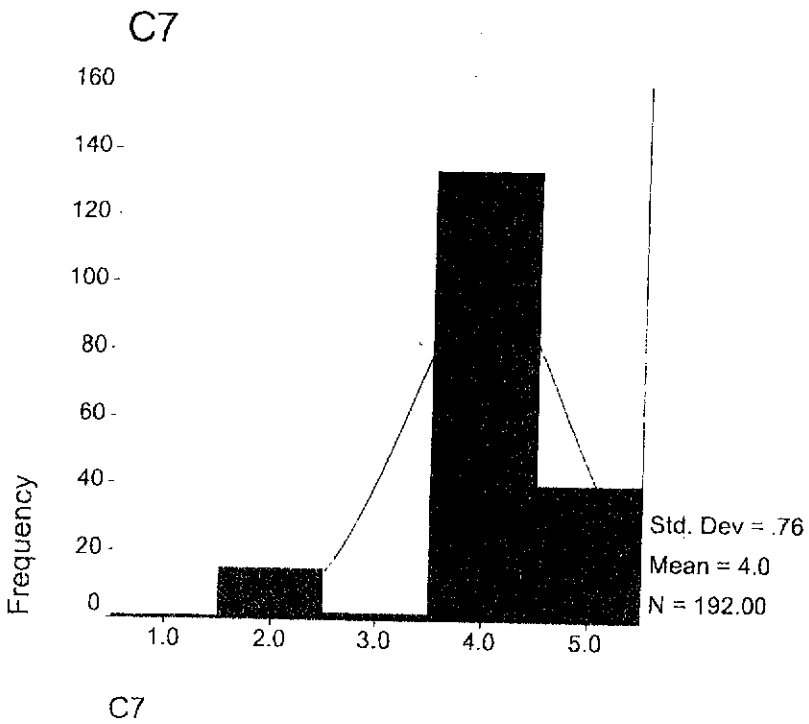
Statistics

C7

N	Valid	192
	Missing	0
Mean		4.0260
Median		4.0000
Mode		4.00
Std. Deviation		.7619
Variance		.5805
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		773.00

C7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1	.5	.5	.5
	2.00	15	7.8	7.8	8.3
	3.00	2	1.0	1.0	9.4
	4.00	134	69.8	69.8	79.2
	5.00	40	20.8	20.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Question C8

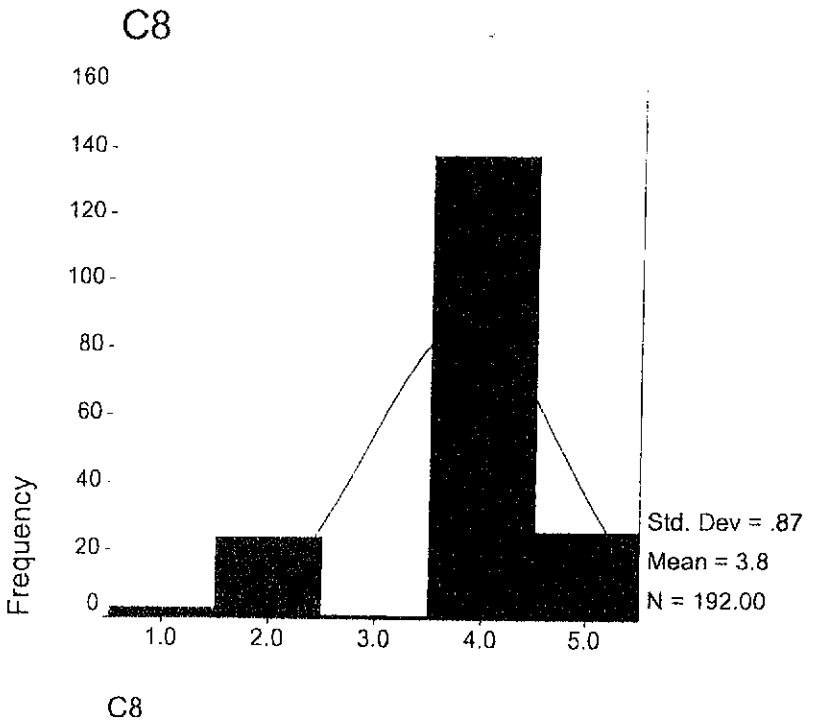
Statistics

C8

N	Valid	192
	Missing	0
Mean		3.8333
Median		4.0000
Mode		4.00
Std. Deviation		.8703
Variance		.7574
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		736.00

C8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	1.6	1.6	1.6
	2.00	24	12.5	12.5	14.1
	3.00	1	.5	.5	14.6
	4.00	138	71.9	71.9	86.5
	5.00	26	13.5	13.5	100.0
	Total	192	100.0	100.0	



Frequencies Individuals Ratings on OpenM (Constructive Controversy) - Question C9

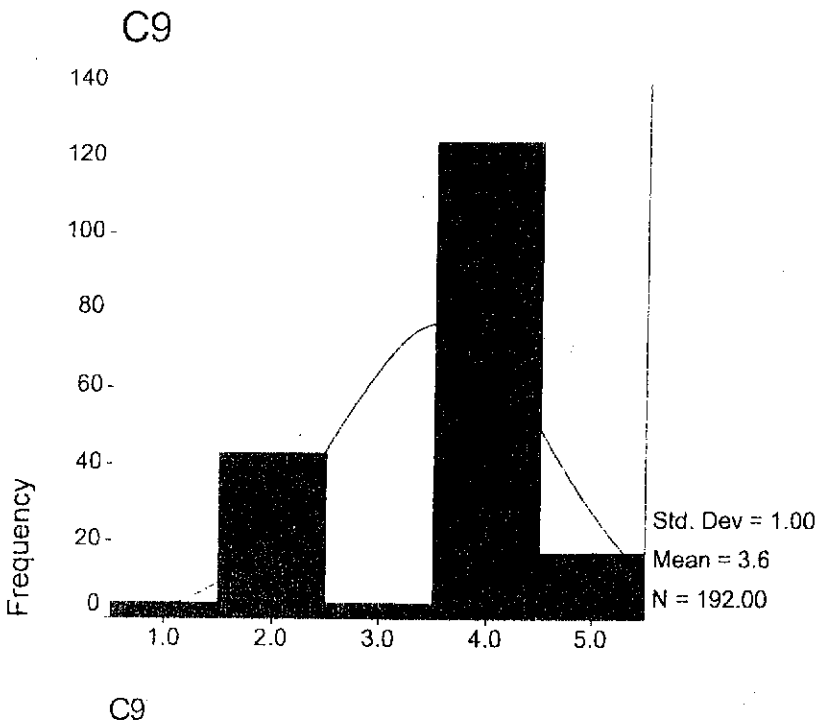
Statistics

C9

N	Valid	192
	Missing	0
Mean		3.5573
Median		4.0000
Mode		4.00
Std. Deviation		1.0010
Variance		1.0019
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		683.00

C9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	4	2.1	2.1	2.1
	2.00	43	22.4	22.4	24.5
	3.00	4	2.1	2.1	26.6
	4.00	124	64.6	64.6	91.1
	5.00	17	8.9	8.9	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Power Distance - Questions D1 to D4

Statistics

		D1	D2	D3	D4
N	Valid	192	192	192	192
	Missing	0	0	0	0
Mean		3.7708	3.9896	4.0677	3.1771
Median		4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00
Std. Deviation		1.0076	.8313	.6715	1.2406
Variance		1.0153	.6910	.4509	1.5392
Range		4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00
Sum		724.00	766.00	781.00	610.00

Frequencies - Individuals Ratings on Power Distance - Question D1

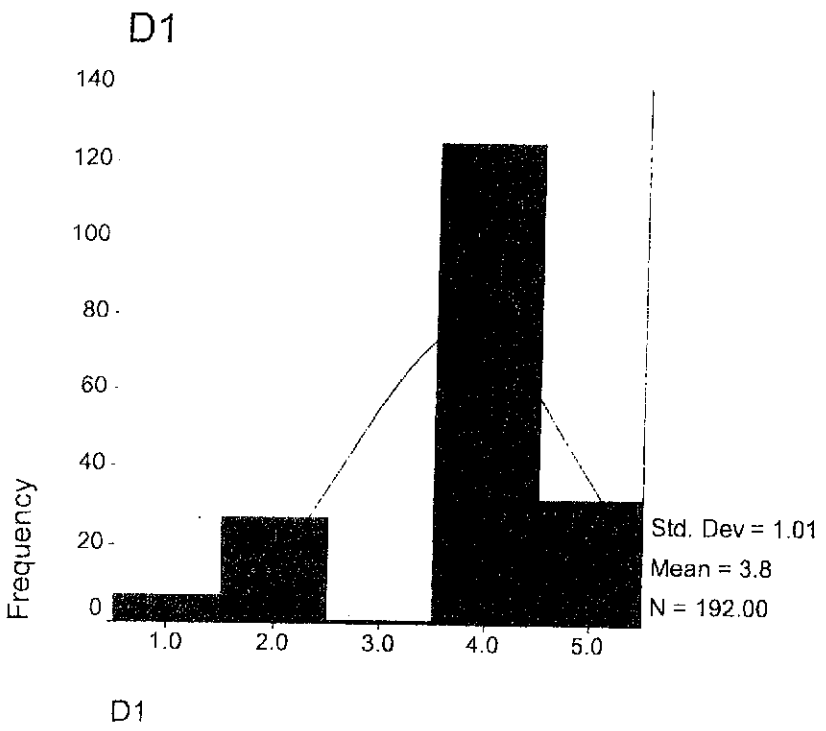
Statistics

D1

N	Valid	192
	Missing	0
Mean		3.7708
Median		4.0000
Mode		4.00
Std. Deviation		1.0076
Variance		1.0153
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		724.00

D1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	7	3.6	3.6	3.6
	2.00	27	14.1	14.1	17.7
	3.00	1	.5	.5	18.2
	4.00	125	65.1	65.1	83.3
	5.00	32	16.7	16.7	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Power Distance - Question D2

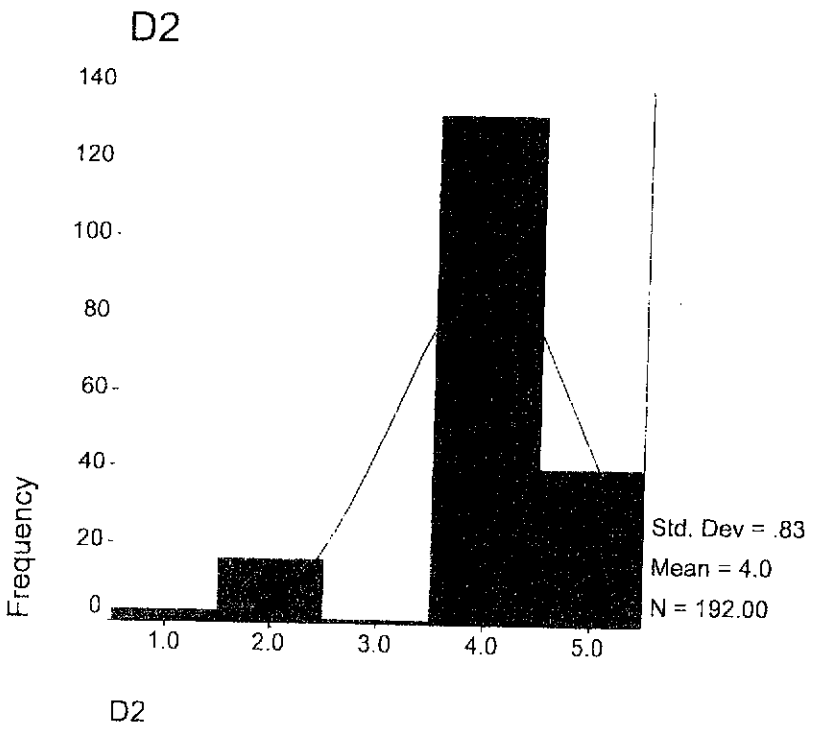
Statistics

D2

N	Valid	192
	Missing	0
Mean		3.9896
Median		4.0000
Mode		4.00
Std. Deviation		.8313
Variance		.6910
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		766.00

D2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	1.6	1.6	1.6
	2.00	16	8.3	8.3	9.9
	3.00	1	.5	.5	10.4
	4.00	132	68.8	68.8	79.2
	5.00	40	20.8	20.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Power Distance - Question D3

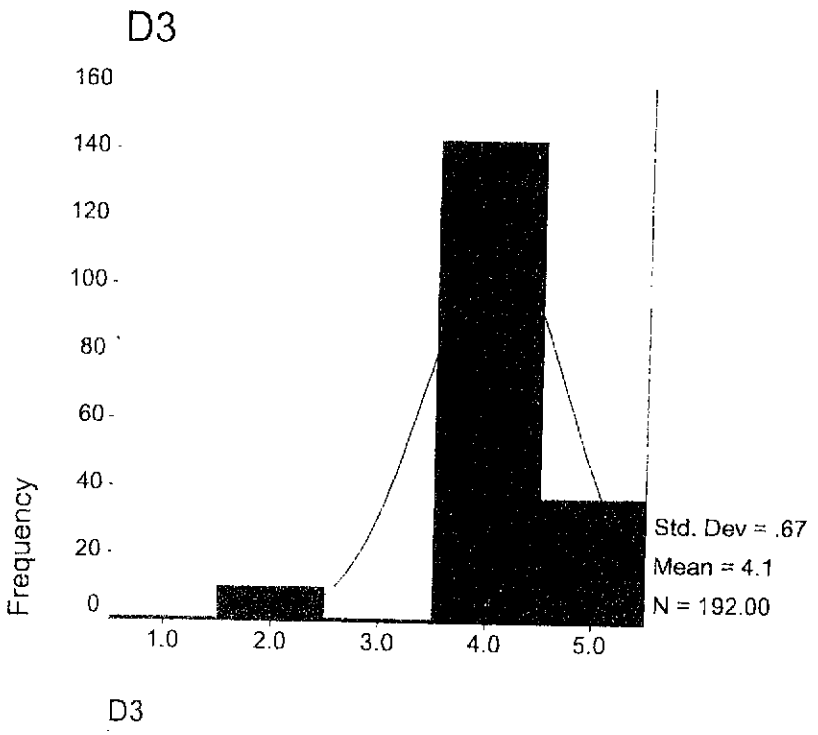
Statistics

D3

N	Valid	192
	Missing	0
Mean		4.0677
Median		4.0000
Mode		4.00
Std. Deviation		.6715
Variance		.4509
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		781.00

D3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	1	.5	.5	.5
	2.00	10	5.2	5.2	5.7
	3.00	1	.5	.5	6.3
	4.00	143	74.5	74.5	80.7
	5.00	37	19.3	19.3	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Power Distance - Question D4

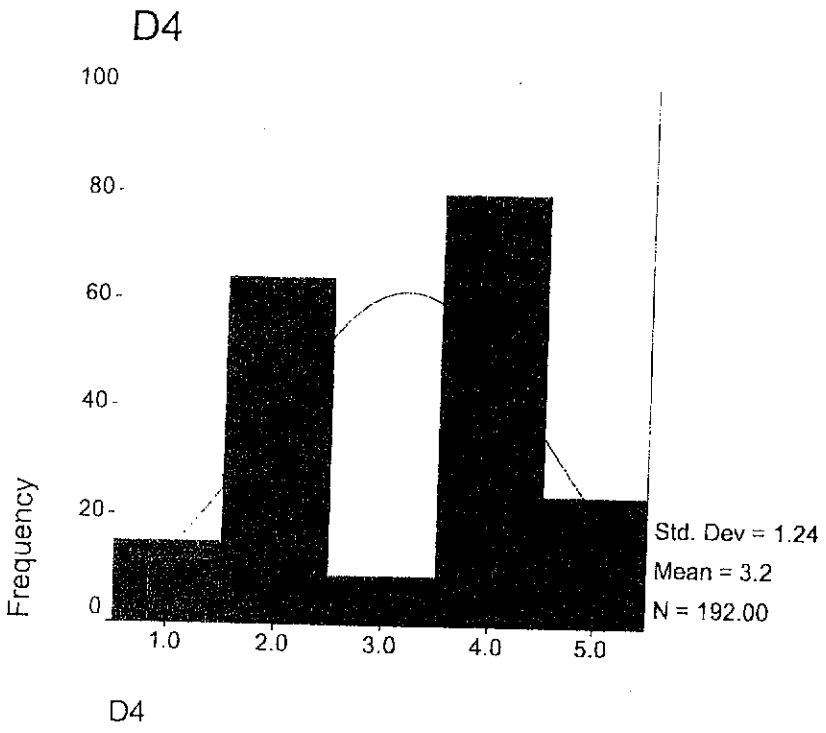
Statistics

D4

N	Valid	192
	Missing	0
Mean		3.1771
Median		4.0000
Mode		4.00
Std. Deviation		1.2406
Variance		1.5392
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		610.00

D4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	7.8	7.8	7.8
	2.00	64	33.3	33.3	41.1
	3.00	9	4.7	4.7	45.8
	4.00	80	41.7	41.7	87.5
	5.00	24	12.5	12.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Collectivism - Questions D7 to D10

Statistics

		D7	D8	D9	D10
N	Valid	192	192	192	192
	Missing	0	0	0	0
Mean		3.3177	4.1458	3.5104	3.6615
Median		4.0000	4.0000	4.0000	4.0000
Mode		4.00	4.00	4.00	4.00
Std. Deviation		1.1294	.5313	1.1209	1.0000
Variance		1.2755	.2823	1.2564	1.0000
Range		4.00	3.00	4.00	4.00
Minimum		1.00	2.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00
Sum		637.00	796.00	674.00	703.00

Frequencies - Individuals Ratings on Collectivism - Question D7

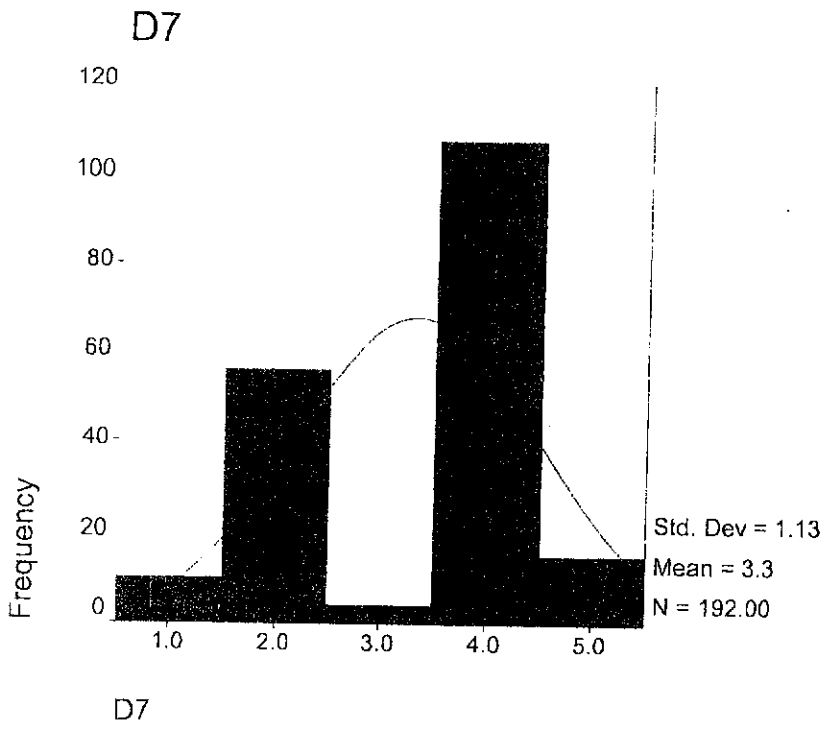
Statistics

D7

N	Valid	192
	Missing	0
Mean		3.3177
Median		4.0000
Mode		4.00
Std. Deviation		1.1294
Variance		1.2755
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		637.00

D7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	10	5.2	5.2	5.2
	2.00	56	29.2	29.2	34.4
	3.00	4	2.1	2.1	36.5
	4.00	107	55.7	55.7	92.2
	5.00	15	7.8	7.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Collectivism - Question D8

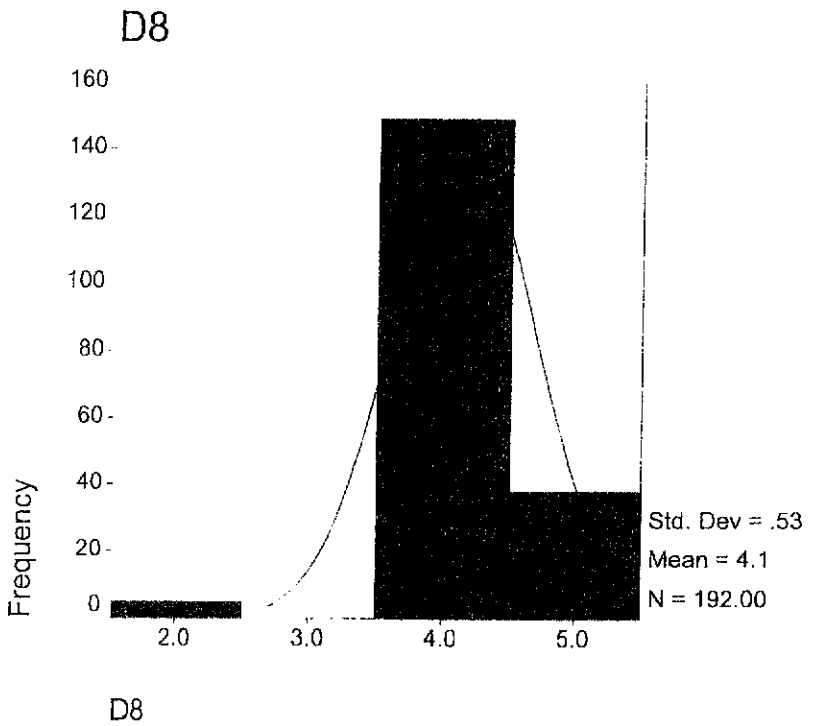
Statistics

D8

N	Valid	192
	Missing	0
Mean		4.1458
Median		4.0000
Mode		4.00
Std. Deviation		.5313
Variance		.2823
Range		3.00
Minimum		2.00
Maximum		5.00
Sum		796.00

D8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00	5	2.6	2.6	2.6
	4.00	149	77.6	77.6	80.2
	5.00	38	19.8	19.8	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Collectivism - Question D9

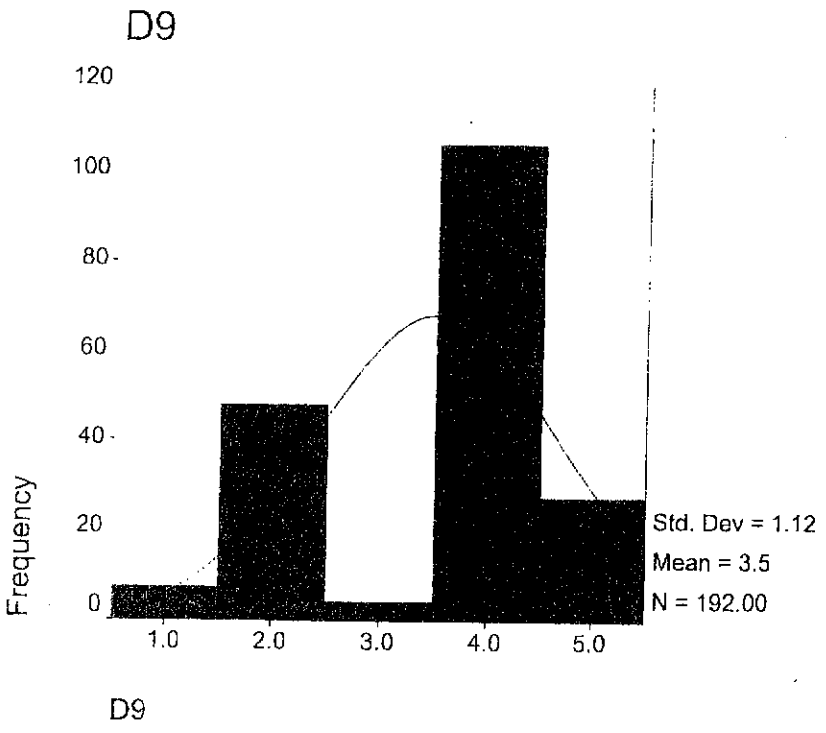
Statistics

D9

N	Valid	192
	Missing	0
Mean		3.5104
Median		4.0000
Mode		4.00
Std. Deviation		1.1209
Variance		1.2564
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		674.00

D9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	7	3.6	3.6	3.6
	2.00	48	25.0	25.0	28.6
	3.00	4	2.1	2.1	30.7
	4.00	106	55.2	55.2	85.9
	5.00	27	14.1	14.1	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Collectism - Question D10

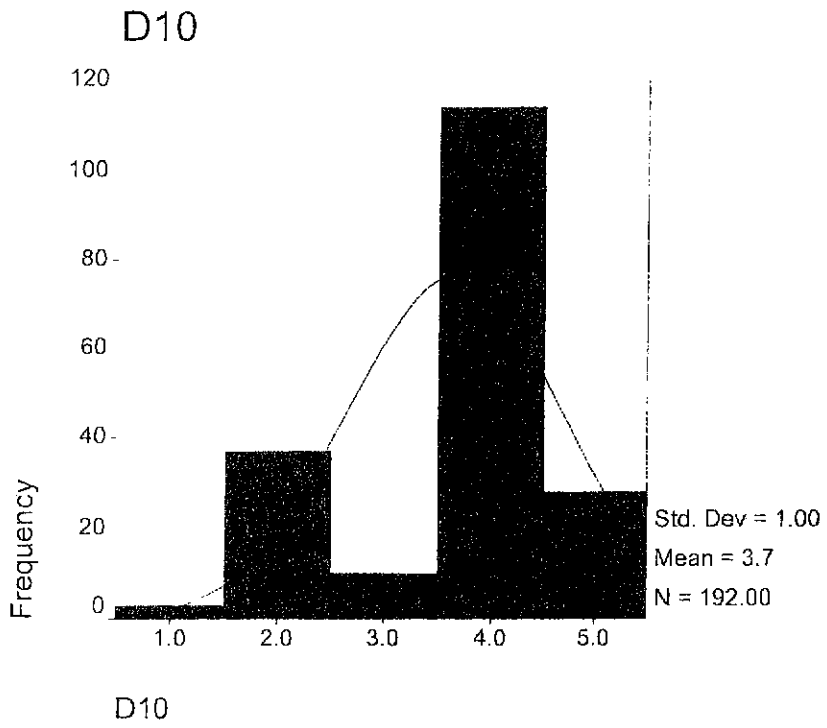
Statistics

D10

N	Valid	192
	Missing	0
Mean		3.6615
Median		4.0000
Mode		4.00
Std. Deviation		1.0000
Variance		1.0000
Range		4.00
Minimum		1.00
Maximum		5.00
Sum		703.00

D10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	1.6	1.6	1.6
	2.00	37	19.3	19.3	20.8
	3.00	10	5.2	5.2	26.0
	4.00	114	59.4	59.4	85.4
	5.00	28	14.6	14.6	100.0
	Total	192	100.0	100.0	



Appendix 6.1

FREQUENCY TABLE

for 192 individual employees – Each construct - interval scale
(pages 352-359)

Frequencies - Individual Ratings on Confidence - Questions A1 to A4 (Interval Scale)

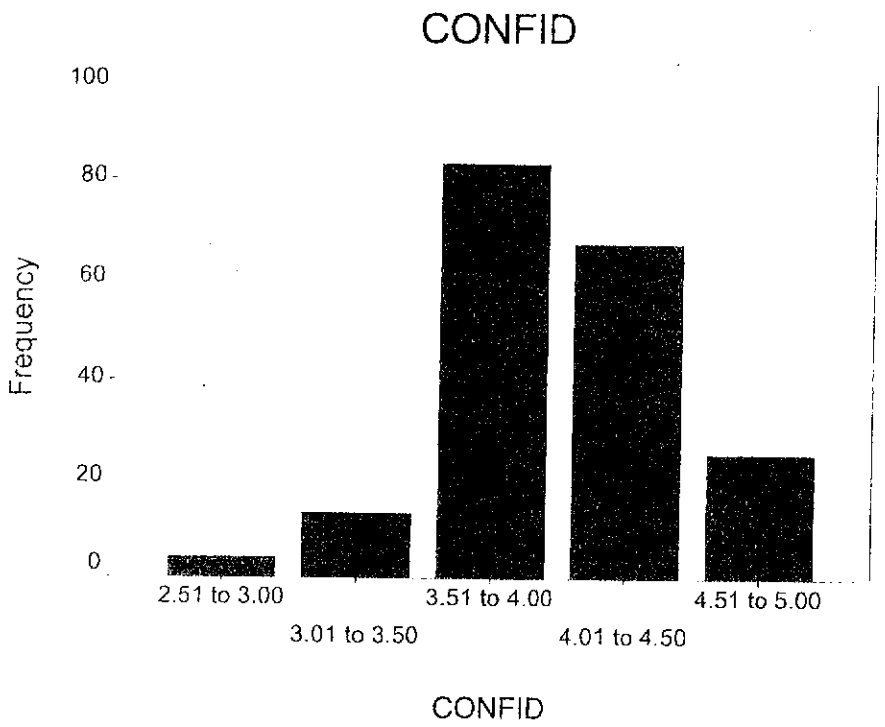
Statistics

CONFID

N	Valid	192
	Missing	0

CONFID

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	4	2.1	2.1	2.1
	3.01 to 3.50	13	6.8	6.8	8.9
	3.51 to 4.00	83	43.2	43.2	52.1
	4.01 to 4.50	67	34.9	34.9	87.0
	4.51 to 5.00	25	13.0	13.0	100.0
	Total	192	100.0	100.0	



Frequencies - Individaul Ratings on Coopertion - Qustions B1 to B5 (Interval Scale)

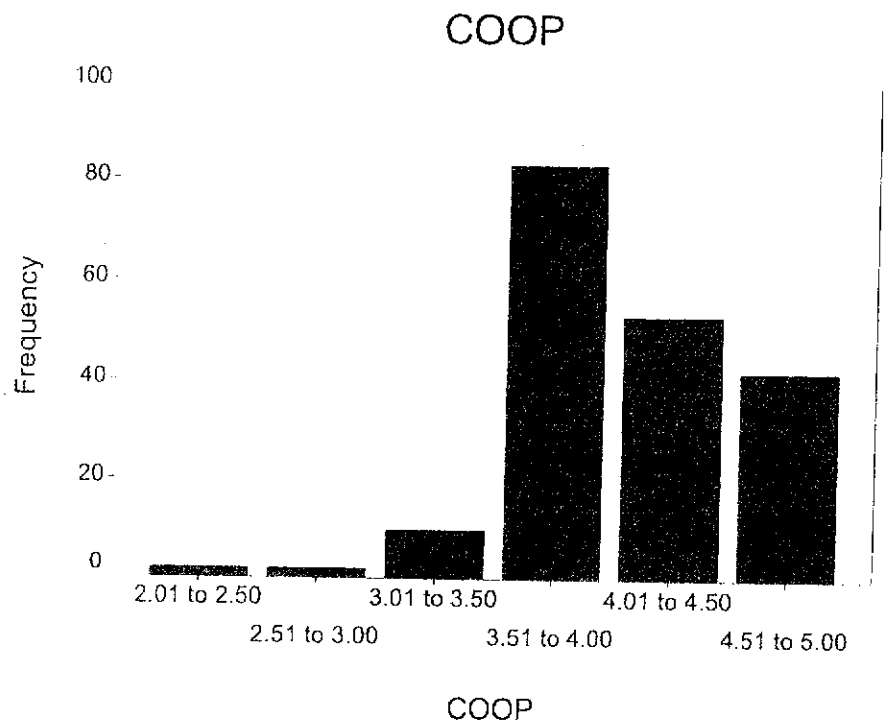
Statistics

COOP

N	Valid	192
	Missing	0

COOP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	2	1.0	1.0	1.0
	2.51 to 3.00	2	1.0	1.0	2.1
	3.01 to 3.50	10	5.2	5.2	7.3
	3.51 to 4.00	83	43.2	43.2	50.5
	4.01 to 4.50	53	27.6	27.6	78.1
	4.51 to 5.00	42	21.9	21.9	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Competition - Questions B6 to B10 (Interval Scale)

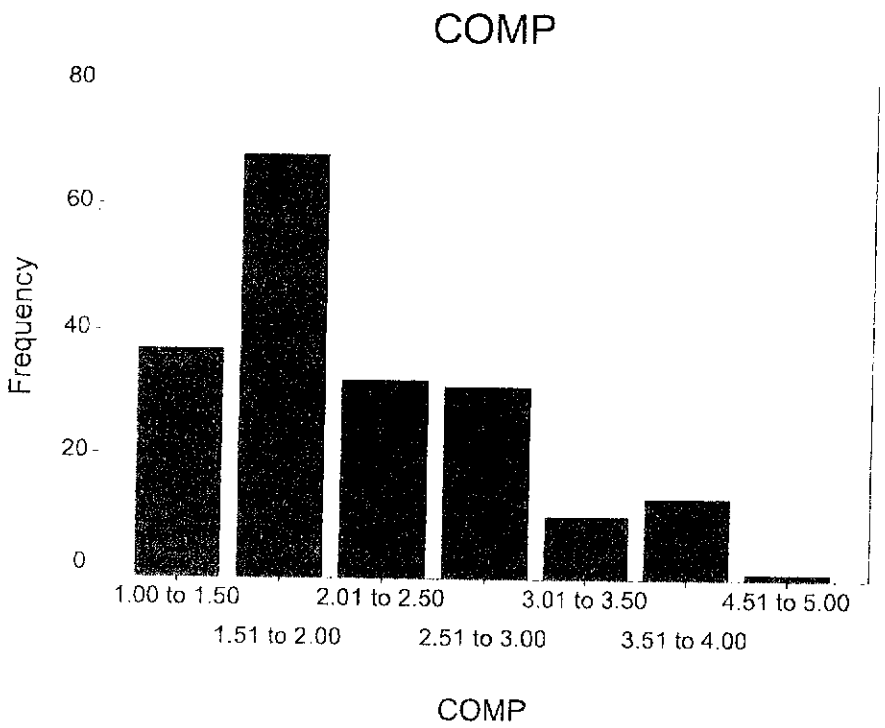
Statistics

COMP

N	Valid	192
	Missing	0

COMP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	37	19.3	19.3	19.3
	1.51 to 2.00	68	35.4	35.4	54.7
	2.01 to 2.50	32	16.7	16.7	71.4
	2.51 to 3.00	31	16.1	16.1	87.5
	3.01 to 3.50	10	5.2	5.2	92.7
	3.51 to 4.00	13	6.8	6.8	99.5
	4.51 to 5.00	1	.5	.5	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Independence - Questions B11 to B15 (Interval Scale)

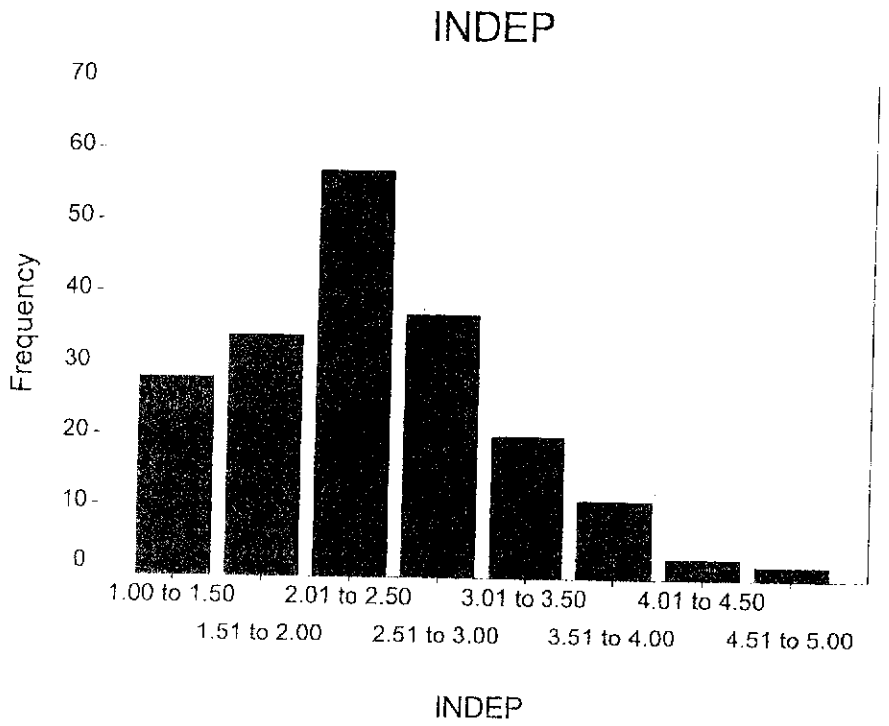
Statistics

INDEP

N	Valid	192
	Missing	0

INDEP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	28	14.6	14.6	14.6
	1.51 to 2.00	34	17.7	17.7	32.3
	2.01 to 2.50	57	29.7	29.7	62.0
	2.51 to 3.00	37	19.3	19.3	81.3
	3.01 to 3.50	20	10.4	10.4	91.7
	3.51 to 4.00	11	5.7	5.7	97.4
	4.01 to 4.50	3	1.6	1.6	99.0
	4.51 to 5.00	2	1.0	1.0	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on OpenM (Constructive Controversy) - Questions C1 to C9 (Interval Scale)

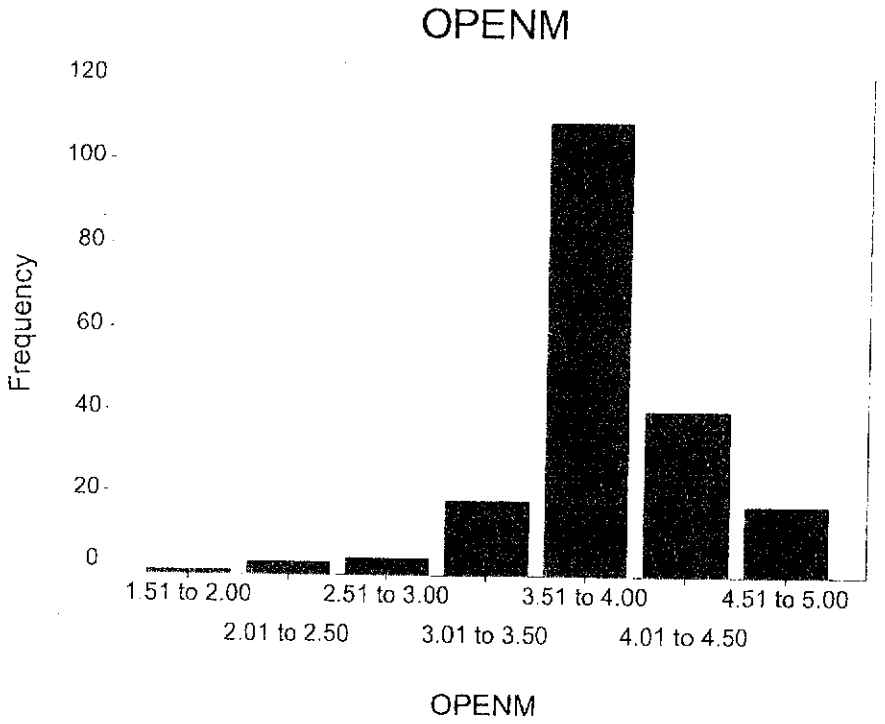
Statistics

OPENM

N	Valid	192
	Missing	0

OPENM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	1	.5	.5	.5
	2.01 to 2.50	3	1.6	1.6	2.1
	2.51 to 3.00	4	2.1	2.1	4.2
	3.01 to 3.50	18	9.4	9.4	13.5
	3.51 to 4.00	109	56.8	56.8	70.3
	4.01 to 4.50	40	20.8	20.8	91.1
	4.51 to 5.00	109	8.9	8.9	100.0
	Total	40	100.0	100.0	



Frequencies - Individuals Ratings on Power Distance - Questions D1 to D4 (Interval Scale)

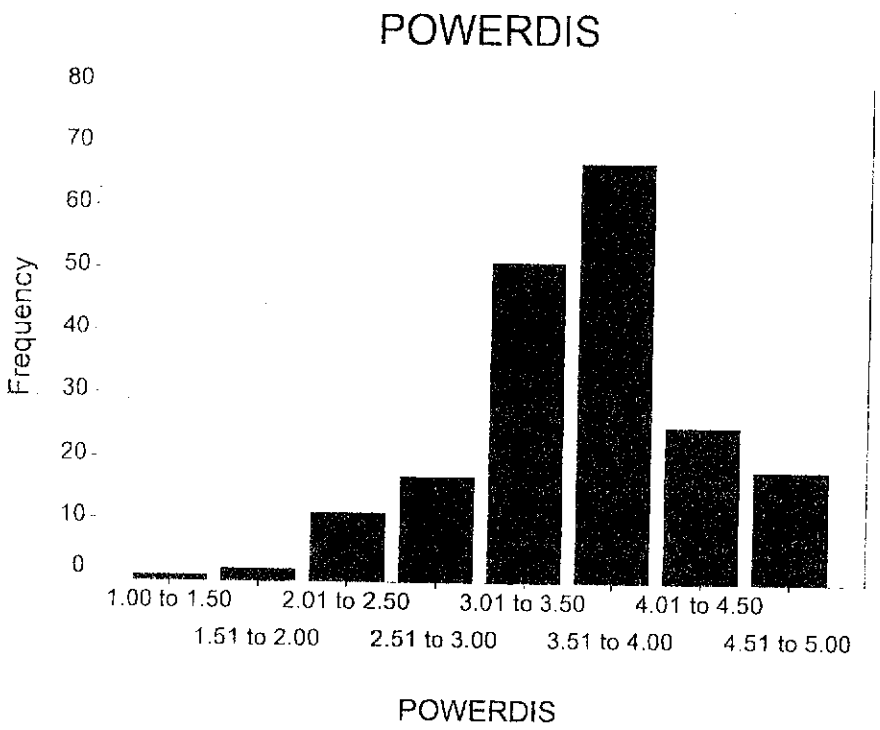
Statistics

POWERDIS

N	Valid	192
	Missing	0

POWERDIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	1	.5	.5	.5
	1.51 to 2.00	2	1.0	1.0	1.6
	2.01 to 2.50	11	5.7	5.7	7.3
	2.51 to 3.00	17	8.9	8.9	16.1
	3.01 to 3.50	51	26.6	26.6	42.7
	3.51 to 4.00	67	34.9	34.9	77.6
	4.01 to 4.50	25	13.0	13.0	90.6
	4.51 to 5.00	18	9.4	9.4	100.0
	Total	192	100.0	100.0	



Frequencies - Individuals Ratings on Collectivism - Questions D7 to D10 (Interval Scale)

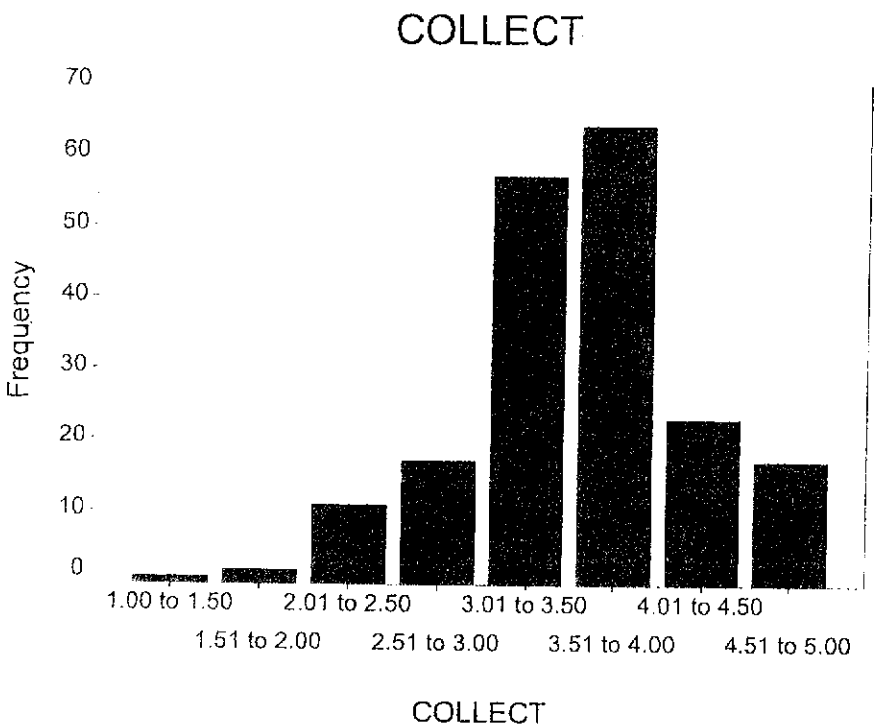
Statistics

COLLECT

N	Valid	192
	Missing	0

COLLECT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	1	.5	.5	.5
	1.51 to 2.00	2	1.0	1.0	1.6
	2.01 to 2.50	11	5.7	5.7	7.3
	2.51 to 3.00	17	8.9	8.9	16.1
	3.01 to 3.50	57	29.7	29.7	45.8
	3.51 to 4.00	64	33.3	33.3	79.2
	4.01 to 4.50	23	12.0	12.0	91.1
	4.51 to 5.00	17	8.9	8.9	100.0
	Total	192	100.0	100.0	



Appendix 6.1

FREQUENCY TABLE

for 61 teams – Each question - interval scale (pages 360-397)

Frequencies - Teams Self Ratings on Confidence - Question A1 (Interval Scale)

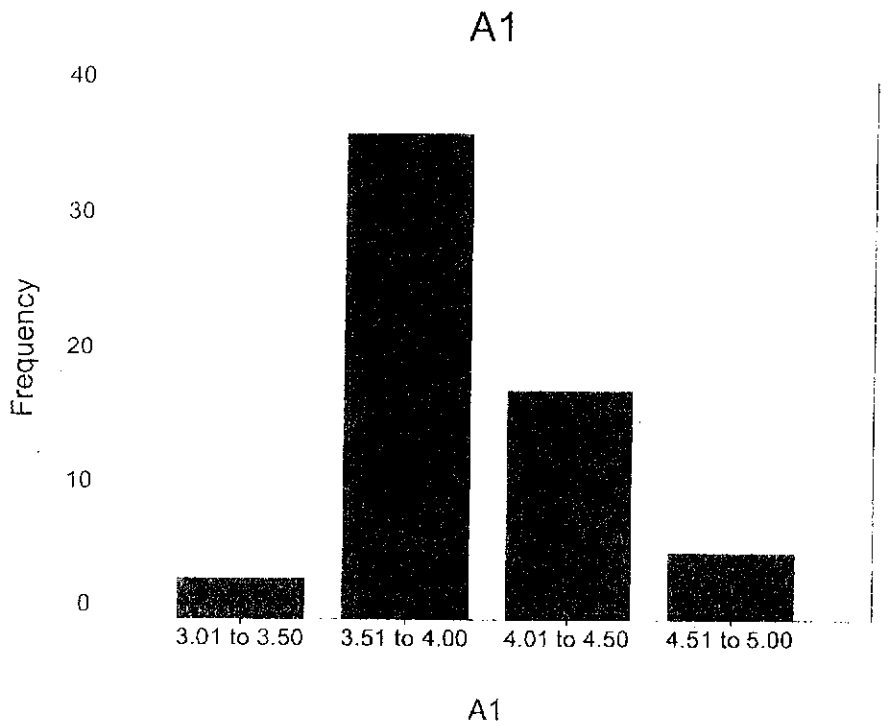
Statistics

A1

N	Valid	61
	Missing	1

A1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.01 to 3.50	3	4.8	4.9	4.9
	3.51 to 4.00	36	58.1	59.0	63.9
	4.01 to 4.50	17	27.4	27.9	91.8
	4.51 to 5.00	5	8.1	8.2	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Self Ratings on Confidence - Question A2 (Interval Scale)

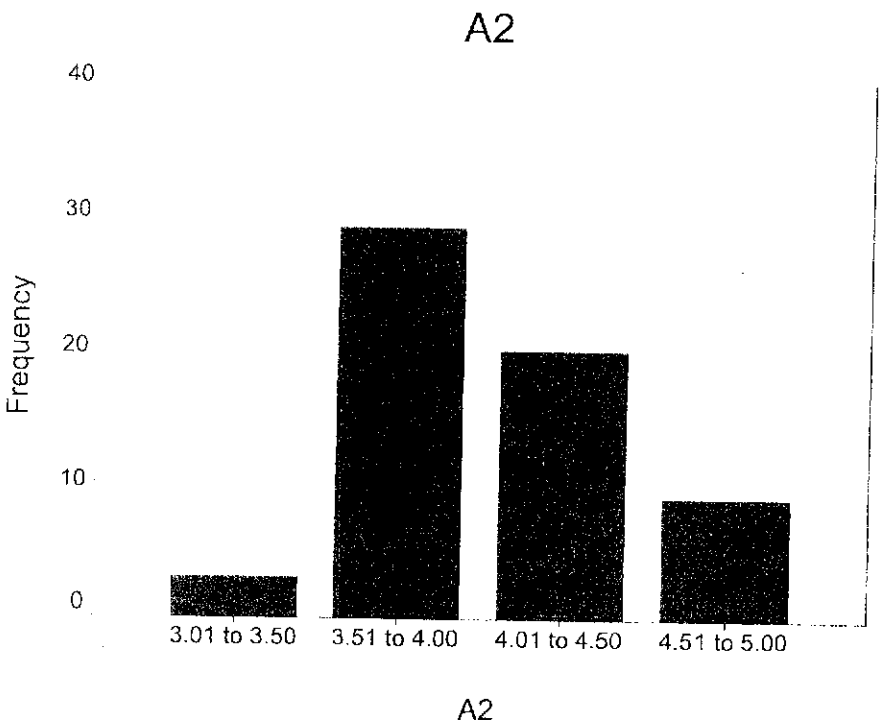
Statistics

A2

N	Valid	61
	Missing	1

A2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.01 to 3.50	3	4.8	4.9	4.9
	3.51 to 4.00	29	46.8	47.5	52.5
	4.01 to 4.50	20	32.3	32.8	85.2
	4.51 to 5.00	9	14.5	14.8	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Self Ratings on Confidence - Question A3 (Interval Scale)

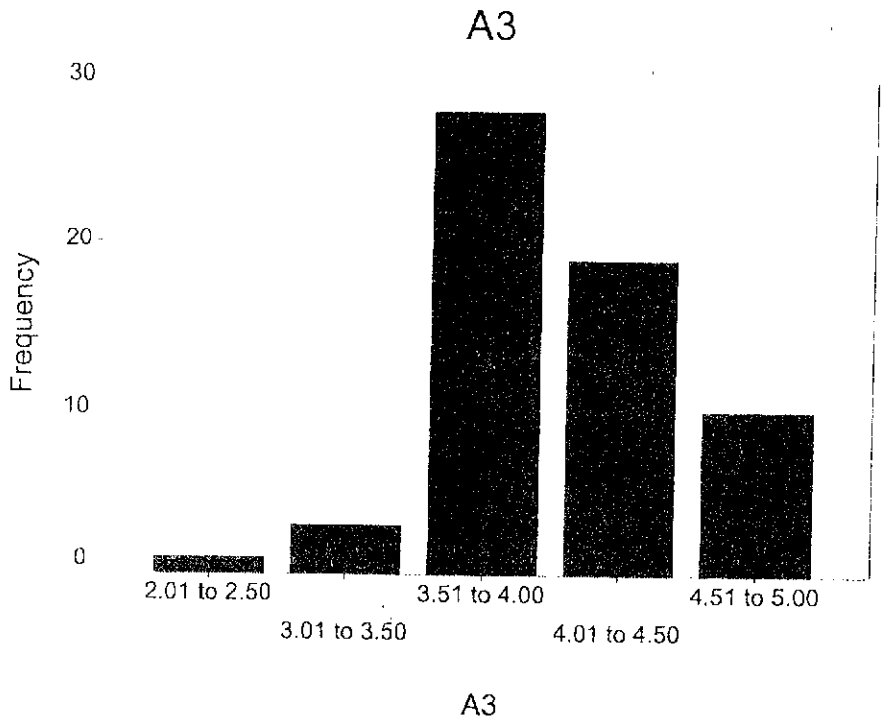
Statistics

A3

N	Valid	61
	Missing	1

A3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	1	1.6	1.6	1.6
	3.01 to 3.50	3	4.8	4.9	6.6
	3.51 to 4.00	28	45.2	45.9	52.5
	4.01 to 4.50	19	30.6	31.1	83.6
	4.51 to 5.00	10	16.1	16.4	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Self Ratings on Confidence - Question A4 (Interval Scale)

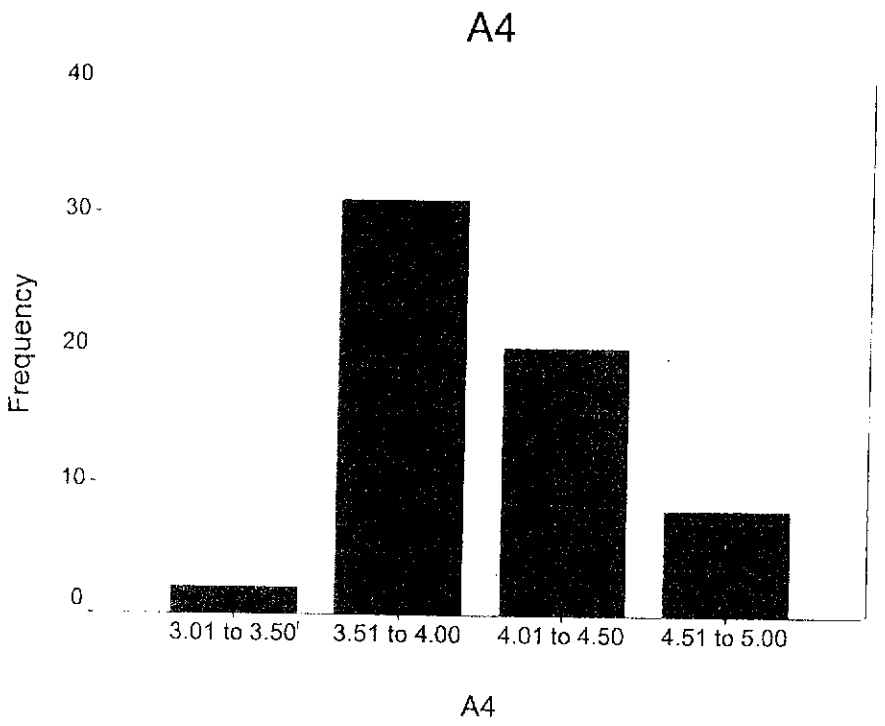
Statistics

A4

N	Valid	61
	Missing	1

A4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.01 to 3.50	2	3.2	3.3	3.3
	3.51 to 4.00	31	50.0	50.8	54.1
	4.01 to 4.50	20	32.3	32.8	86.9
	4.51 to 5.00	8	12.9	13.1	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Cooperation - Question B1 (Interval Scale)

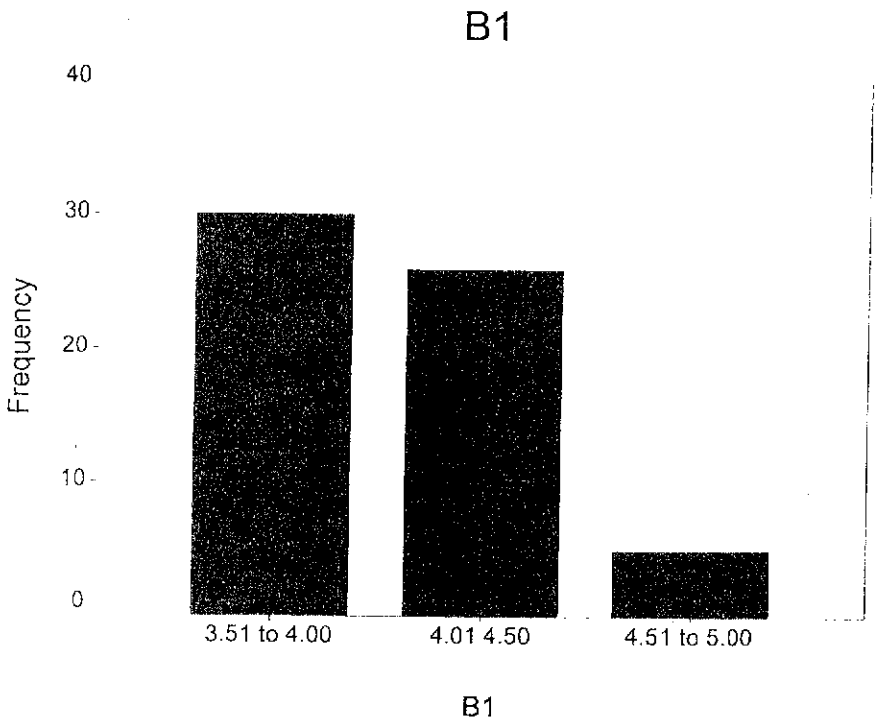
Statistics

B1

N	Valid	61
	Missing	1

B1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.51 to 4.00	30	48.4	49.2	49.2
	4.01 to 4.50	26	41.9	42.6	91.8
	4.51 to 5.00	5	8.1	8.2	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Cooperation - Question B2 (Interval Scale)

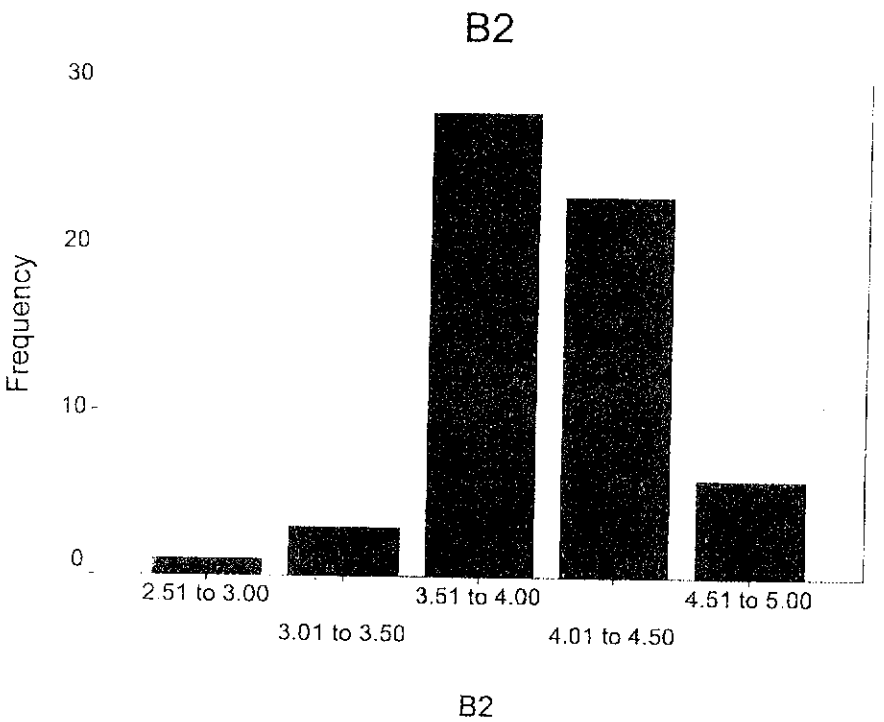
Statistics

B2

N	Valid	61
	Missing	1

B2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	1	1.6	1.6	1.6
	3.01 to 3.50	3	4.8	4.9	6.6
	3.51 to 4.00	28	45.2	45.9	52.5
	4.01 to 4.50	23	37.1	37.7	90.2
	4.51 to 5.00	6	9.7	9.8	100.0
	Total	61	98.4	100.0	
Missing	System	6	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Competition - Question B3 (Interval Scale)

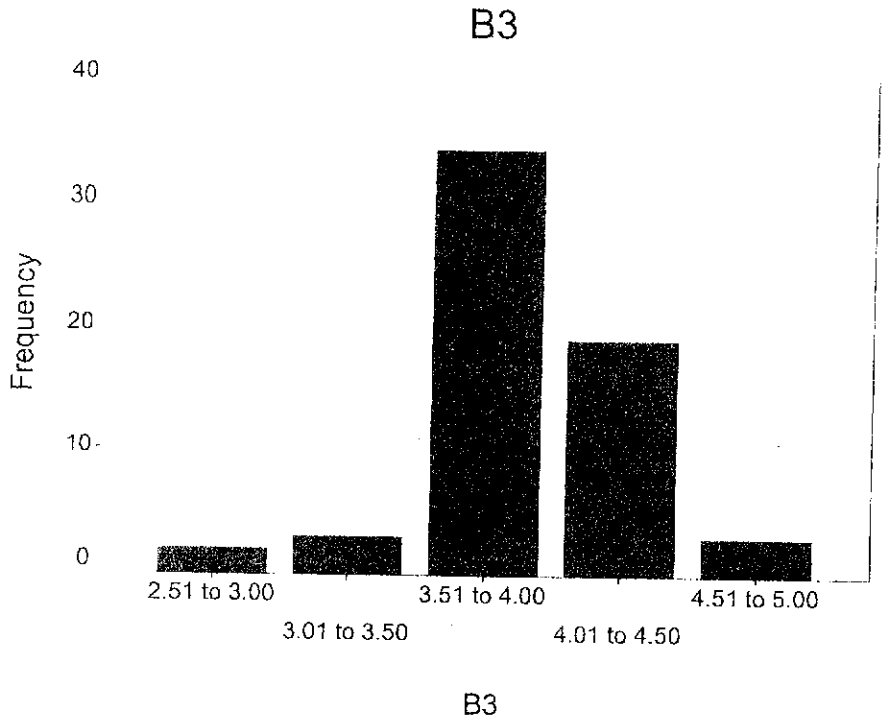
Statistics

B3

N	Valid	61
	Missing	1

B3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	2	3.2	3.3	3.3
	3.01 to 3.50	3	4.8	4.9	8.2
	3.51 to 4.00	34	54.8	55.7	63.9
	4.01 to 4.50	19	30.6	31.1	95.1
	4.51 to 5.00	3	4.8	4.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Cooperation - Question B4 (Interval Scale)

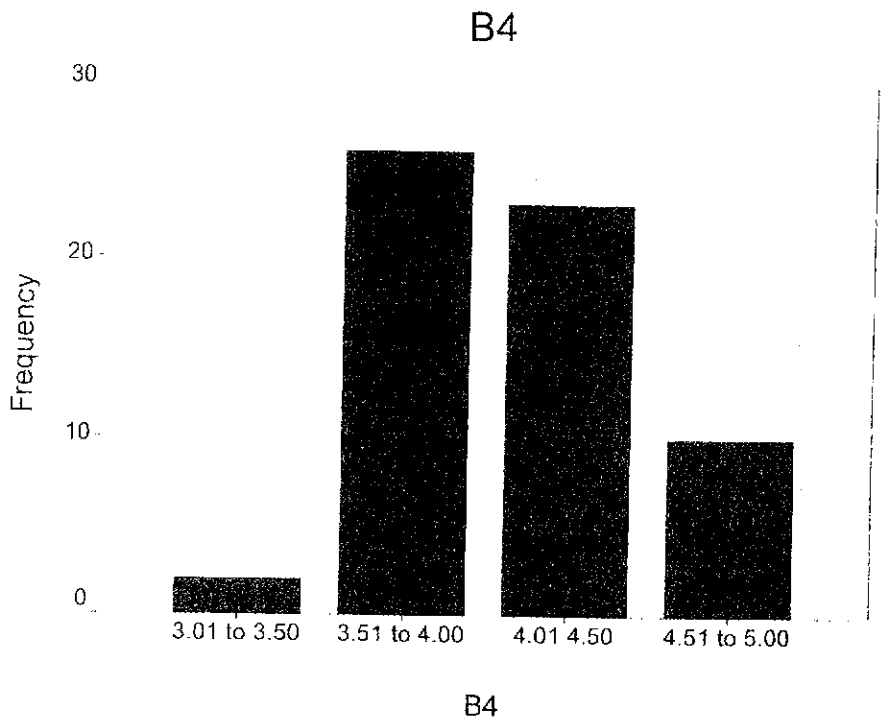
Statistics

B4

N	Valid	61
	Missing	1

B4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.01 to 3.50	2	3.2	3.3	3.3
	3.51 to 4.00	26	41.9	42.6	45.9
	4.01 to 4.50	23	37.1	37.7	83.6
	4.51 to 5.00	10	16.1	16.4	100.0
	Total	61	98.4	100.0	
Missing	System	10	1.6		
Total		61	100.0		



Frequencies - Teams Ratings on Cooperation - Question B5 (Interval Scale)

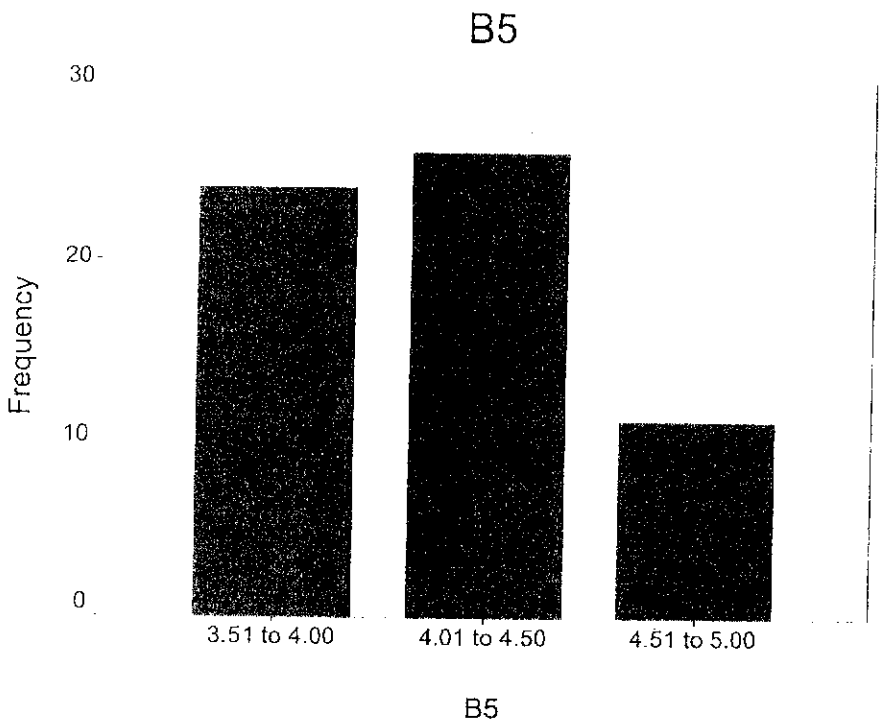
Statistics

B5

N	Valid	61
	Missing	1

B5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.51 to 4.00	24	38.7	39.3	39.3
	4.01 to 4.50	26	41.9	42.6	82.0
	4.51 to 5.00	11	17.7	18.0	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Competition - Question B6 (Interval Scale)

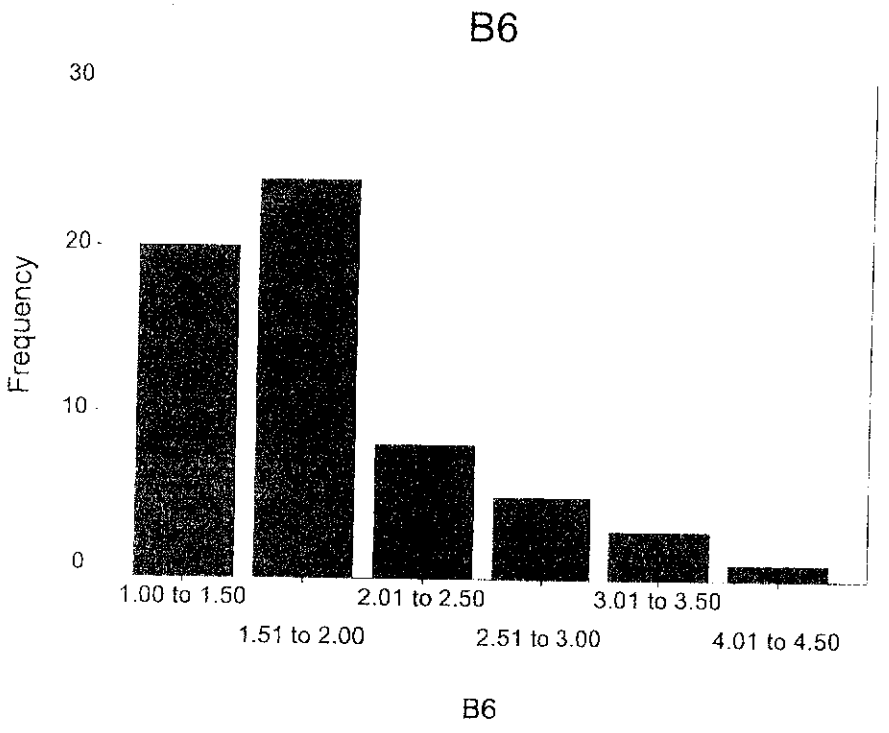
Statistics

B6

N	Valid	61
	Missing	1

B6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	20	32.3	32.8	32.8
	1.51 to 2.00	24	38.7	39.3	72.1
	2.01 to 2.50	8	12.9	13.1	85.2
	2.51 to 3.00	5	8.1	8.2	93.4
	3.01 to 3.50	3	4.8	4.9	98.4
	4.01 to 4.50	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Competition - Question B7 (Interval Scale)

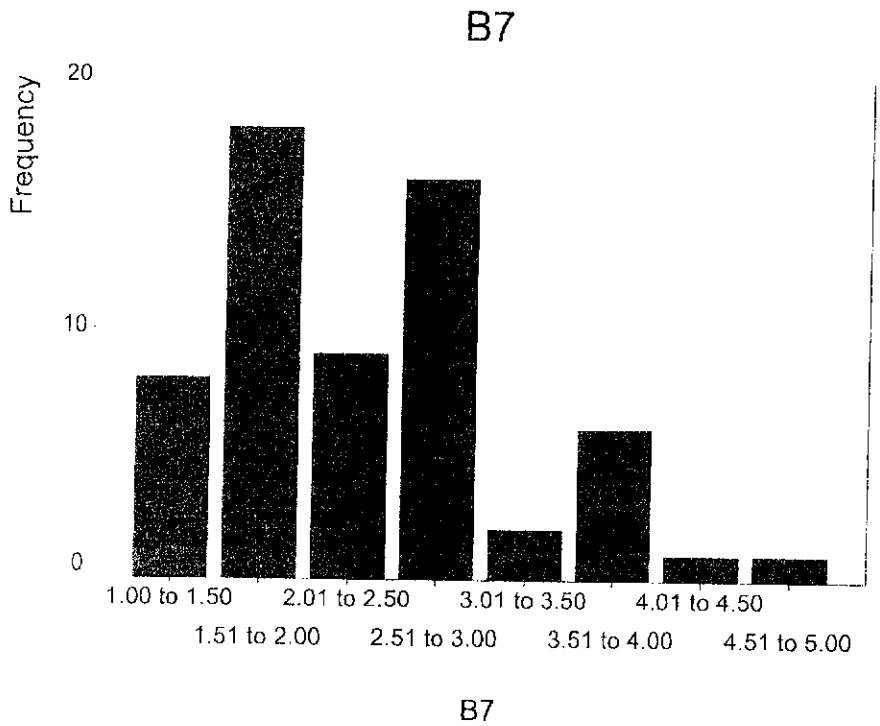
Statistics

B7

N	Valid	61
	Missing	1

B7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.51	8	12.9	13.1	13.1
	1.51 to 2.00	18	29.0	29.5	42.6
	2.01 to 2.50	9	14.5	14.8	57.4
	2.51 to 3.00	16	25.8	26.2	83.6
	3.01 to 3.50	2	3.2	3.3	86.9
	3.1 to 4.00	6	9.7	9.8	96.7
	4.01 to 4.50	1	1.6	1.6	98.4
	4.51 to 5.00	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Competition - Question B8 (Interval Scale)

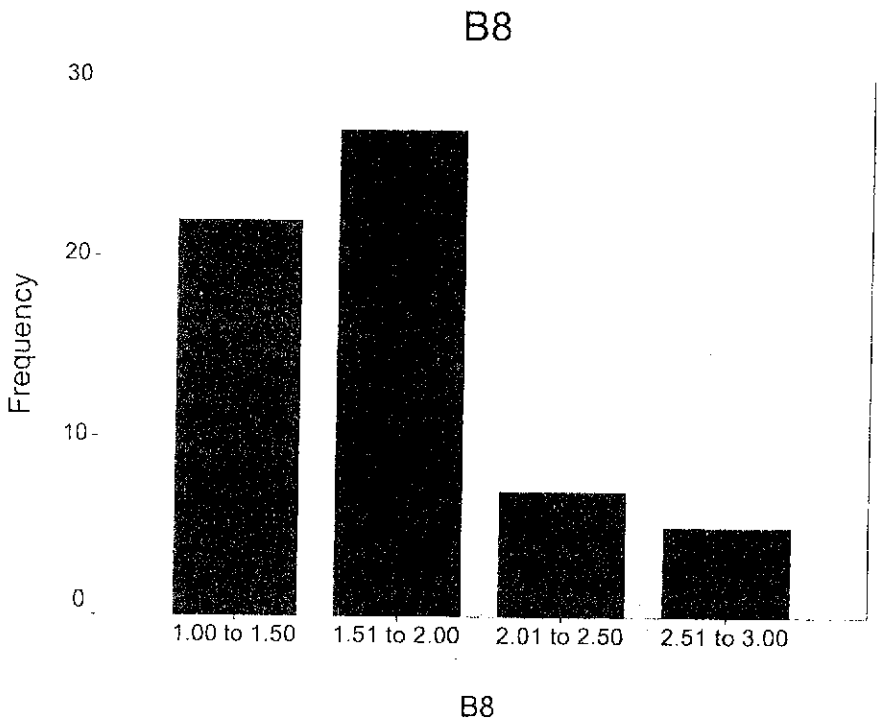
Statistics

B8

N	Valid	61
	Missing	1

B8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	22	35.5	36.1	36.1
	1.51 to 2.00	27	43.5	44.3	80.3
	2.01 to 2.50	7	11.3	11.5	91.8
	2.51 to 3.00	5	8.1	8.2	100.0
	Total	61	98.4	100.0	
Missing	System	61	1.6		
61		61	100.0		



Frequencies - Teams Ratings on Competition - Question B9 (Interval Scale)

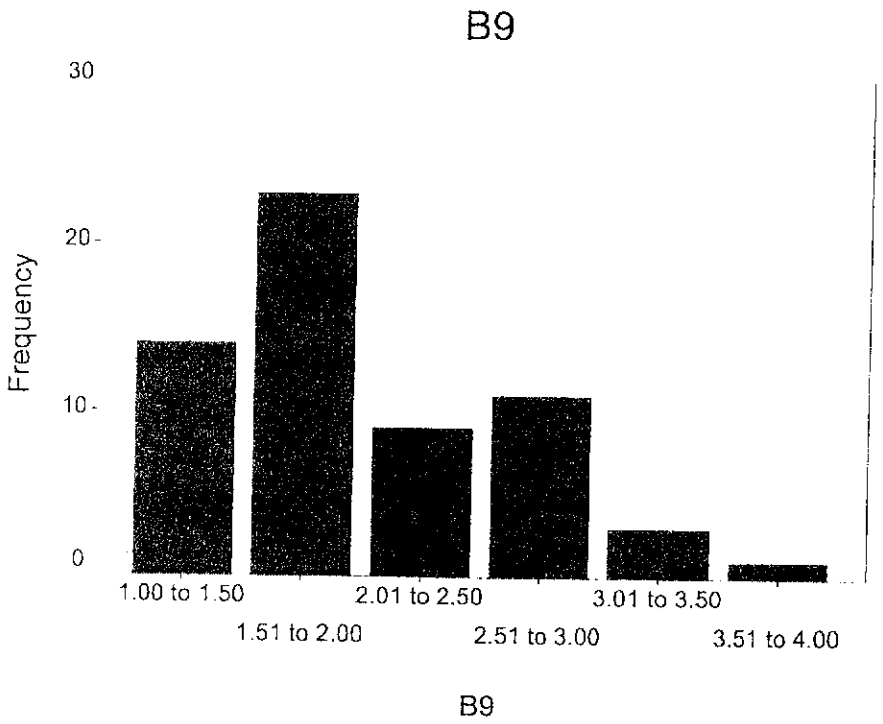
Statistics

B9

N	Valid	61
	Missing	1

B9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	14	22.6	23.0	23.0
	1.51 to 2.00	23	37.1	37.7	60.7
	2.01 to 2.50	9	14.5	14.8	75.4
	2.51 to 3.00	11	17.7	18.0	93.4
	.01 to 3.50	3	4.8	4.9	98.4
	3.51 to 4.00	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Competition - Question B10 (Interval Scale)

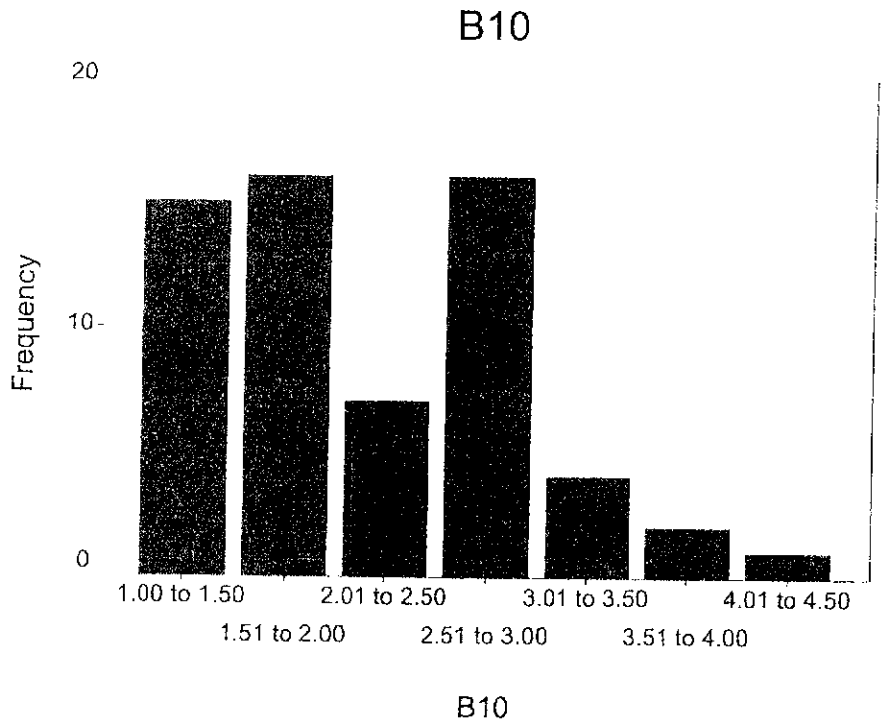
Statistics

B10

N	Valid	61
	Missing	1

B10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	15	24.2	24.6	24.6
	1.51 to 2.00	16	25.8	26.2	50.8
	2.01 to 2.50	7	11.3	11.5	62.3
	2.51 to 3.00	16	25.8	26.2	88.5
	3.01 to 3.50	4	6.5	6.6	95.1
	3.51 to 4.00	2	3.2	3.3	98.4
	4.01 to 4.50	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Independence - Question B11 (Interval Scale)

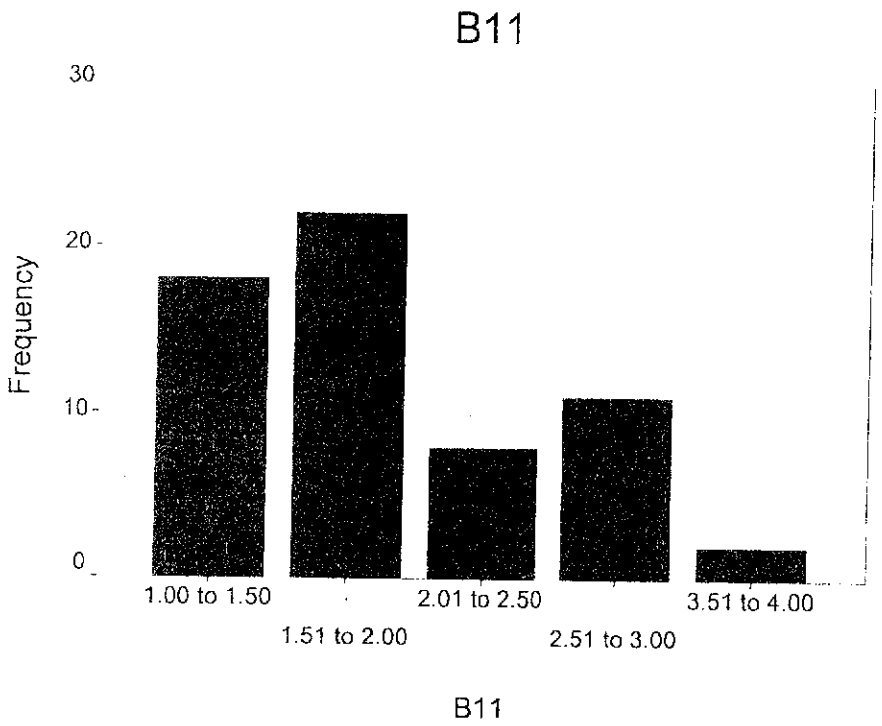
Statistics

B11

N	Valid	61
	Missing	1

B11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	18	29.0	29.5	29.5
	1.51 to 2.00	22	35.5	36.1	65.6
	2.01 to 2.50	8	12.9	13.1	78.7
	2.51 to 3.00	11	17.7	18.0	96.7
	3.51 to 4.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Independence - Question B12 (Interval Scale)

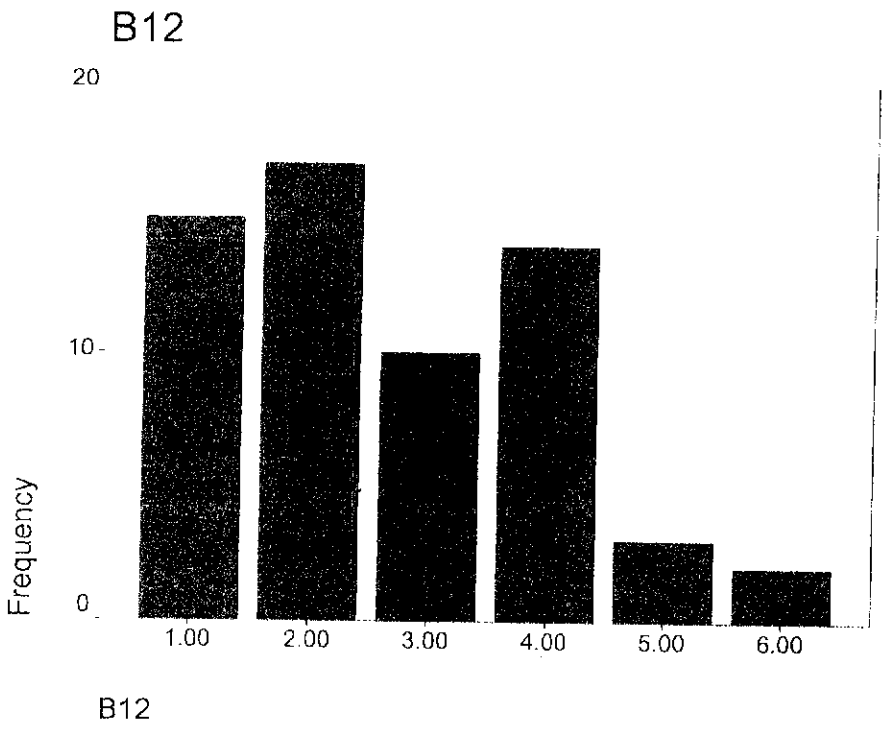
Statistics

B12

N	Valid	61
	Missing	1

B12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	15	24.2	24.6	24.6
	2.00	17	27.4	27.9	52.5
	3.00	10	16.1	16.4	68.9
	4.00	14	22.6	23.0	91.8
	5.00	3	4.8	4.9	96.7
	6.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies Teams Ratings on Independence - Question B13 (Interval Scale)

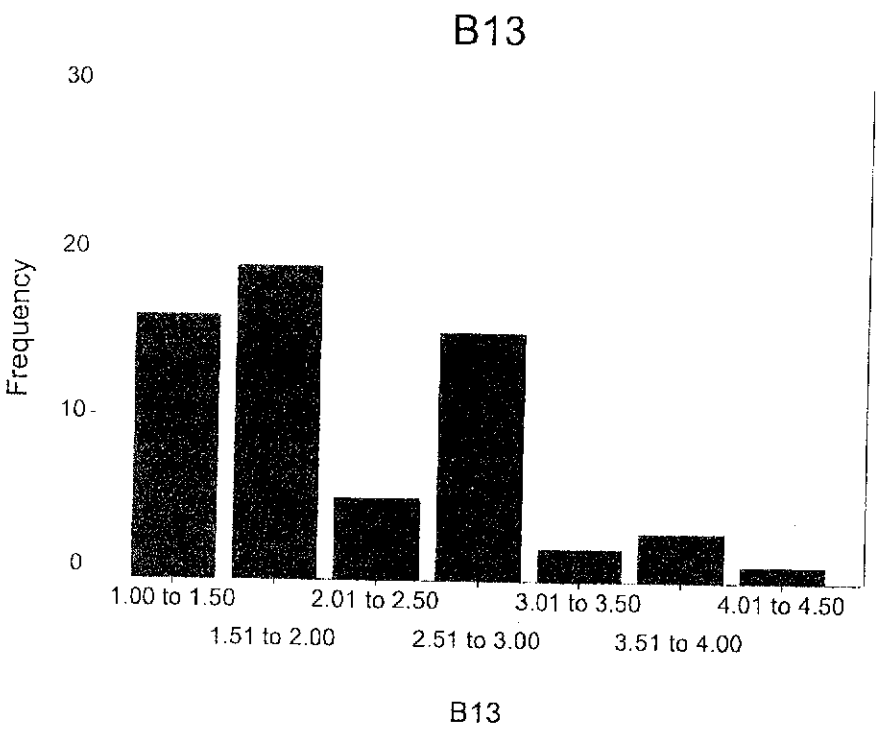
Statistics

B13

N	Valid	61
	Missing	1

B13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	16	25.8	26.2	26.2
	1.51 to 2.00	19	30.6	31.1	57.4
	2.01 to 2.50	5	8.1	8.2	65.6
	2.51 to 3.00	15	24.2	24.6	90.2
	3.01 to 3.50	2	3.2	3.3	93.4
	3.51 to 4.00	3	4.8	4.9	98.4
	4.01 to 4.50	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratigns on Independence - Question B14 (Interval Scale)

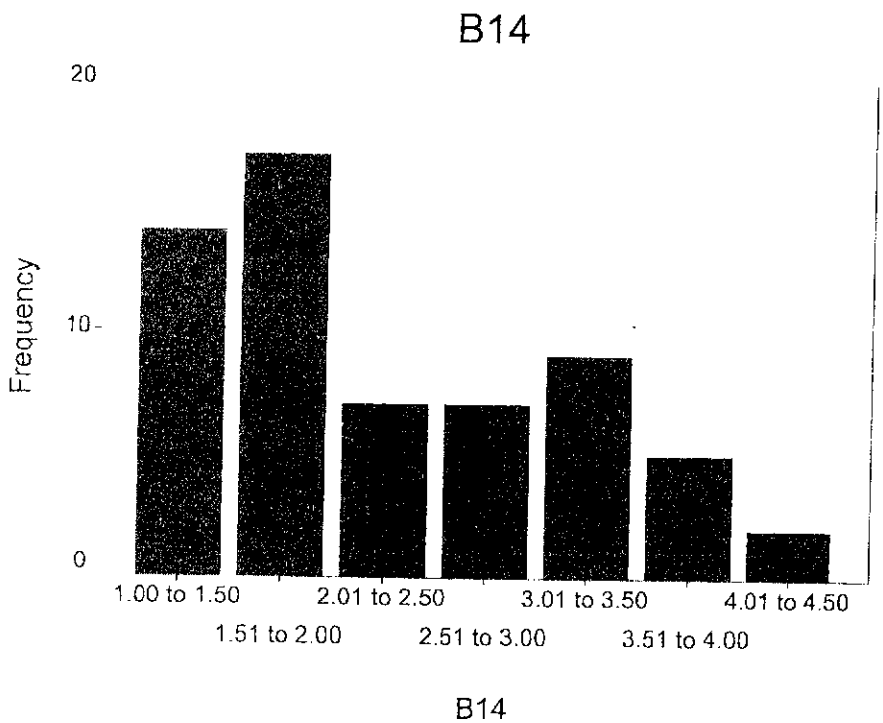
Statistics

B14

N	Valid	61
	Missing	1

B14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	14	22.6	23.0	23.0
	1.51 to 2.00	17	27.4	27.9	50.8
	2.01 to 2.50	7	11.3	11.5	62.3
	2.51 to 3.00	7	11.3	11.5	73.8
	3.01 to 3.50	9	14.5	14.8	88.5
	3.51 to 4.00	5	8.1	8.2	96.7
	4.01 to 4.50	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Rating on Independence - Question B15 (Interval Scale)

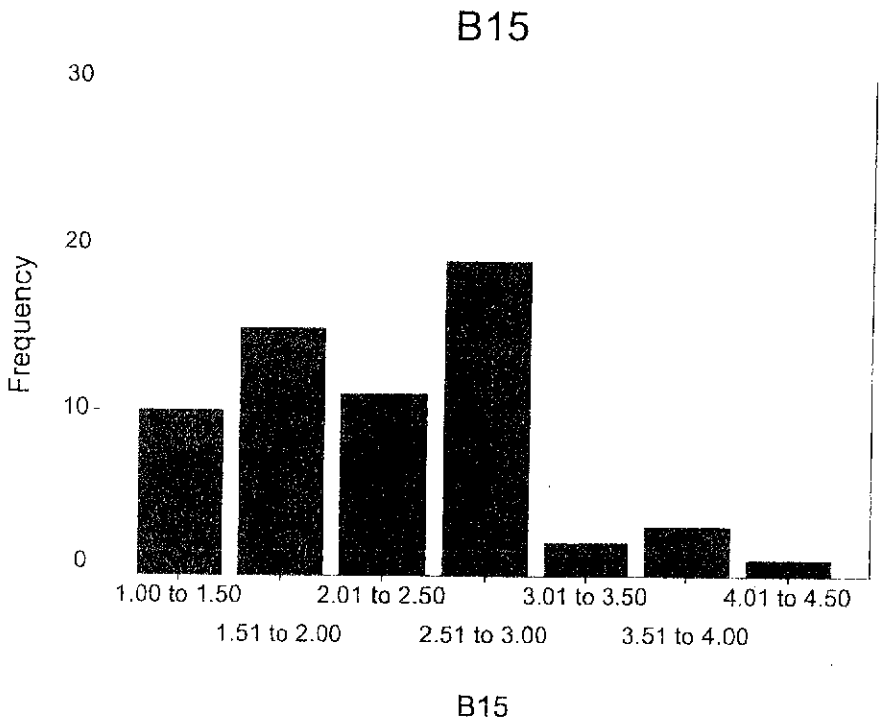
Statistics

B15

N	Valid	61
	Missing	1

B15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	10	16.1	16.4	16.4
	1.51 to 2.00	15	24.2	24.6	41.0
	2.01 to 2.50	11	17.7	18.0	59.0
	2.51 to 3.00	19	30.6	31.1	90.2
	3.01 to 3.50	2	3.2	3.3	93.4
	3.51 to 4.00	3	4.8	4.9	98.4
	4.01 to 4.50	1	1.6	1.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Independence - Question B16 (Interval Scale)

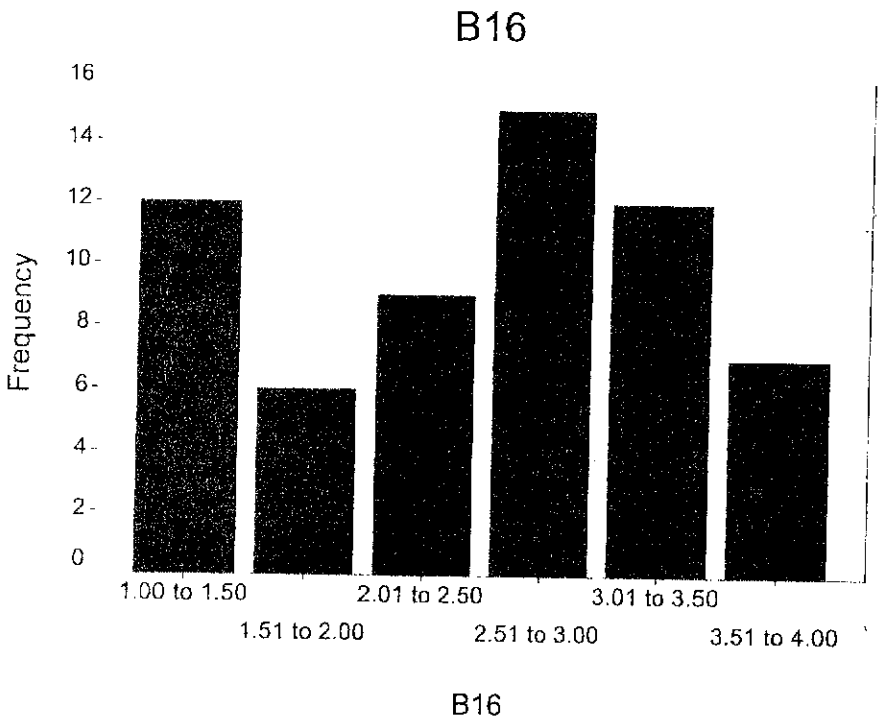
Statistics

B16

N	Valid	61
	Missing	1

B16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	12	19.4	19.7	19.7
	1.51 to 2.00	6	9.7	9.8	29.5
	2.01 to 2.50	9	14.5	14.8	44.3
	2.51 to 3.00	15	24.2	24.6	68.9
	3.01 to 3.50	12	19.4	19.7	88.5
	3.51 to 4.00	7	11.3	11.5	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C1 (Interval Scale)

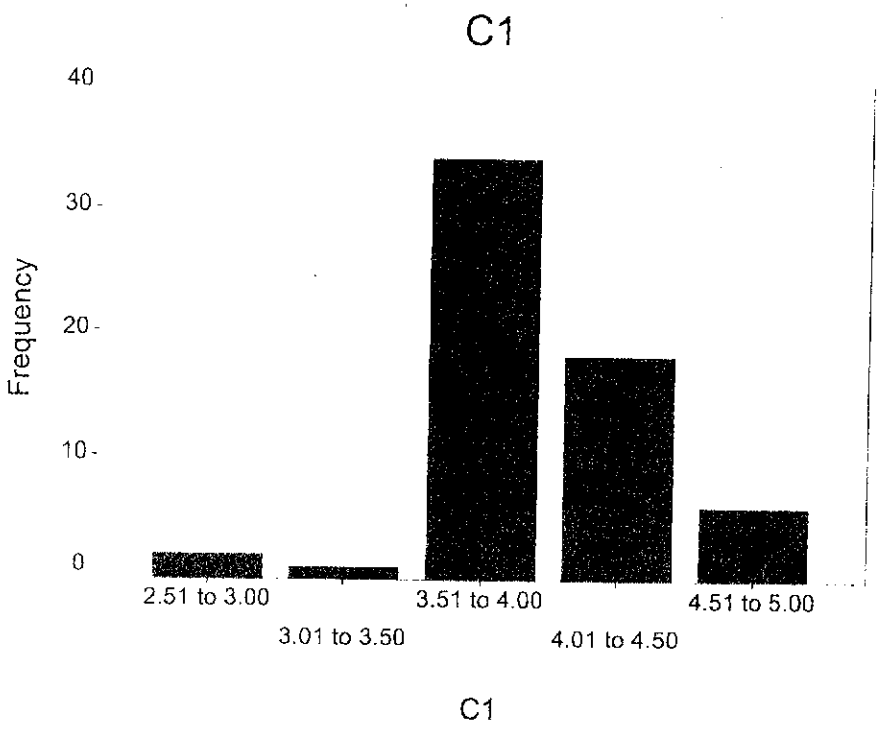
Statistics

C1

N	Valid	61
	Missing	1

C1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	2	3.2	3.3	3.3
	3.01 to 3.50	1	1.6	1.6	4.9
	3.51 to 4.00	34	54.8	55.7	60.7
	4.01 to 4.50	18	29.0	29.5	90.2
	4.51 to 5.00	6	9.7	9.8	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C2 (Interval Scale)

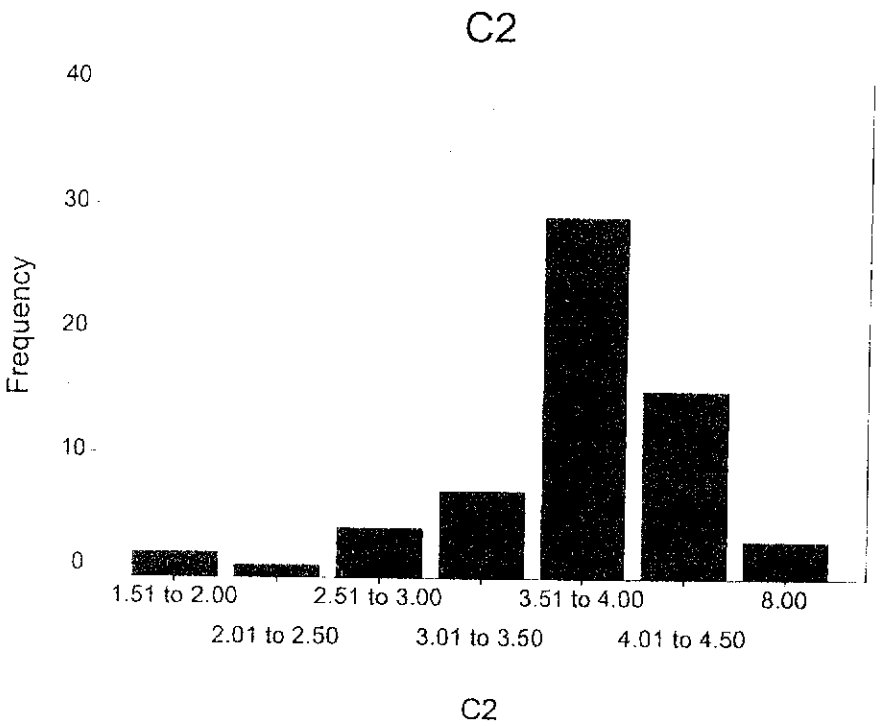
Statistics

C2

N	Valid	61
	Missing	1

C2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	2	3.2	3.3	3.3
	2.01 to 2.50	1	1.6	1.6	4.9
	2.51 to 3.00	4	6.5	6.6	11.5
	3.01 to 3.50	7	11.3	11.5	23.0
	3.51 to 4.00	29	46.8	47.5	70.5
	4.01 to 4.50	15	24.2	24.6	95.1
	4.51 to 5.00	3	4.8	4.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C3 (Interval Scale)

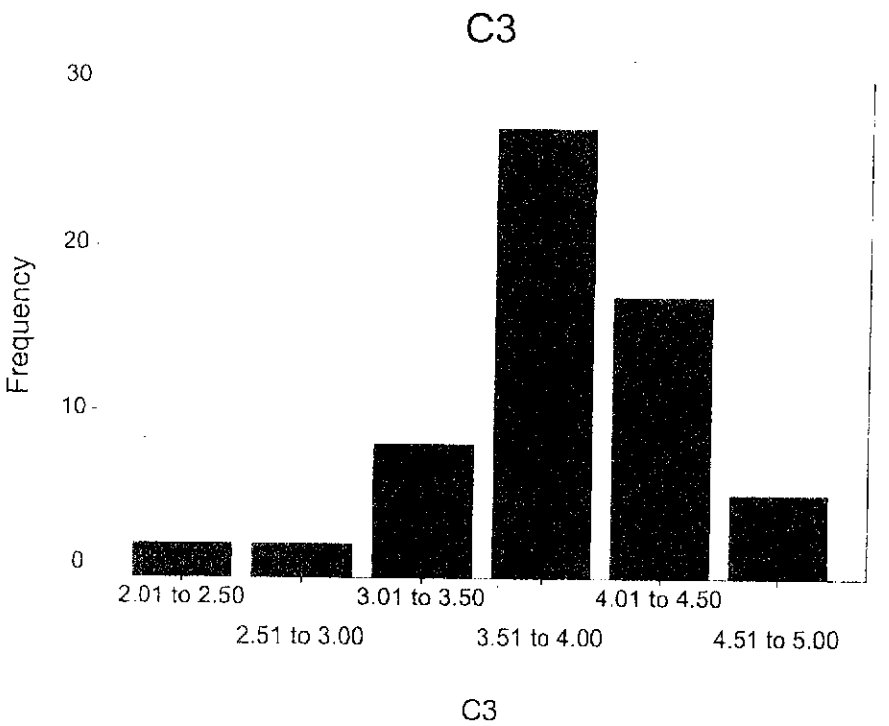
Statistics

C3

N	Valid	61
	Missing	1

C3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	2	3.2	3.3	3.3
	2.51 to 3.00	2	3.2	3.3	6.6
	3.01 to 3.50	8	12.9	13.1	19.7
	3.51 to 4.00	27	43.5	44.3	63.9
	4.01 to 4.50	17	27.4	27.9	91.8
	4.51 to 5.00	5	8.1	8.2	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C4 (Interval Scale)

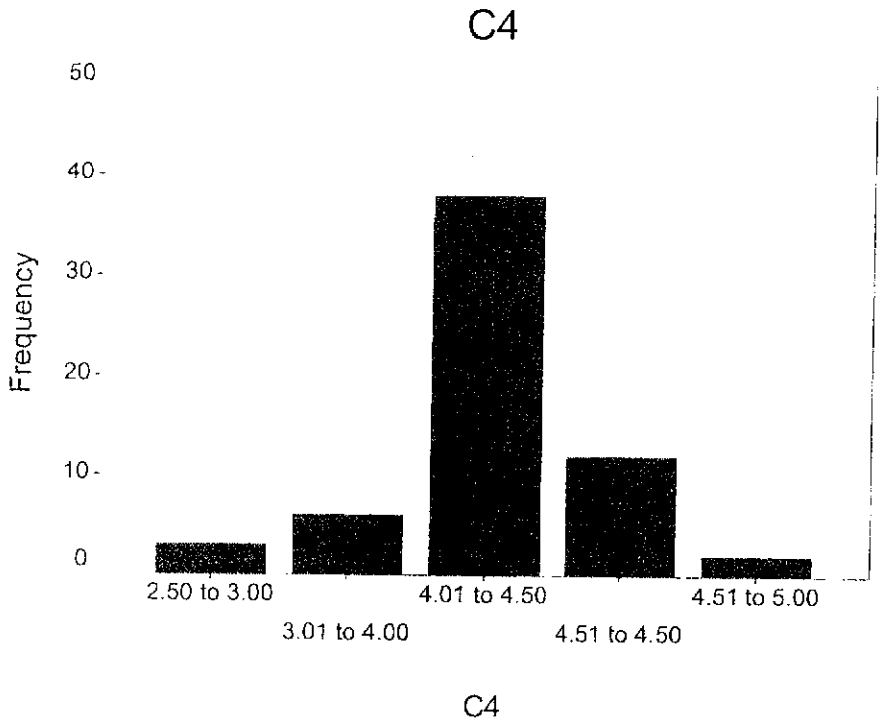
Statistics

C4

N	Valid	61
	Missing	1

C4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	3	4.8	4.9	4.9
	3.01 to 3.50	6	9.7	9.8	14.8
	3.51 to 4.00	38	61.3	62.3	77.0
	4.01 to 4.50	12	19.4	19.7	96.7
	4.51 to 5.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C5 (Interval Scale)

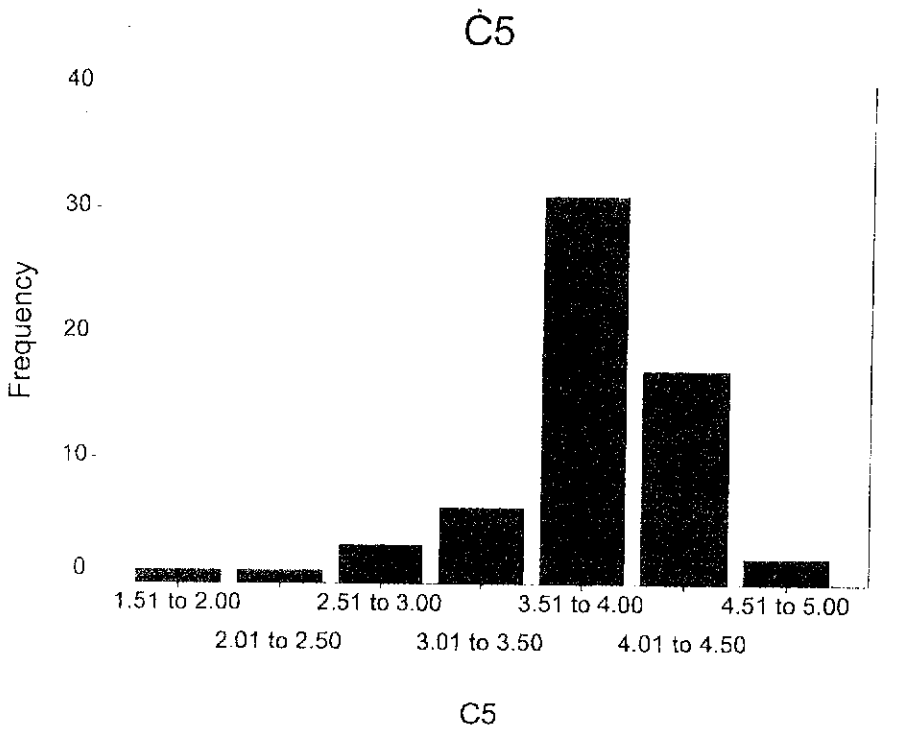
Statistics

C5

N	Valid	61
	Missing	1

C5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	1	1.6	1.6	1.6
	2.01 to 2.50	1	1.6	1.6	3.3
	2.51 to 3.00	3	4.8	4.9	8.2
	3.01 to 3.50	6	9.7	9.8	18.0
	3.51 to 4.00	31	50.0	50.8	68.9
	4.01 to 4.50	17	27.4	27.9	96.7
	4.51 to 5.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Contructive Controversy) - Question C6 (Interval Scale)

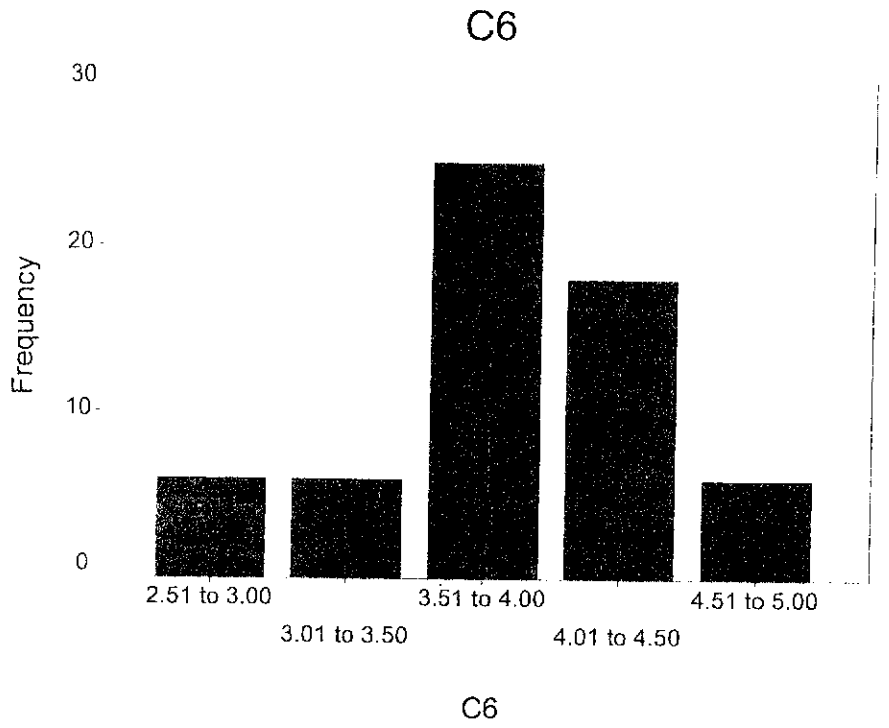
Statistics

C6

N	Valid	61
	Missing	1

C6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	6	9.7	9.8	9.8
	3.01 to 3.50	6	9.7	9.8	19.7
	3.51 to 4.00	25	40.3	41.0	60.7
	4.01 to 4.50	18	29.0	29.5	90.2
	4.51 to 5.00	6	9.7	9.8	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C7 (Interval Scale)

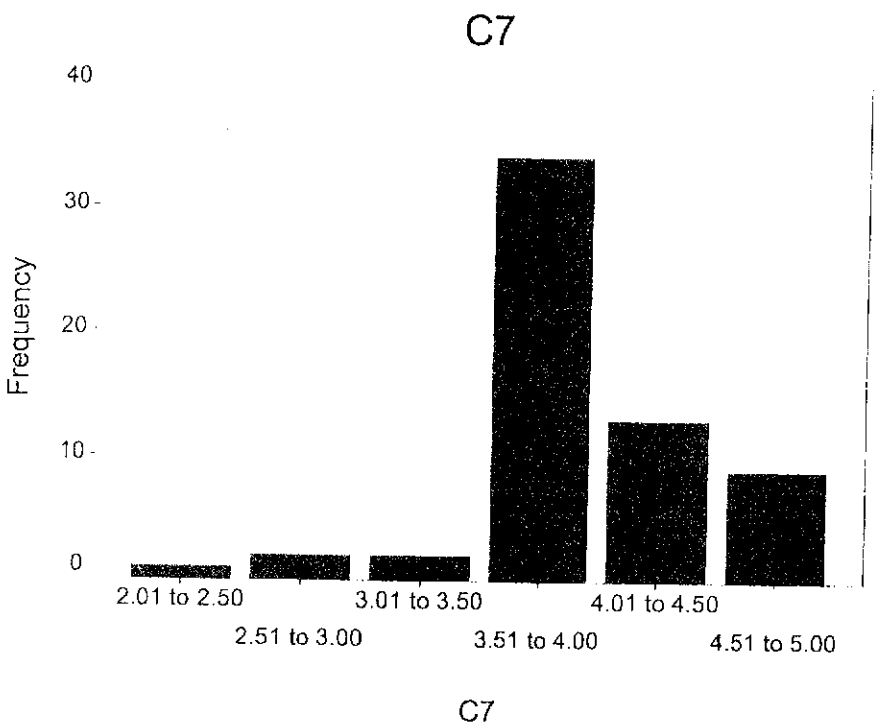
Statistics

C7

N	Valid	61
	Missing	1

C7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	1	1.6	1.6	1.6
	2.51 to 3.00	2	3.2	3.3	4.9
	3.01 to 3.50	2	3.2	3.3	8.2
	3.51 to 4.00	34	54.8	55.7	63.9
	4.01 to 4.50	13	21.0	21.3	85.2
	4.51 to 5.00	9	14.5	14.8	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Rating on OpenM (Constructive Controversy) - Question C8 (Interval Scale)

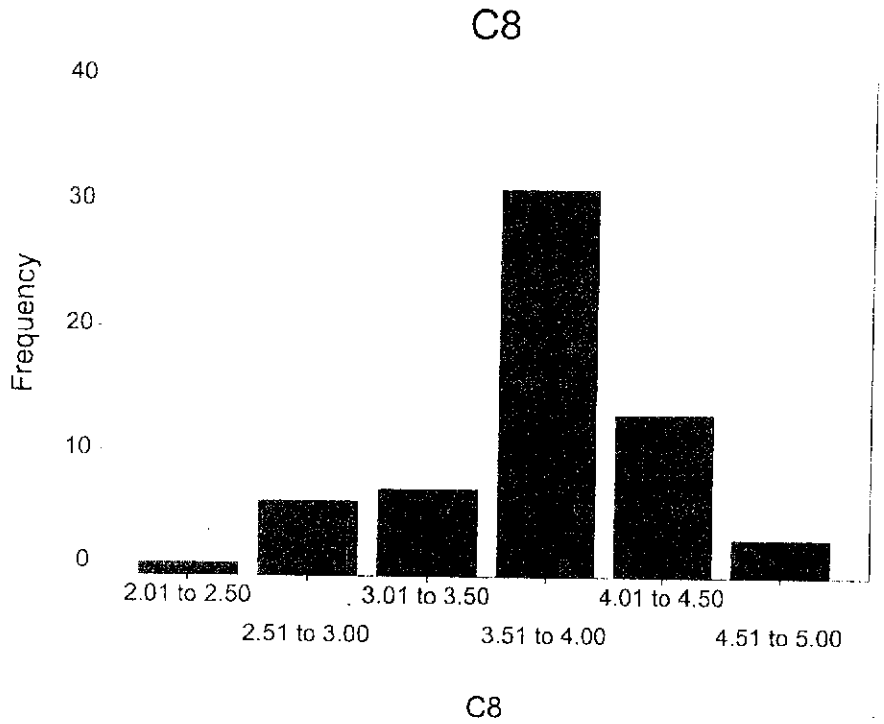
Statistics

C8

N	Valid	61
	Missing	1

C8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	1	1.6	1.6	1.6
	2.51 to 3.00	6	9.7	9.8	11.5
	3.01 to 3.50	7	11.3	11.5	23.0
	3.51 to 4.00	31	50.0	50.8	73.8
	4.01 to 4.50	13	21.0	21.3	95.1
	4.51 to 5.00	3	4.8	4.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Question C9 (Interval Scale)

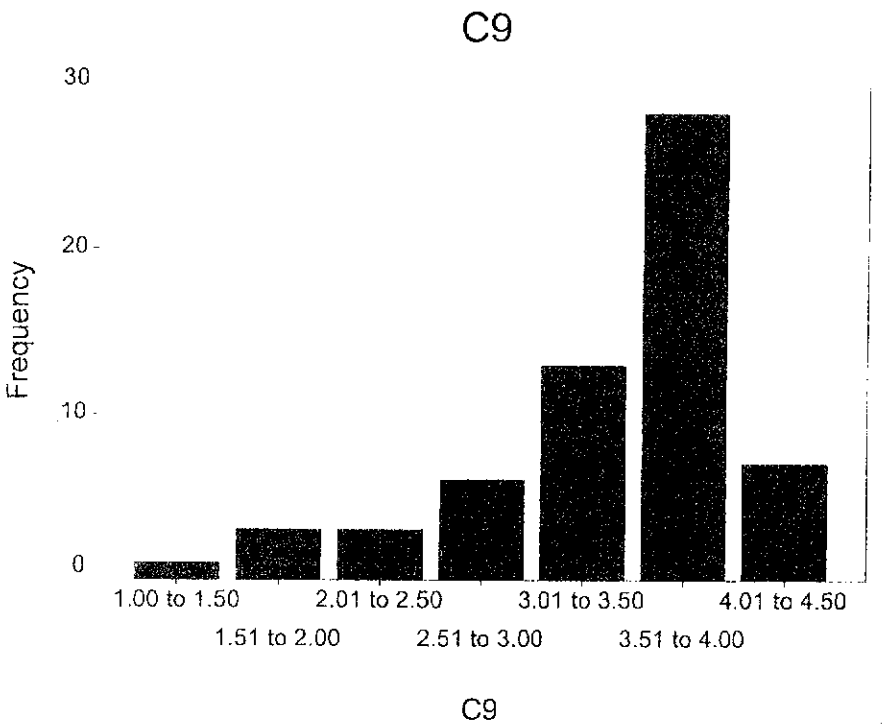
Statistics

C9

N	Valid	61
	Missing	1

C9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	1	1.6	1.6	1.6
	1.51 to 2.00	3	4.8	4.9	6.6
	2.01 to 2.50	3	4.8	4.9	11.5
	2.51 to 3.00	6	9.7	9.8	21.3
	3.01 to 3.50	13	21.0	21.3	42.6
	3.51 to 4.00	28	45.2	45.9	88.5
	4.01 to 4.50	7	11.3	11.5	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Power Distance - Question D1 (Interval Scale)

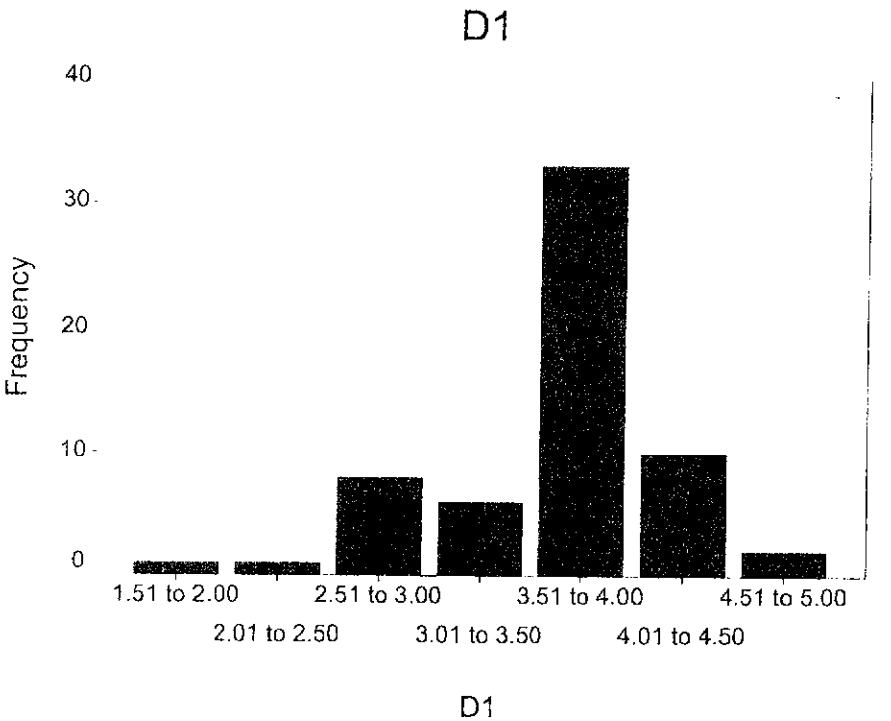
Statistics

D1

N	Valid	61
	Missing	1

D1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	1	1.6	1.6	1.6
	2.01 to 2.50	1	1.6	1.6	3.3
	2.51 to 3.00	8	12.9	13.1	16.4
	3.01 to 3.50	6	9.7	9.8	26.2
	3.51 to 4.00	33	53.2	54.1	80.3
	4.01 to 4.50	10	16.1	16.4	96.7
	4.51 to 5.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Power Distance - Question D2 (Interval Scale)

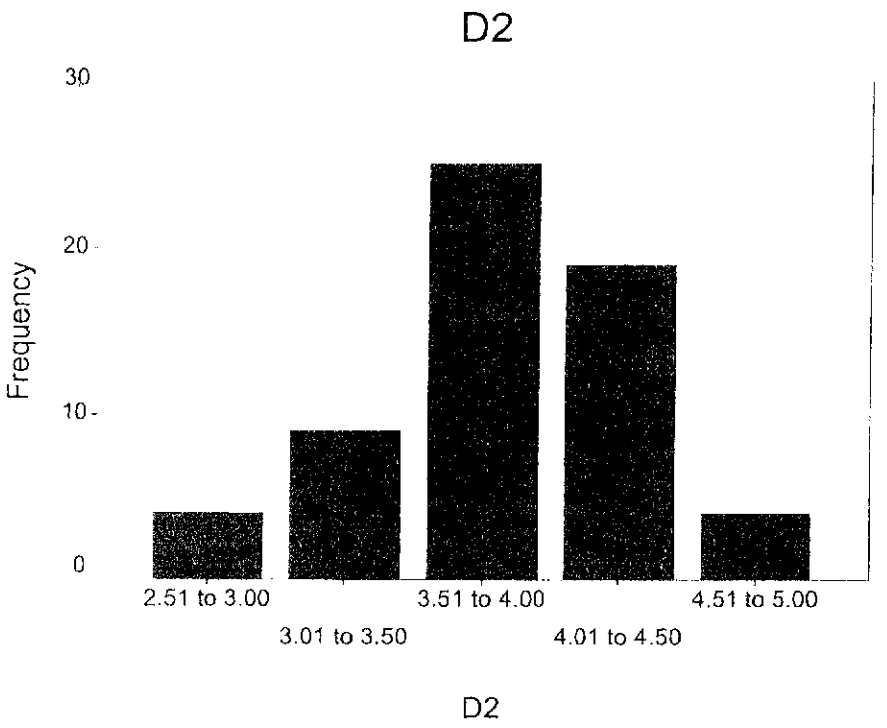
Statistics

D2

N	Valid	61
	Missing	1

D2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	4	6.5	6.6	6.6
	3.01 to 3.50	9	14.5	14.8	21.3
	3.51 to 4.00	25	40.3	41.0	62.3
	4.01 to 4.50	19	30.6	31.1	93.4
	4.50 to 5.00	4	6.5	6.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Power Distance - Question D3 (Interval Scale)

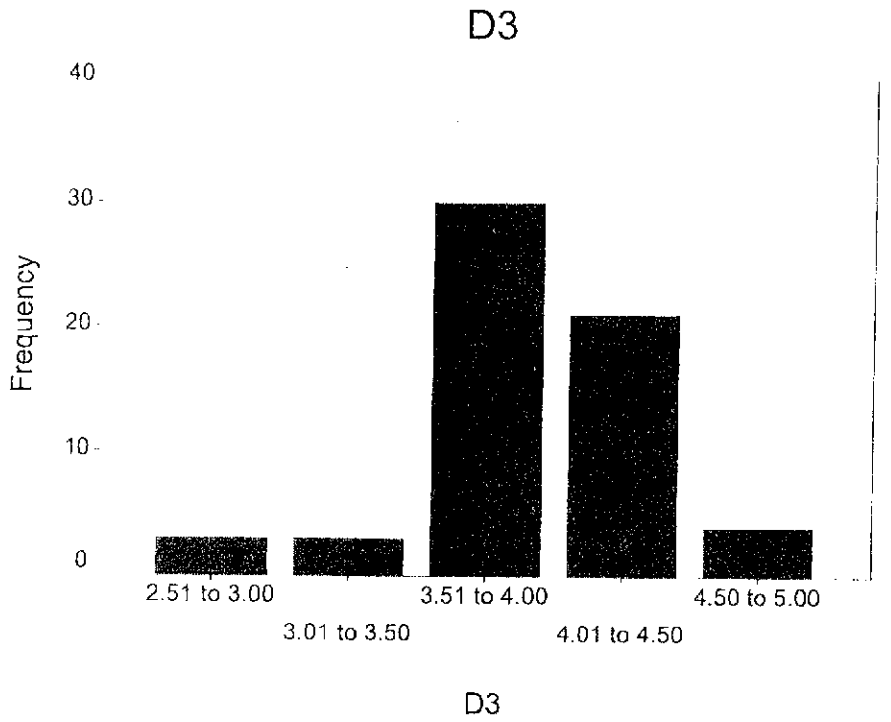
Statistics

D3

N	Valid	61
	Missing	1

D3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	3	4.8	4.9	4.9
	3.01 to 3.50	3	4.8	4.9	9.8
	3.51 to 4.00	30	48.4	49.2	59.0
	4.01 to 4.50	21	33.9	34.4	93.4
	4.51 to 5.00	4	6.5	6.6	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Power Distance - Question D4 (Interval Scale)

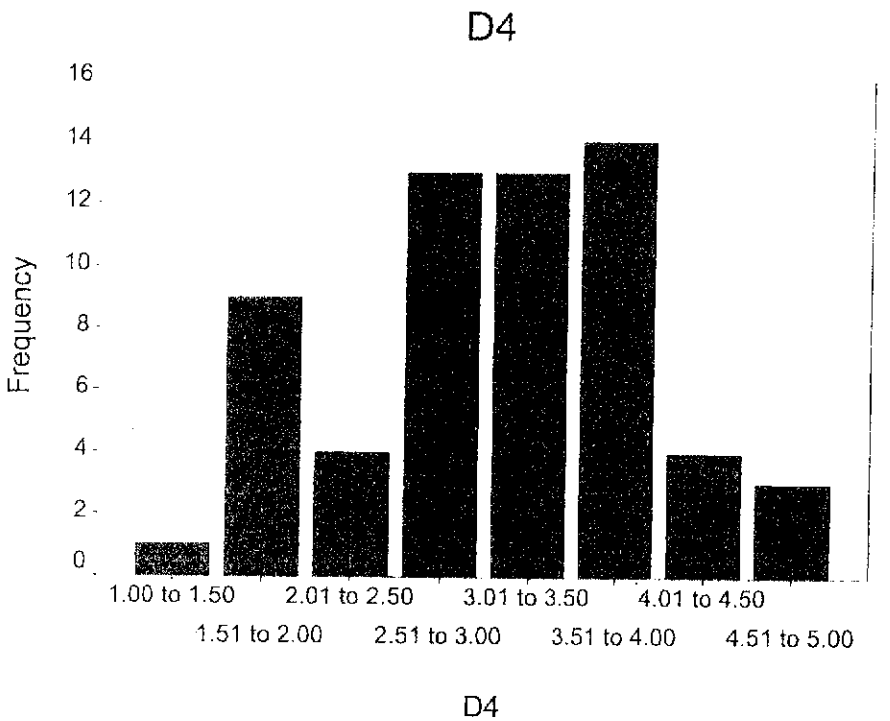
Statistics

D4

N	Valid	61
	Missing	1

D4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	1	1.6	1.6	1.6
	1.51 to 2.00	9	14.5	14.8	16.4
	2.01 to 2.50	4	6.5	6.6	23.0
	2.51 to 3.00	13	21.0	21.3	44.3
	3.01 to 3.50	13	21.0	21.3	65.6
	3.51 to 4.00	14	22.6	23.0	88.5
	4.01 to 4.50	4	6.5	6.6	95.1
	4.51 to 5.00	3	4.8	4.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Collectivism - Question D7 (Interval Scale)

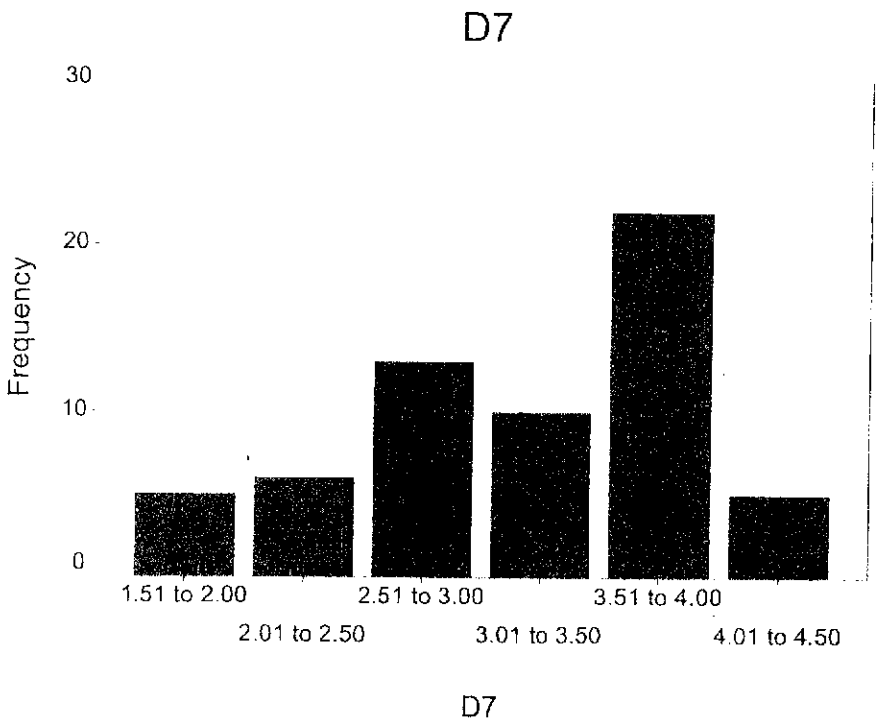
Statistics

D7

N	Valid	61
	Missing	1

D7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	5	8.1	8.2	8.2
	2.01 to 2.50	6	9.7	9.8	18.0
	2.51 to 3.00	13	21.0	21.3	39.3
	3.01 to 3.50	10	16.1	16.4	55.7
	3.51 to 4.00	22	35.5	36.1	91.8
	4.01 to 4.50	5	8.1	8.2	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Collectivism - Question D8 (Interval Scale)

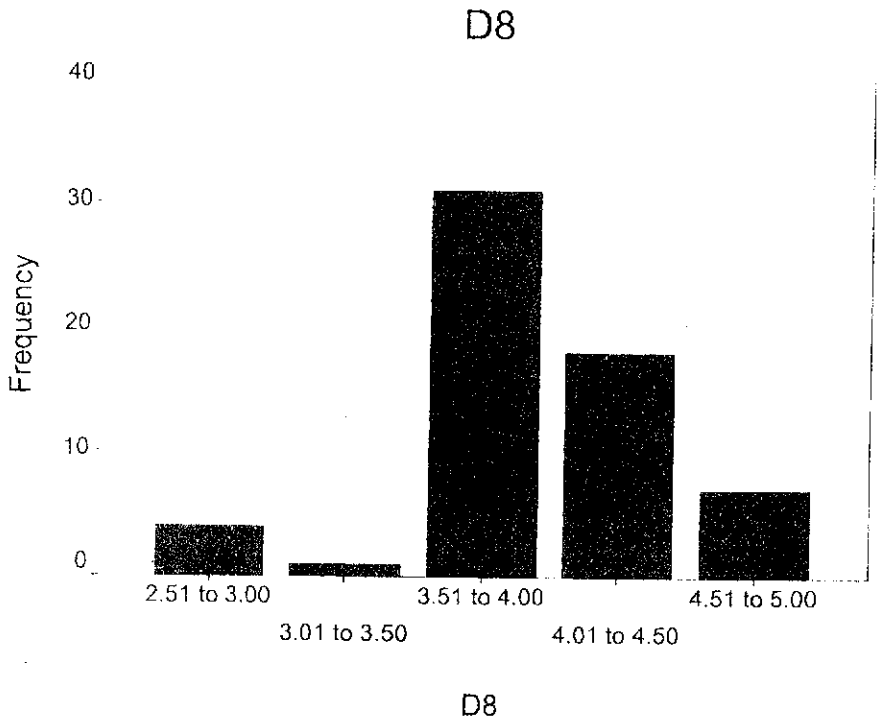
Statistics

D8

N	Valid	61
	Missing	1

D8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	4	6.5	6.6	6.6
	3.01 to 3.50	1	1.6	1.6	8.2
	3.51 to 4.00	31	50.0	50.8	59.0
	4.01 to 4.50	31	29.0	29.5	88.5
	4.51 to 5.00	7	11.3	11.5	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Collectivism - Question D9 (Interval Scale)

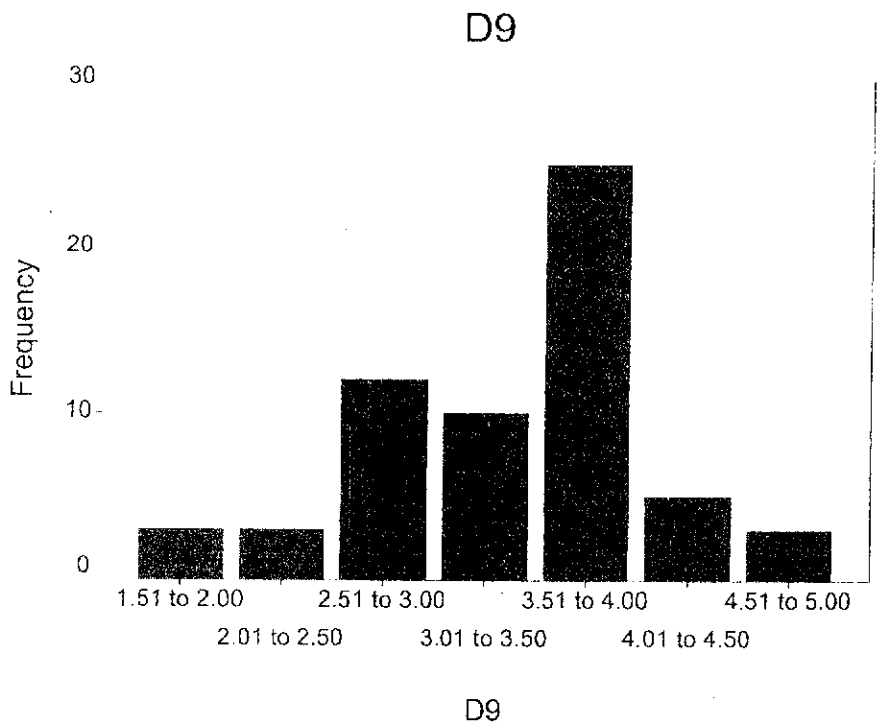
Statistics

D9

N	Valid	61
	Missing	1

D9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	3	4.8	4.9	4.9
	2.01 to 2.50	3	4.8	4.9	9.8
	2.51 to 3.00	12	19.4	19.7	29.5
	3.01 to 3.50	10	16.1	16.4	45.9
	3.51 to 4.00	25	40.3	41.0	86.9
	4.01 to 4.50	5	8.1	8.2	95.1
	4.51 to 5.00	3	4.8	4.9	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Frequencies - Teams Ratings on Collectivism - Question D10 (Interval Scale)

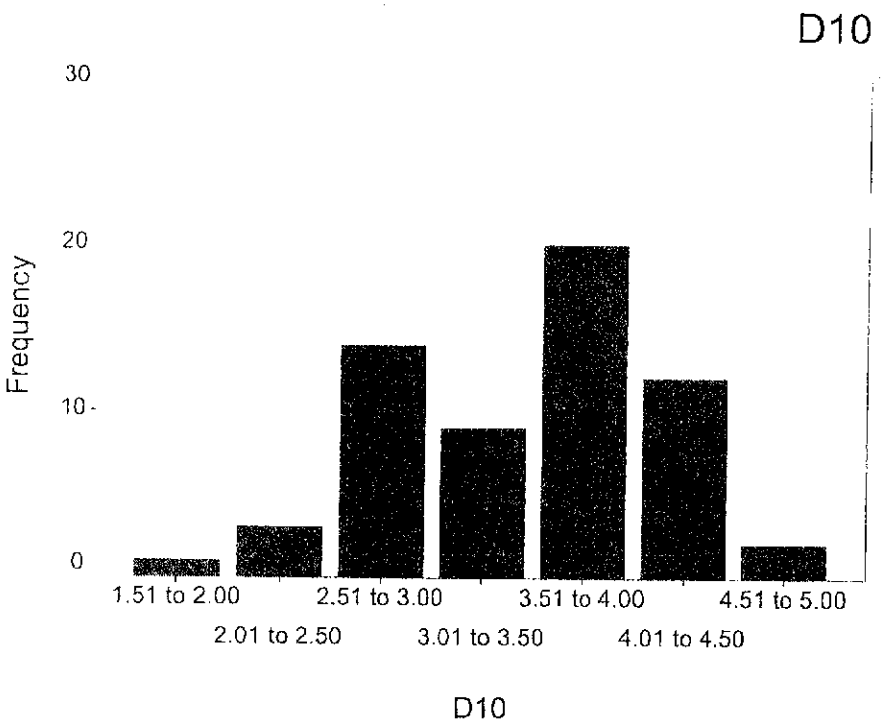
Statistics

D10

N	Valid	61
	Missing	1

D10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.51 to 2.00	1	1.6	1.6	1.6
	2.01 to 2.50	3	4.8	4.9	6.6
	2.51 to 3.00	14	22.6	23.0	29.5
	3.01 to 3.50	9	14.5	14.8	44.3
	3.51 to 4.00	20	32.3	32.8	77.0
	4.01 to 4.50	12	19.4	19.7	96.7
	4.50 to 5.00	2	3.2	3.3	100.0
	Total	61	98.4	100.0	
Missing	System	1	1.6		
Total		62	100.0		



Appendix 6.1

FREQUENCY TABLE

for 61 teams – Each construct - interval scale (pages 396-403)

Frequencies - Teams Ratings on Confidence - Questions A1 to A4 (Interval Scale)

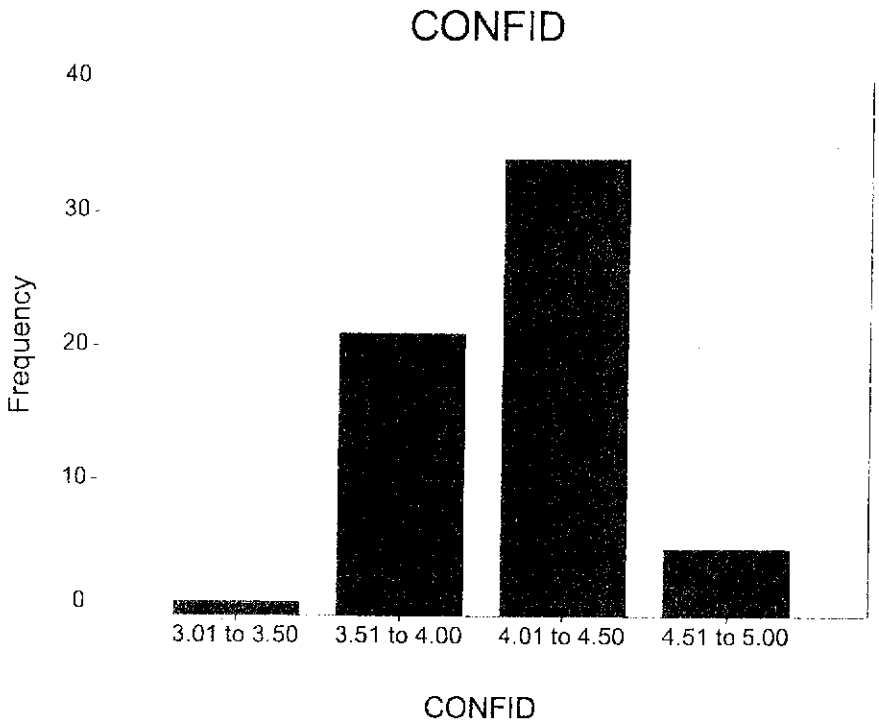
Statistics

CONFID

N	Valid	61
	Missing	0

CONFID

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.01 to 3.50	1	1.6	1.6	1.6
	3.51 to 4.00	21	34.4	34.4	36.1
	4.01 to 4.50	34	55.7	55.7	91.8
	4.51 to 5.00	5	8.2	8.2	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on Cooperation - Questions B1 to B5 (Interval Scale)

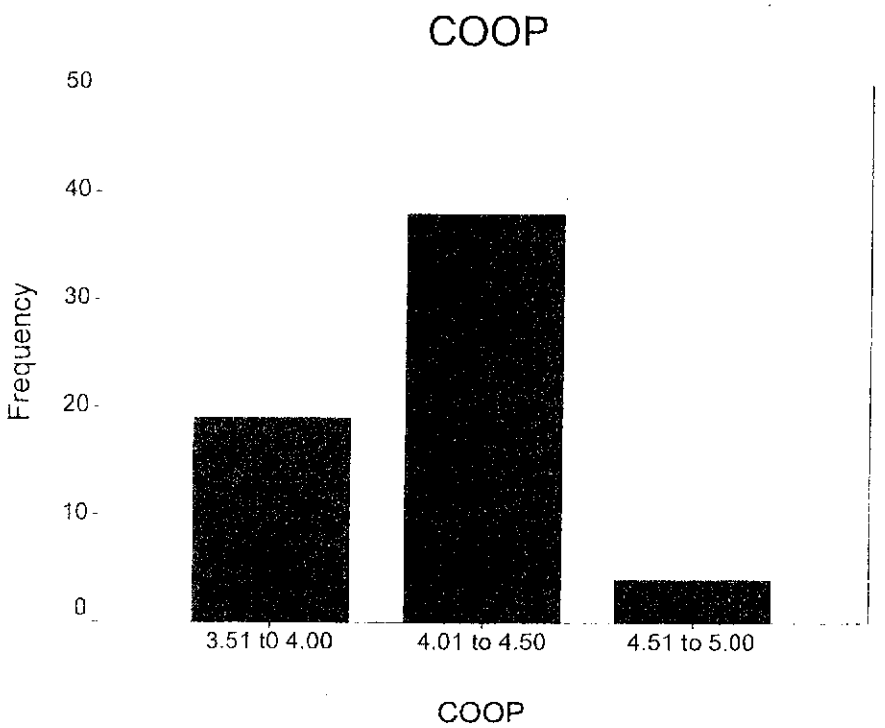
Statistics

COOP

N	Valid	61
	Missing	0

COOP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.51 to 4.00	19	31.1	31.1	31.1
	4.01 to 4.50	38	62.3	62.3	93.4
	4.51 to 5.00	4	6.6	6.6	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on Competition - Questions B6 to B10 (Interval Scale)

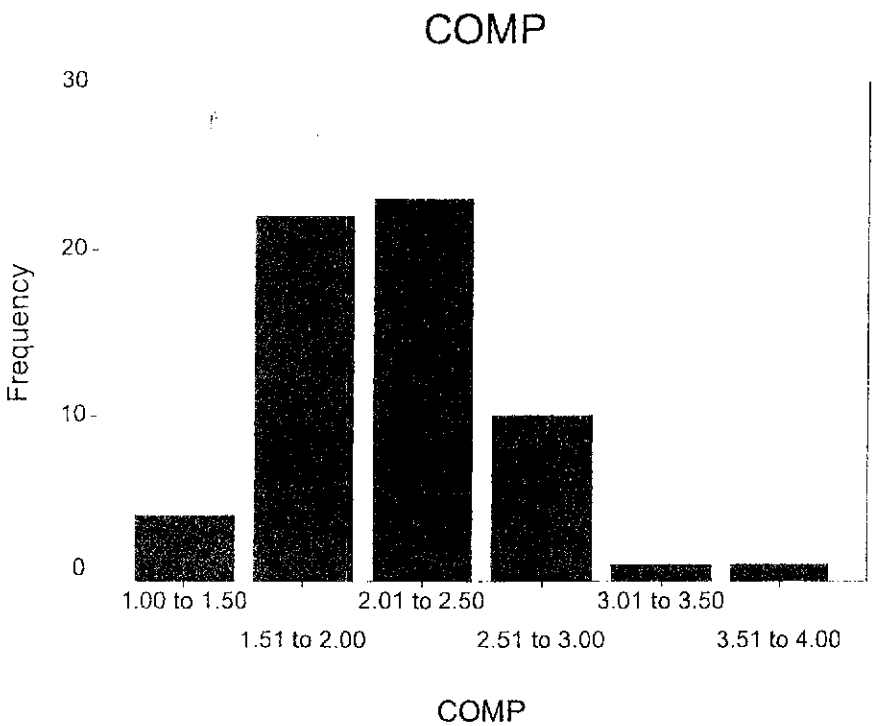
Statistics

COMP

N	Valid	61
	Missing	0

COMP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	4	6.6	6.6	6.6
	1.51 to 2.00	22	36.1	36.1	42.6
	2.01 to 2.50	23	37.7	37.7	80.3
	2.51 to 3.00	10	16.4	16.4	96.7
	3.01 to 3.50	1	1.6	1.6	98.4
	3.51 to 4.00	1	1.6	1.6	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on Independence - Questions B11 to B16 (Interval Scale)

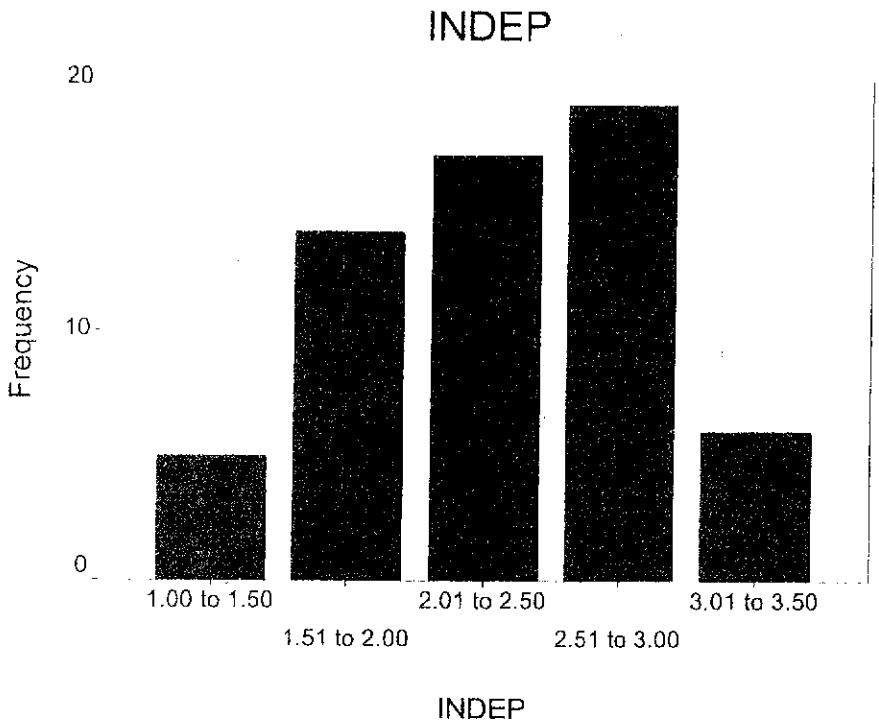
Statistics

INDEP

N	Valid	61
	Missing	0

INDEP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 to 1.50	5	8.2	8.2	8.2
	1.51 to 2.00	14	23.0	23.0	31.1
	2.01 to 2.50	17	27.9	27.9	59.0
	2.51 to 3.00	19	31.1	31.1	90.2
	3.01 to 3.50	6	9.8	9.8	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on OpenM (Constructive Controversy) - Questions C1 to C9 (Interval Scale)

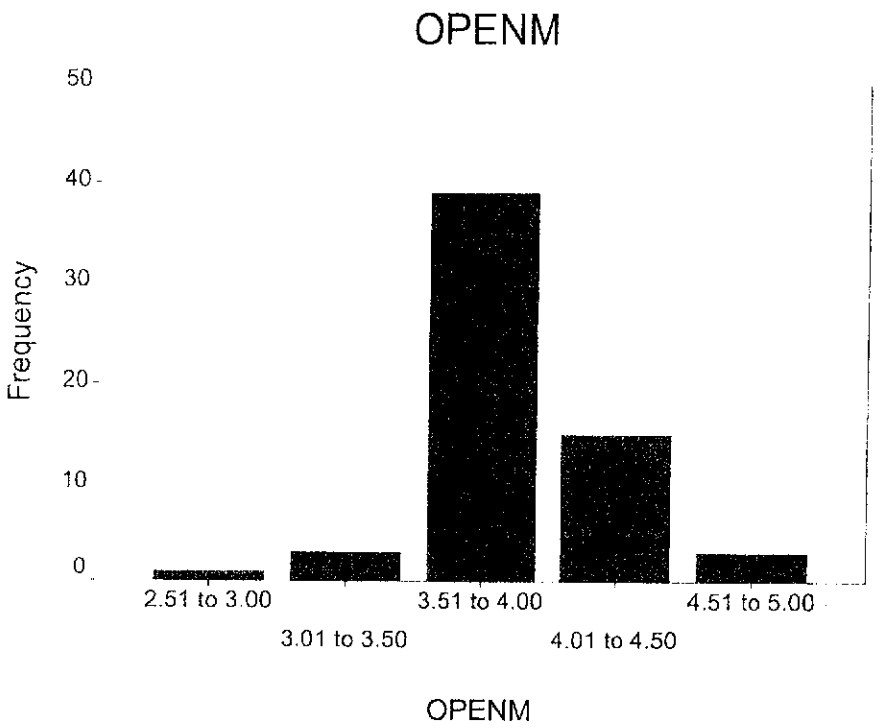
Statistics

OPENM

N	Valid	61
	Missing	0

OPENM

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	1	1.6	1.6	1.6
	3.01 to 3.50	3	4.9	4.9	6.6
	3.51 to 4.00	39	63.9	63.9	70.5
	4.01 to 4.50	15	24.6	24.6	95.1
	4.51 to 5.00	3	4.9	4.9	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on Power Distance - Questions D1 to D4 (Interval Scale)

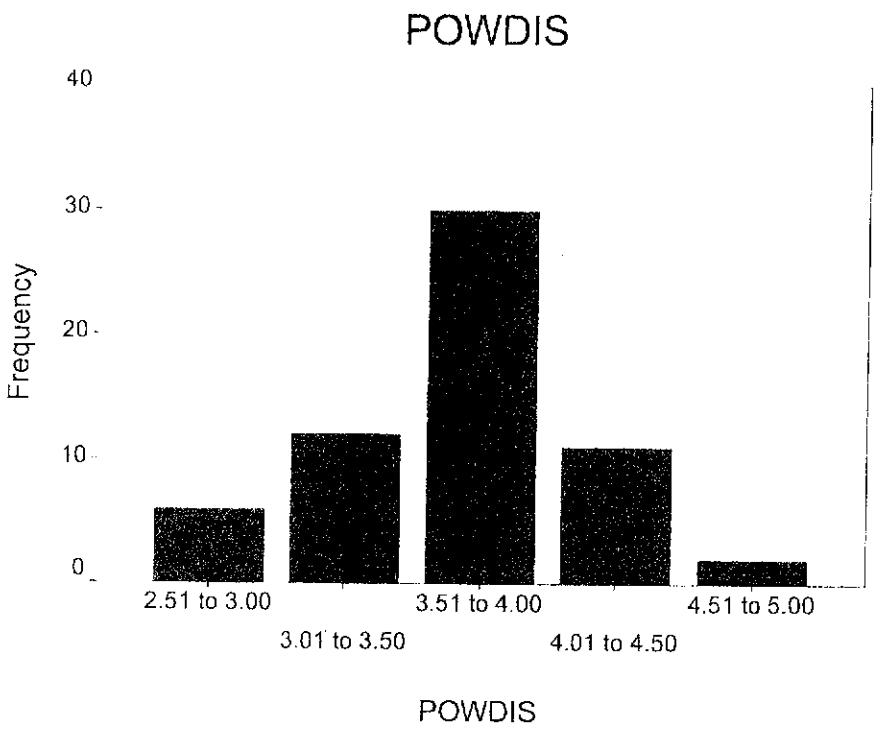
Statistics

POWDIS

N	Valid	61
	Missing	0

POWDIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	6	9.8	9.8	9.8
	3.01 to 3.50	12	19.7	19.7	29.5
	3.51 to 4.00	30	49.2	49.2	78.7
	4.01 to 4.50	11	18.0	18.0	96.7
	4.51 to 5.00	2	3.3	3.3	100.0
	Total	61	100.0	100.0	



Frequencies - Teams Ratings on Collectivism - Questions D7 to D10 (Interval Scale)

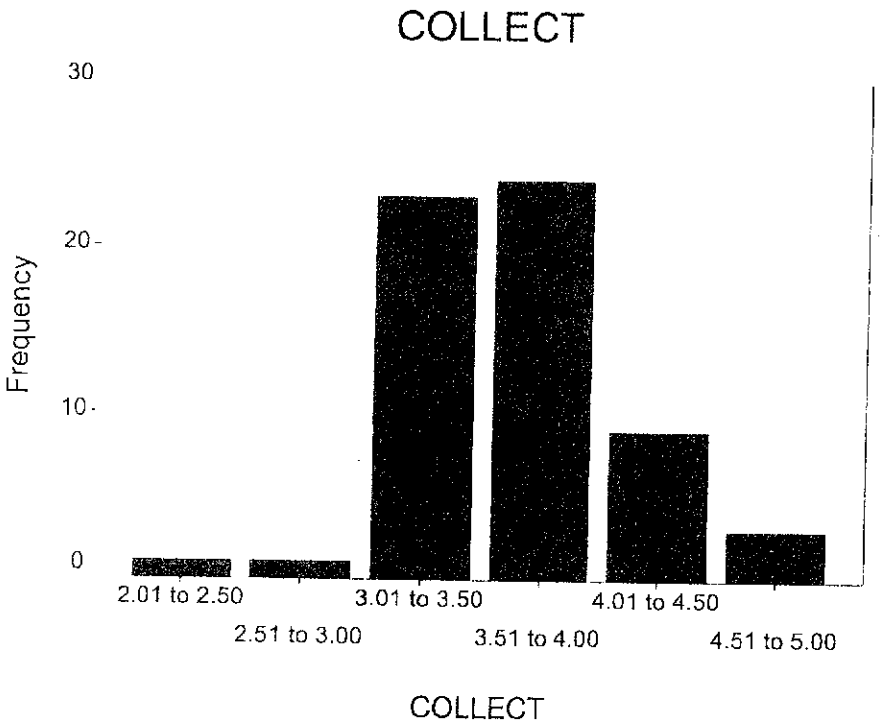
Statistics

COLLECT

N	Valid	61
	Missing	0

COLLECT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.01 to 2.50	1	1.6	1.6	1.6
	2.51 to 3.00	1	1.6	1.6	3.3
	3.01 to 3.50	23	37.7	37.7	41.0
	3.51 to 4.00	24	39.3	39.3	80.3
	4.01 to 4.50	9	14.8	14.8	95.1
	4.51 to 5.00	3	4.9	4.9	100.0
	Total	61	100.0	100.0	



Appendix 6.1

FREQUENCY TABLE

for internal and external customers (pages 404-406)

Frequencies - Internal Customers Ratings on Teams Performances (Interval Scale)

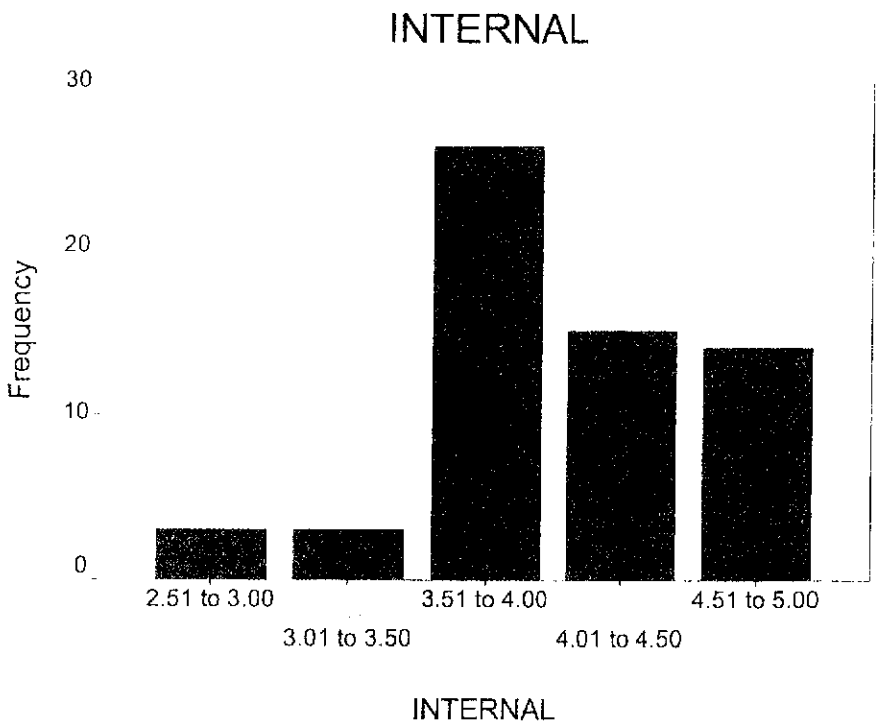
Statistics

INTERNAL

N	Valid	61
	Missing	0

INTERNAL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	3	4.9	4.9	4.9
	3.01 to 3.50	3	4.9	4.9	9.8
	3.51 to 4.00	26	42.6	42.6	52.5
	4.01 to 4.50	15	24.6	24.6	77.0
	4.51 to 5.00	14	23.0	23.0	100.0
	Total	61	100.0	100.0	



Frequencies - Extrenal Customers Ratings on Teams Performance (Interval Scale)

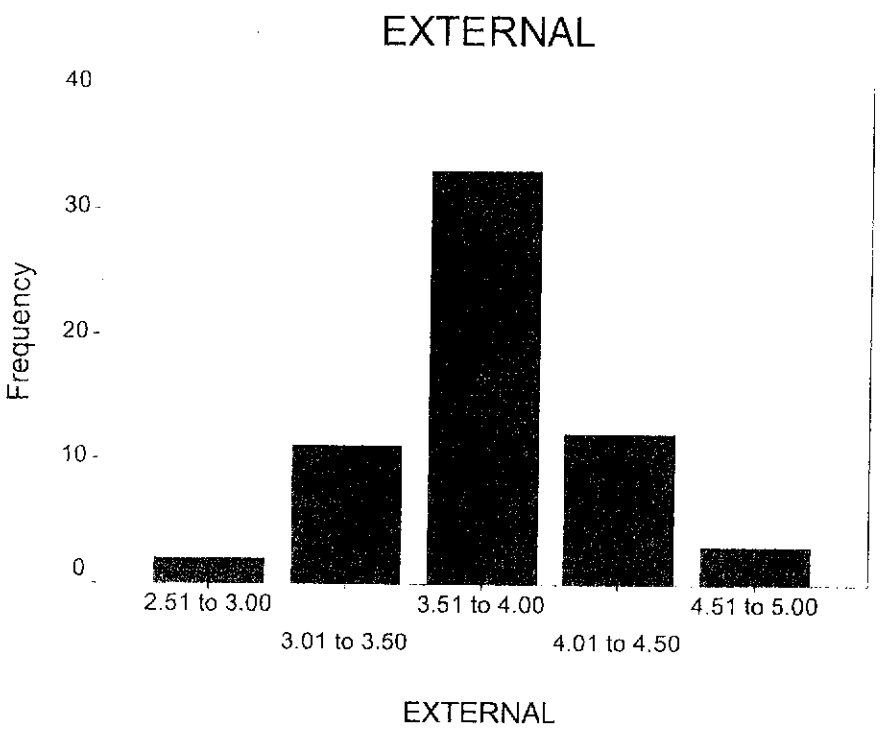
Statistics

EXTERNAL

N	Valid	61
	Missing	0

EXTERNAL

		2	Percent	Valid Percent	Cumulative Percent
Valid	2.51 to 3.00	2	3.3	3.3	3.3
	3.01 to 3.50	11	18.0	18.0	21.3
	3.51 to 4.00	33	54.1	54.1	75.4
	4.01 to 4.50	12	19.7	19.7	95.1
	4.51 to 5.00	3	4.9	4.9	100.0
	Total	61	100.0	100.0	



Appendix 6.1

FREQUENCY TABLE

for age, skill and size of teams (pages 407-410)

Frequencies - For Age of Individuals

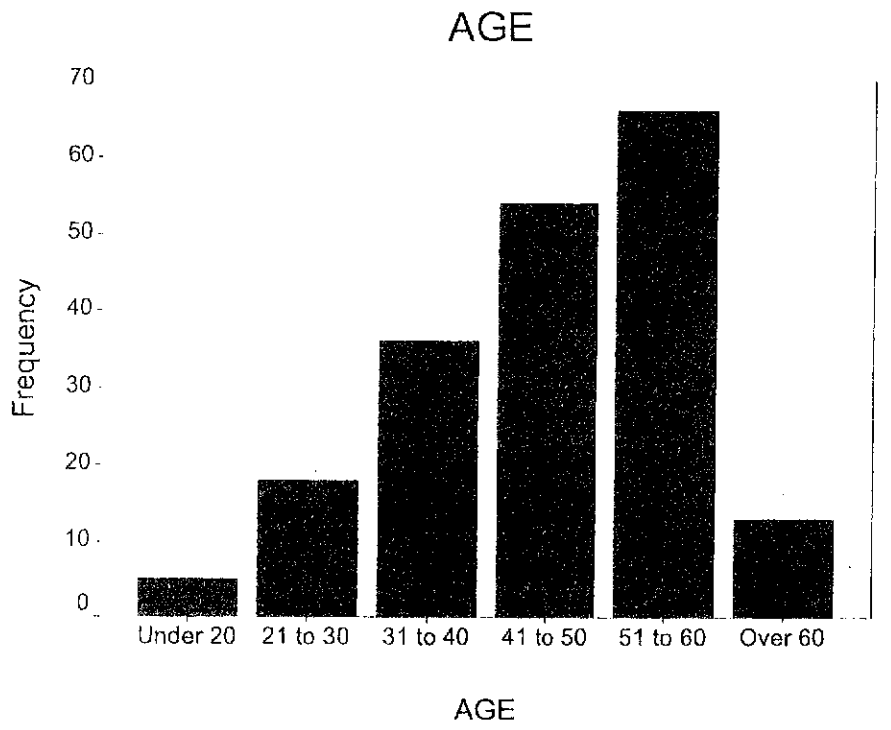
Statistics

AGE

N	Valid	192
	Missing	0

AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	5	2.6	2.6	2.6
	21 to 30	18	9.4	9.4	12.0
	31 to 40	36	18.8	18.8	30.7
	41 to 50	54	28.1	28.1	58.9
	51 to 60	66	34.4	34.4	93.2
	Over 60	13	6.8	6.8	100.0
	Total	192	100.0	100.0	



Frequencies - For Skill of Teams

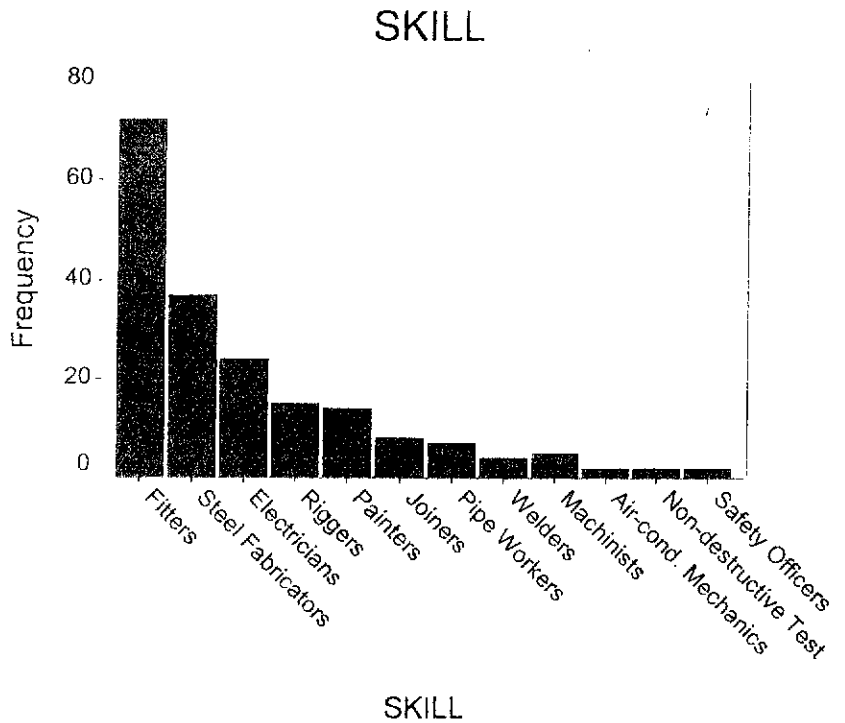
Statistics

SKILL

N	Valid	192
	Missing	0

SKILL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fitters	72	37.5	37.5	37.5
	Stee Fabricators	37	19.3	19.3	56.8
	Electricians	24	12.5	12.5	69.3
	Riggers	15	7.8	7.8	77.1
	Painters	14	7.3	7.3	84.4
	Joiners	8	4.2	4.2	88.5
	Pipe Workers	7	3.6	3.6	92.2
	Welders	4	2.1	2.1	94.3
	Machinists	5	2.6	2.6	96.9
	Air-cond. Mechanics	2	1.0	1.0	97.9
	Non-destructive Testers	2	1.0	1.0	99.0
	Safety Officers	2	1.0	1.0	100.0
	Total	192	100.0	100.0	



Frequencies - For Size of Teams

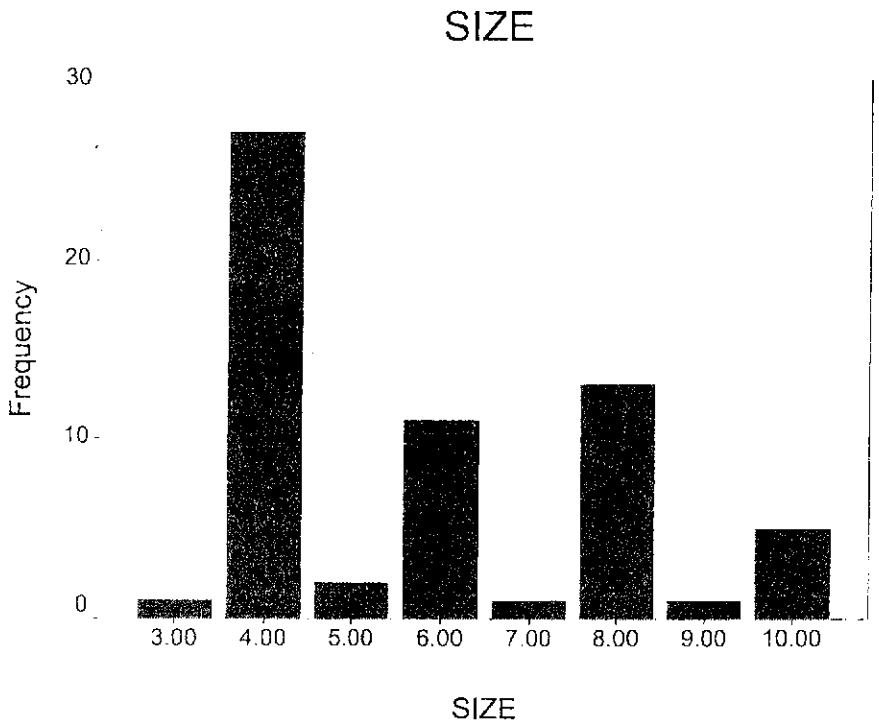
Statistics

SIZE

N	Valid	61
	Missing	0

SIZE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00	1	1.6	1.6	1.6
	4.00	27	44.3	44.3	45.9
	5.00	2	3.3	3.3	49.2
	6.00	11	18.0	18.0	67.2
	7.00	1	1.6	1.6	68.9
	8.00	13	21.3	21.3	90.2
	9.00	1	1.6	1.6	91.8
	10.00	5	8.2	8.2	100.0
	Total	61	100.0	100.0	



Appendix 6.2

RELIABILITY TESTS

Reliability - Teams - For A1 to A5 (Confidence)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1313	.3439	61.0
2.	A2	4.2101	.3671	61.0
3.	A3	4.1981	.4311	61.0
4.	A4	4.2090	.3414	61.0
5.	A5	3.9707	.5465	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4549	1.0000			
A3	.2541	.4490	1.0000		
A4	.3996	.5034	.4702	1.0000	
A5	.1801	.0715	.0346	.3052	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	20.7190	1.7716	1.3310	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	16.5878	1.3015	.4483	.2542	.5795
A2	16.5090	1.2250	.5069	.3837	.5503
A3	16.5210	1.2135	.3918	.2896	.5991
A4	16.5101	1.1826	.6361	.4179	.5017
A5	16.7484	1.2463	.1857	.1220	.7391

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .6473 Standardized item alpha = .6942

Reliability - Teams - For A1 to A4 (Confidence)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1313	.3439	61.0
2.	A2	4.2101	.3671	61.0
3.	A3	4.1981	.4311	61.0
4.	A4	4.2090	.3414	61.0

Correlation Matrix

	A1	A2	A3	A4
A1	1.0000			
A2	.4549	1.0000		
A3	.2541	.4490	1.0000	
A4	.3996	.5034	.4702	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	16.7484	1.2463	1.1164	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	12.6171	.8440	.4496	.2460	.7229
A2	12.5383	.7284	.6116	.3779	.6335
A3	12.5503	.7046	.4917	.2815	.7131
A4	12.5394	.7713	.5977	.3586	.6464

Reliability Coefficients 4 items

Alpha = .7391 Standardized item alpha = .7448

Reliability - Teams - For B1 to B5 (Cooperation)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B1	4.2243	.2797	61.0
2.	B2	4.1611	.3880	61.0
3.	B3	4.0882	.3604	61.0
4.	B4	4.2480	.3793	61.0
5.	B5	4.3079	.3388	61.0

Correlation Matrix

	B1	B2	B3	B4	B5
B1	1.0000				
B2	.1870	1.0000			
B3	.0565	.4361	1.0000		
B4	.3090	.5411	.4360	1.0000	
B5	.5565	.4137	.1416	.3446	1.0000

N of Cases = 61.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	21.0295	1.4727	1.2135	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B1	16.8051	1.1714	.3683	.3421	.7197
B2	16.8684	.8915	.5876	.4110	.6353
B3	16.9413	1.0557	.3877	.2562	.7177
B4	16.7815	.8962	.6024	.3907	.6289
B5	16.7216	1.0205	.4929	.4108	.6767

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .7260 Standardized item alpha = .7223

Reliability - Teams - For B6 to B10 (Competition)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B6	1.9753	.6466	61.0
2.	B7	2.5292	.8286	61.0
3.	B8	1.8546	.4487	61.0
4.	B9	2.1453	.5927	61.0
5.	B10	2.2933	.7473	61.0

Correlation Matrix

	B6	B7	B8	B9	B10
B6	1.0000				
B7	.5982	1.0000			
B8	.3967	.3297	1.0000		
B9	.4697	.3081	.5523	1.0000	
B10	.5120	.3767	.3045	.4559	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	10.7977	5.8575	2.4202	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B6	8.8224	3.7136	.6926	.4964	.6879
B7	8.2685	3.5158	.5327	.3741	.7534
B8	8.9431	4.6829	.5012	.3392	.7598
B9	8.6524	4.1460	.5636	.4212	.7338
B10	8.5044	3.7297	.5437	.3280	.7409

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .7772 Standardized item alpha = .7907

Reliability - Teams - For B11 to B16 (Independnece)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B11	2.0741	.6123	61.0
2.	B12	2.1913	.7170	61.0
3.	B13	2.2082	.7656	61.0
4.	B14	2.4316	.8921	61.0
5.	B15	2.4004	.7440	61.0
6.	B16	2.6417	.8443	61.0

Correlation Matrix

	B11	B12	B13	B14	B15
B11	1.0000				
B12	.3182	1.0000			
B13	.4894	.5610	1.0000		
B14	.2827	.4245	.4530	1.0000	
B15	.1786	.1694	.2658	.0705	1.0000
B16	.4666	.4952	.6112	.4210	.4405

	B16
B16	1.0000

N of Cases = 61.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	13.9473	10.1621	3.1878	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B11	11.8732	8.0951	.4857	.2856	.7617
B12	11.7559	7.4291	.5677	.3768	.7413
B13	11.7391	6.7893	.6984	.5180	.7066
B14	11.5157	7.1677	.4603	.2806	.7719
B15	11.5468	8.3152	.3014	.2130	.8014
B16	11.3056	6.3895	.7169	.5323	.6974

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 6 items

Alpha = .7823 Standardized item alpha = .7837

Reliability - Teams - For C1 to C9 (OpenM or Constructive Controversy)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	C1	4.1351	.3552	61.0
2.	C2	3.8765	.6117	61.0
3.	C3	3.9737	.5612	61.0
4.	C4	3.9575	.4210	61.0
5.	C5	3.9473	.5166	61.0
6.	C6	4.0146	.5112	61.0
7.	C7	4.0743	.4918	61.0
8.	C8	3.8739	.5423	61.0
9.	C9	3.5583	.7214	61.0

Correlation Matrix

	C1	C2	C3	C4	C5
C1	1.0000				
C2	.4746	1.0000			
C3	.5959	.6211	1.0000		
C4	.5620	.3008	.5374	1.0000	
C5	.2126	.2966	.4528	.4666	1.0000
C6	.1020	.1703	.1645	.1581	.0814
C7	.3903	.4260	.5437	.5196	.4477
C8	.5546	.5031	.7108	.4973	.3739
C9	.1461	.0681	.0689	.2403	.2251

	C6	C7	C8	C9
C6	1.0000			
C7	.3243	1.0000		
C8	.0719	.4652	1.0000	
C9	.0935	.3720	.0548	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	35.4112	8.9876	2.9979	9

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
C1	31.2761	7.7097	.5840	.5054	.7795
C2	31.5347	6.8816	.5396	.4354	.7770
C3	31.4375	6.6092	.7151	.6751	.7517
C4	31.4538	7.3742	.6281	.5074	.7709
C5	31.4639	7.3421	.4925	.3490	.7833
C6	31.3966	8.1055	.2133	.1263	.8163
C7	31.3369	6.9353	.6990	.5134	.7580
C8	31.5374	6.9460	.6113	.5550	.7672
C9	31.8530	7.5869	.2215	.1992	.8331

Reliability Coefficients 9 items

Alpha = .8024 Standardized item alpha = .8236

Reliability - Teams - For D1 to D6 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	.5793	61.0
2.	D2	4.0004	.5010	61.0
3.	D3	4.0775	.3956	61.0
4.	D4	3.1984	.8502	61.0
5.	D5	3.5449	.7489	61.0
6.	D6	3.5178	.6574	61.0

Correlation Matrix

	D1	D2	D3	D4	D5
D1	1.0000				
D2	.4993	1.0000			
D3	.3378	.3861	1.0000		
D4	.4633	.5761	.4144	1.0000	
D5	-.1458	-.0229	.1845	.0545	1.0000
D6	-.3925	-.1017	.0042	-.0807	.2987

	D6
D6	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	22.1098	4.1578	2.0391	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	18.3390	3.3467	.2244	.4314	.4569
D2	18.1095	3.0574	.4849	.4175	.3472
D3	18.0323	3.3031	.4855	.2594	.3786
D4	18.9114	2.2299	.4746	.4076	.2768
D5	18.5649	3.2678	.1215	.1386	.5239
D6	18.5920	3.8855	-.0617	.2277	.5979

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 6 items

Alpha = .4903 Standardized item alpha = .5425

Reliability - Teams - For D1 to D4 & D6 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	.5793	61.0
2.	D2	4.0004	.5010	61.0
3.	D3	4.0775	.3956	61.0
4.	D4	3.1984	.8502	61.0
5.	D6	3.5178	.6574	61.0

Correlation Matrix

	D1	D2	D3	D4	D6
D1	1.0000				
D2	.4993	1.0000			
D3	.3378	.3861	1.0000		
D4	.4633	.5761	.4144	1.0000	
D6	-.3925	-.1017	.0042	-.0807	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.5649	3.2678	1.8077	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	14.7941	2.3301	.3405	.4253	.4392
D2	14.5646	2.1502	.5899	.4158	.3119
D3	14.4875	2.5224	.4686	.2278	.4127
D4	15.3665	1.4092	.5626	.4050	.2214
D6	15.0471	3.2896	-.1904	.1827	.7392

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .5239 Standardized item alpha = .5716

Reliability - Teams - For D1 to D5 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	.5793	61.0
2.	D2	4.0004	.5010	61.0
3.	D3	4.0775	.3956	61.0
4.	D4	3.1984	.8502	61.0
5.	D5	3.5449	.7489	61.0

Correlation Matrix

	D1	D2	D3	D4	D5
D1	1.0000				
D2	.4993	1.0000			
D3	.3378	.3861	1.0000		
D4	.4633	.5761	.4144	1.0000	
D5	-.1458	-.0229	.1845	.0545	1.0000

N of Cases = 61.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	18.5920	3.8855	1.9712	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	14.8212	2.7754	.4013	.3380	.5208
D2	14.5916	2.7181	.5548	.4151	.4622
D3	14.5145	3.0330	.5051	.2563	.5111
D4	15.3936	1.8674	.5574	.4069	.4023
D5	15.0471	3.2896	.0129	.0885	.7392

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .5979 Standardized item alpha = .6545

Reliability - Teams - For D1 to D4 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	.5793	61.0
2.	D2	4.0004	.5010	61.0
3.	D3	4.0775	.3956	61.0
4.	D4	3.1984	.8502	61.0

Correlation Matrix

	D1	D2	D3	D4
D1	1.0000			
D2	.4993	1.0000		
D3	.3378	.3861	1.0000	
D4	.4633	.5761	.4144	1.0000

N of Cases = 61.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	15.0471	3.2896	1.8137	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	11.2763	2.0530	.5428	.3068	.6741
D2	11.0467	2.1050	.6423	.4142	.6342
D3	10.9696	2.5464	.4646	.2169	.7287
D4	11.8487	1.3408	.6226	.4033	.6687

Reliability Coefficients 4 items

Alpha = .7392 Standardized item alpha = .7632

Reliability - Teams - For D7 to D11 (Collectivism)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D7	3.3423	.7145	61.0
2.	D8	4.1133	.4145	61.0
3.	D9	3.5617	.7199	61.0
4.	D10	3.6414	.6604	61.0
5.	D11	4.0537	.3887	61.0

Correlation Matrix

	D7	D8	D9	D10	D11
D7	1.0000				
D8	.3496	1.0000			
D9	.3021	.2068	1.0000		
D10	.5078	.2864	.4127	1.0000	
D11	-.0908	.2252	.0111	.1336	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.7124	3.5549	1.8855	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D7	15.3701	2.0975	.4575	.3501	.5213
D8	14.5991	2.8232	.4020	.2001	.5700
D9	15.1507	2.2036	.3897	.1884	.5651
D10	15.0710	2.0215	.5842	.3623	.4417
D11	14.6587	3.3069	.0686	.1155	.6733

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .6213 Standardized item alpha = .6049

Reliability - Teams - For D7 to D10 (Collectivism)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D7	3.3423	.7145	61.0
2.	D8	4.1133	.4145	61.0
3.	D9	3.5617	.7199	61.0
4.	D10	3.6414	.6604	61.0

Correlation Matrix

	D7	D8	D9	D10
D7	1.0000			
D8	.3496	1.0000		
D9	.3021	.2068	1.0000	
D10	.5078	.2864	.4127	1.0000

N of Cases = 61.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	14.6587	3.3069	1.8185	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D7	11.3164	1.7991	.5203	.3098	.5609
D8	10.5454	2.6477	.3613	.1431	.6700
D9	11.0970	1.9618	.4100	.1865	.6447
D10	11.0173	1.8421	.5738	.3393	.5223

Reliability Coefficients 4 items

Alpha = .6733 Standardized item alpha = .6774

Reliability - Teams - For D12 to D14 (Conformity)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D12	3.8573	.4934	61.0
2.	D13	2.8596	.7338	61.0
3.	D14	3.5099	.6993	61.0

Correlation Matrix

	D12	D13	D14
D12	1.0000		
D13	-.1369	1.0000	
D14	-.1689	.2943	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	10.2268	1.3573	1.1650	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D12	6.3695	1.3295	-.1896	.0369	.4544
D13	7.3672	.6159	.1762	.0945	-.3785
D14	6.7169	.6828	.1605	.1035	-.2903

Reliability Coefficients 3 items

Alpha = .0955 Standardized item alpha = -.0115

Reliability - Teams - For D13 and D14 (Conformity)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D13	2.8596	.7338	61.0
2.	D14	3.5099	.6993	61.0

Correlation Matrix

	D13	D14
D13	1.0000	
D14	.2943	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	6.3695	1.3295	1.1531	2

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D13	3.5099	.4890	.2943	.0866	.
D14	2.8596	.5385	.2943	.0866	.

Reliability Coefficients 2 items

Alpha = .4544 Standardized item alpha = .4548

Reliability - Teams Ratings by Internal Customers - For A1 to A6

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.0164	.6453	61.0
2.	A2	4.0492	.4253	61.0
3.	A3	4.0328	.7063	61.0
4.	A4	4.1311	.7182	61.0
5.	A5	4.2295	.7614	61.0
6.	A6	4.1148	.9504	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4829	1.0000			
A3	.5839	.3829	1.0000		
A4	.4628	.2513	.7470	1.0000	
A5	.1957	.2734	.3576	.4012	1.0000
A6	-.1118	-.0554	.2426	.2950	.3776

	A6
A6	1.0000

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	24.5738	7.7486	2.7836	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	20.5574	6.0508	.4036	.4760	.6966
A2	20.5246	6.7869	.3524	.2915	.7133
A3	20.5410	5.0191	.7048	.6512	.6034
A4	20.4426	5.0508	.6759	.5929	.6117
A5	20.3443	5.4295	.4902	.2824	.6709
A6	20.4590	5.7525	.2397	.2746	.7737

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 6 items

Alpha = .7207 Standardized item alpha = .7435

Reliability - For Team Ratings by Extenal Customers - For A1 to A5

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.0328	.4069	61.0
2.	A2	4.2787	.5206	61.0
3.	A3	3.2459	.9248	61.0
4.	A4	3.8689	.7632	61.0
5.	A5	3.9016	.5974	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.1135	1.0000			
A3	.5097	.2361	1.0000		
A4	.1214	.3032	.2354	1.0000	
A5	.4249	.1432	.2557	.6293	1.0000

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

N of Cases = 61.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	19.3279	4.6907	2.1658	5

	Mean	Minimum	Maximum	Range	Max/Min	Variance
Item Means	3.8656	3.2459	4.2787	1.0328	1.3182	.1460
Item Variances	.4462	.1656	.8552	.6896	5.1650	.0758
Inter-item Covariances	.1230	.0240	.2869	.2628	11.9318	.0061
Inter-item Correlations	.2972	.1135	.6293	.5158	5.5441	.0284

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	15.2951	3.8115	.4492	.4063	.6108
A2	15.0492	3.8142	.2977	.1292	.6481
A3	16.0820	2.6098	.4102	.3140	.6304
A4	15.4590	2.8858	.4714	.4886	.5716
A5	15.4262	3.1820	.5405	.5293	.5479

Reliability Coefficients 5 items

Alpha = .6554 Standardized item alpha = .6789

Reliability - Individuals - For A1 to A5 (Confidence)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1458	.5313	192.0
2.	A2	4.1667	.5996	192.0
3.	A3	4.2083	.6852	192.0
4.	A4	4.2083	.4781	192.0
5.	A5	4.0000	.7992	192.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4163	1.0000			
A3	.2757	.2719	1.0000		
A4	.1889	.2983	.3463	1.0000	
A5	.1233	.3278	.1147	.2603	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	20.7292	3.9053	1.9762	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	16.5833	2.9564	.3649	.2028	.5683
A2	16.5625	2.5720	.5064	.2861	.4940
A3	16.5208	2.6592	.3475	.1765	.5766
A4	16.5208	2.9839	.4194	.1925	.5513
A5	16.7292	2.5231	.2928	.1375	.6253

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .6167 Standardized item alpha = .6401

Reliability - Individuals - For A1 to A4 (Confidence)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1458	.5313	192.0
2.	A2	4.1667	.5996	192.0
3.	A3	4.2083	.6852	192.0
4.	A4	4.2083	.4781	192.0

Correlation Matrix

	A1	A2	A3	A4
A1	1.0000			
A2	.4163	1.0000		
A3	.2757	.2719	1.0000	
A4	.1889	.2983	.3463	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	16.7292	2.5231	1.5884	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
A1	12.5833	1.6789	.4081	.2022	.5551
A2	12.5625	1.5039	.4486	.2331	.5222
A3	12.5208	1.4027	.4011	.1762	.5692
A4	12.5208	1.8006	.3849	.1653	.5743

Reliability Coefficients 4 items

Alpha = .6253 Standardized item alpha = .6311

Reliability - Individuals - For B1 to B5 (Cooperation)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B1	4.2396	.4744	192.0
2.	B2	4.1719	.6363	192.0
3.	B3	4.0938	.5892	192.0
4.	B4	4.2500	.6390	192.0
5.	B5	4.2865	.5845	192.0

Correlation Matrix

	B1	B2	B3	B4	B5
B1	1.0000				
B2	.2965	1.0000			
B3	.0691	.3338	1.0000		
B4	.1986	.4088	.3963	1.0000	
B5	.3932	.4441	.1801	.4381	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	21.0417	3.9459	1.9864	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B1	16.8021	3.1648	.3295	.1750	.7005
B2	16.8698	2.4489	.5484	.3045	.6135
B3	16.9479	2.8873	.3553	.1975	.6961
B4	16.7917	2.4590	.5381	.3194	.6183
B5	16.7552	2.6047	.5299	.3401	.6241

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .7029 Standardized item alpha = .6977

Reliability - Individuals - For B6 to B10 (Competition)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B6	2.0104	.9653	192.0
2.	B7	2.5156	1.2150	192.0
3.	B8	1.8542	.8559	192.0
4.	B9	2.1927	1.0923	192.0
5.	B10	2.3490	1.1294	192.0

Correlation Matrix

	B6	B7	B8	B9	B10
B6	1.0000				
B7	.5177	1.0000			
B8	.3187	.3748	1.0000		
B9	.3804	.3666	.4110	1.0000	
B10	.3472	.3528	.3725	.3569	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	10.9219	13.9991	3.7415	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B6	8.9115	9.7670	.5470	.3283	.6948
B7	8.4063	8.5880	.5526	.3418	.6917
B8	9.0677	10.4718	.5045	.2642	.7124
B9	8.7292	9.3818	.5118	.2729	.7057
B10	8.5729	9.3978	.4803	.2357	.7185

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .7492 Standardized item alpha = .7539

Reliability - Individuals - For B11 to B16 (Independence)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B11	2.0833	.9397	192.0
2.	B12	2.1719	1.1425	192.0
3.	B13	2.2656	1.1243	192.0
4.	B14	2.4740	1.2404	192.0
5.	B15	2.4010	1.1443	192.0
6.	B16	2.6927	1.2383	192.0

Correlation Matrix

	B11	B12	B13	B14	B15
B11	1.0000				
B12	.3718	1.0000			
B13	.4150	.4656	1.0000		
B14	.1546	.2230	.2884	1.0000	
B15	.3193	.3114	.3115	.0793	1.0000
B16	.3326	.3521	.4162	.1192	.3793

	B16
B16	1.0000

N of Cases = 192.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	14.0885	19.4005	4.4046	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
B11	12.0052	15.0209	.4800	.2501	.6716
B12	11.9167	13.6579	.5254	.2929	.6525
B13	11.8229	13.2983	.5900	.3620	.6324
B14	11.6146	15.4737	.2447	.0950	.7414
B15	11.6875	14.4882	.4136	.2102	.6871
B16	11.3958	13.4969	.4803	.2689	.6665

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 6 items

Alpha = .7154 Standardized item alpha = .7225

Reliability - Individuals - For C1 to C9 (OPenM or Constructive Controversy)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	C1	4.1510	.5045	192.0
2.	C2	3.8802	.9160	192.0
3.	C3	3.9427	.8754	192.0
4.	C4	3.9063	.7247	192.0
5.	C5	3.9010	.7627	192.0
6.	C6	4.0104	.7725	192.0
7.	C7	4.0260	.7619	192.0
8.	C8	3.8333	.8703	192.0
9.	C9	3.5573	1.0010	192.0

Correlation Matrix

	C1	C2	C3	C4	C5
C1	1.0000				
C2	.4246	1.0000			
C3	.4109	.5007	1.0000		
C4	.3540	.3064	.4949	1.0000	
C5	.1751	.1253	.1875	.3904	1.0000
C6	.3183	.2460	.1557	.1981	.0995
C7	.3438	.3196	.3947	.4027	.2928
C8	.3796	.4937	.5784	.3486	.1959
C9	.1538	.1246	.1681	.2240	.1823

	C6	C7	C8	C9
C6	1.0000			
C7	.3554	1.0000		
C8	.2129	.3856	1.0000	
C9	.2159	.3035	.1913	1.0000

N of Cases = 192.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	35.2083	19.2443	4.3868	9

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
C1	31.0573	16.8396	.5193	.3044	.7595
C2	31.3281	14.8185	.5086	.3605	.7523
C3	31.2656	14.5207	.5932	.4896	.7385
C4	31.3021	15.5627	.5520	.3762	.7479
C5	31.3073	16.6747	.3191	.1845	.7781
C6	31.1979	16.4632	.3484	.1949	.7745
C7	31.1823	15.2493	.5738	.3437	.7439
C8	31.3750	14.6545	.5752	.4182	.7415
C9	31.6510	15.8305	.3028	.1240	.7890

Reliability Coefficients 9 items

Alpha = .7799 Standardized item alpha = .7909

Reliability - Individuals - For D1 to D6 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	1.0076	192.0
2.	D2	3.9896	.8313	192.0
3.	D3	4.0677	.6715	192.0
4.	D4	3.1771	1.2406	192.0
5.	D5	3.5885	1.0647	192.0
6.	D6	3.5208	1.0383	192.0

Correlation Matrix

	D1	D2	D3	D4	D5
D1	1.0000				
D2	.4910	1.0000			
D3	.2010	.2827	1.0000		
D4	.2965	.3521	.2809	1.0000	
D5	-.1469	-.0759	.1710	-.0833	1.0000
D6	-.2807	-.1635	.0242	-.0638	.3796

	D6
D6	1.0000

N of Cases = 192.0

Statistics for	Mean	Variance	Std Dev	N of Variables
Scale	22.1146	8.6674	2.9440	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	18.3438	6.7189	.1787	.3040	.3398
D2	18.1250	6.5288	.3408	.3096	.2512
D3	18.0469	6.8826	.3786	.1642	.2589
D4	18.9375	5.5772	.2647	.1840	.2709
D5	18.5260	7.1197	.0729	.1853	.4118
D6	18.5938	7.7503	-.0278	.1985	.4710

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 6 items

Alpha = .3821 Standardized item alpha = .4283

Reliability - Individuals - For D1 to D4 and D6 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	1.0076	192.0
2.	D2	3.9896	.8313	192.0
3.	D3	4.0677	.6715	192.0
4.	D4	3.1771	1.2406	192.0
5.	D6	3.5208	1.0383	192.0

Correlation Matrix

	D1	D2	D3	D4	D6
D1	1.0000				
D2	.4910	1.0000			
D3	.2010	.2827	1.0000		
D4	.2965	.3521	.2809	1.0000	
D6	-.2807	-.1635	.0242	-.0638	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.5260	7.1197	2.6683	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	14.7552	4.8560	.2811	.3024	.3012
D2	14.5365	4.8468	.4322	.3094	.2100
D3	14.4583	5.5794	.3434	.1265	.3001
D4	15.3490	3.8095	.3657	.1763	.2010
D6	15.0052	7.0419	-.1815	.0880	.6335

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .4118 Standardized item alpha = .4529

Reliability - Individuals - For D1 to D5 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	1.0076	192.0
2.	D2	3.9896	.8313	192.0
3.	D3	4.0677	.6715	192.0
4.	D4	3.1771	1.2406	192.0
5.	D5	3.5885	1.0647	192.0

Correlation Matrix

	D1	D2	D3	D4	D5
D1	1.0000				
D2	.4910	1.0000			
D3	.2010	.2827	1.0000		
D4	.2965	.3521	.2809	1.0000	
D5	-.1469	-.0759	.1710	-.0833	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.5938	7.7503	2.7839	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	14.8229	5.2146	.3304	.2729	.3580
D2	14.6042	5.3294	.4507	.3083	.2979
D3	14.5260	5.9993	.3952	.1641	.3601
D4	15.4167	4.4956	.3261	.1824	.3574
D5	15.0052	7.0419	-.0752	.0730	.6335

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .4710 Standardized item alpha = .5180

Reliability - Individuals - For D1 to D4 (Power Distance)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D1	3.7708	1.0076	192.0
2.	D2	3.9896	.8313	192.0
3.	D3	4.0677	.6715	192.0
4.	D4	3.1771	1.2406	192.0

Correlation Matrix

	D1	D2	D3	D4
D1	1.0000			
D2	.4910	1.0000		
D3	.2010	.2827	1.0000	
D4	.2965	.3521	.2809	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	15.0052	7.0419	2.6536	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D1	11.2344	4.1909	.4450	.2600	.5404
D2	11.0156	4.4867	.5294	.3076	.4953
D3	10.9375	5.5353	.3341	.1193	.6205
D4	11.8281	3.5672	.4130	.1762	.5929

Reliability Coefficients 4 items

Alpha = .6335 Standardized item alpha = .6503

Reliability - Individuals - For D7 to D11 (Collectivism)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D7	3.3177	1.1294	192.0
2.	D8	4.1458	.5313	192.0
3.	D9	3.5104	1.1209	192.0
4.	D10	3.6615	1.0000	192.0
5.	D11	4.0521	.6845	192.0

Correlation Matrix

	D7	D8	D9	D10	D11
D7	1.0000				
D8	.1929	1.0000			
D9	.2765	.2084	1.0000		
D10	.4388	.3102	.3652	1.0000	
D11	.0462	.2094	.1221	.2018	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	18.6875	8.2893	2.8791	5

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D7	15.3698	5.0196	.3941	.2136	.5346
D8	14.5417	7.0454	.3409	.1309	.5763
D9	15.1771	5.0784	.3869	.1602	.5388
D10	15.0260	4.8737	.5471	.3077	.4353
D11	14.6354	7.1334	.1880	.0698	.6204

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 5 items

Alpha = .6042 Standardized item alpha = .6085

Reliability - Individuals - For D7 to D10 (Collectivism)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D7	3.3177	1.1294	192.0
2.	D8	4.1458	.5313	192.0
3.	D9	3.5104	1.1209	192.0
4.	D10	3.6615	1.0000	192.0

Correlation Matrix

	D7	D8	D9	D10
D7	1.0000			
D8	.1929	1.0000		
D9	.2765	.2084	1.0000	
D10	.4388	.3102	.3652	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	14.6354	7.1334	2.6708	4

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D7	11.3177	3.9352	.4291	.2103	.5323
D8	10.4896	6.0418	.3099	.1091	.6231
D9	11.1250	4.1099	.3888	.1585	.5665
D10	10.9740	3.9941	.5352	.2933	.4431

Reliability Coefficients 4 items

Alpha = .6204 Standardized item alpha = .6301

Reliability - Individuals - For D12 to D14 (Conformity)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D12	3.8750	.7692	192.0
2.	D13	2.8854	1.1700	192.0
3.	D14	3.5990	.9711	192.0

Correlation Matrix

	D12	D13	D14
D12	1.0000		
D13	-.0509	1.0000	
D14	.0657	.1805	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	10.3594	3.3204	1.8222	3

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D12	6.4844	2.7223	.0026	.0084	.3014
D13	7.4740	1.6328	.1066	.0365	.1202
D14	6.7604	1.8690	.1915	.0382	-.0980

Reliability Coefficients 3 items

Alpha = .1883 Standardized item alpha = .1728

Reliability - Individuals - For D13 & D14 (Conformity)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	D13	2.8854	1.1700	192.0
2.	D14	3.5990	.9711	192.0

Correlation Matrix

	D13	D14
D13	1.0000	
D14	.1805	1.0000

N of Cases = 192.0

Statistics for Scale	Mean	Variance	Std Dev	N of Variables
	6.4844	2.7223	1.6499	2

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
D13	3.5990	.9430	.1805	.0326	.
D14	2.8854	1.3690	.1805	.0326	.

Reliability Coefficients 2 items

Alpha = .3014 Standardized item alpha = .3058

Appendix 6.3

CORRELATION TESTS

1. For 61 Teams (pages 445-446)
2. For 192 Individual Employees (pages 447-448)

Means and Standard Deviation for the Constructs - 61 Teams

Statistics

		CONFID	COOP	COMP	INDEP	OPENM	POWDIS	COLLECT	INTERNAL	EXTERNAL
N	Valid	61	61	61	61	61	61	61	61	61
	Missing	0	0	0	0	0	0	0	0	0
Mean		4.1769	4.1845	2.1580	2.3147	3.9355	3.7686	3.6688	4.0956	3.8656
Std. Deviation		.2742	.2602	.4821	.5312	.3332	.4551	.4543	.4639	.4332

Correlations - For 61 Teams

Correlations

		CONFID	COOP	COMP	INDEP	OPENM	POWDIS	COLLECT	INTERNAL	EXTERNAL
CONFID	Pearson Correlation	1.000	.525**	-.201	-.312*	.567**	.189	.495**	-.090	.116
	Sig. (2-tailed)	.	.000	.120	.014	.000	.144	.000	.491	.374
	N	61	61	61	61	61	61	61	61	61
COOP	Pearson Correlation	.525**	1.000	-.380**	-.420**	.523**	.202	.405**	-.111	-.006
	Sig. (2-tailed)	.000	.	.003	.001	.000	.119	.001	.396	.961
	N	61	61	61	61	61	61	61	61	61
COMP	Pearson Correlation	-.201	-.380**	1.000	.672**	-.449**	.000	-.188	-.067	.152
	Sig. (2-tailed)	.120	.003	.	.000	.000	.999	.146	.608	.242
	N	61	61	61	61	61	61	61	61	61
INDEP	Pearson Correlation	-.312*	-.420**	.672**	1.000	-.491**	-.188	-.372**	-.243	.028
	Sig. (2-tailed)	.014	.001	.000	.	.000	.147	.003	.059	.831
	N	61	61	61	61	61	61	61	61	61
OPENM	Pearson Correlation	.567**	.523**	-.449**	-.491**	1.000	.113	.404**	.000	-.121
	Sig. (2-tailed)	.000	.000	.000	.000	.	.385	.001	.998	.352
	N	61	61	61	61	61	61	61	61	61
POWDIS	Pearson Correlation	.189	.202	.000	-.188	.113	1.000	.350**	.025	-.050
	Sig. (2-tailed)	.144	.119	.999	.147	.385	.	.006	.850	.701
	N	61	61	61	61	61	61	61	61	61
COLLECT	Pearson Correlation	.495**	.405**	-.188	-.372**	.404**	.350**	1.000	-.040	-.064
	Sig. (2-tailed)	.000	.001	.146	.003	.001	.006	.	.757	.622
	N	61	61	61	61	61	61	61	61	61
INTERNAL	Pearson Correlation	-.090	-.111	-.067	-.243	.000	.025	-.040	1.000	.134
	Sig. (2-tailed)	.491	.396	.608	.059	.998	.850	.757	.	.303
	N	61	61	61	61	61	61	61	61	61
EXTERNAL	Pearson Correlation	.116	-.006	.152	.028	-.121	-.050	-.064	.134	1.000
	Sig. (2-tailed)	.374	.961	.242	.831	.352	.701	.622	.303	.
	N	61	61	61	61	61	61	61	61	61

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Means and Standard Deviation for the Constructs - 192 Individuals

Statistics

		CONFID	COOP	COMP	INDEP	OPENM	POWERDIS	COLLECT
N	Valid	192	192	192	192	192	192	192
	Missing	0	0	0	0	0	0	0
Mean		4.1771	4.1875	2.1646	2.4342	3.9075	3.7487	3.7161
Std. Deviation		.4052	.4242	.7561	.7777	.4912	.6654	.6603

Correlations - For 192 Employees

Correlations

		CONFID	COOP	COMP	INDEP	OPENM	POWERDIS	COLLECT
CONFID	Pearson Correlation	1.000	.483**	-.264**	-.239**	.327**	.214**	.352**
	Sig. (2-tailed)	.	.000	.000	.001	.000	.003	.000
	N	192	192	192	192	192	192	192
COOP	Pearson Correlation	.483**	1.000	-.278**	-.237**	.414**	.224**	.335**
	Sig. (2-tailed)	.000	.	.000	.001	.000	.002	.000
	N	192	192	192	192	192	192	192
COMP	Pearson Correlation	-.264**	-.278**	1.000	.597**	-.404**	.058	-.144*
	Sig. (2-tailed)	.000	.000	.	.000	.000	.425	.046
	N	192	192	192	192	192	192	192
INDEP	Pearson Correlation	-.239**	-.237**	.597**	1.000	-.372**	-.029	-.220**
	Sig. (2-tailed)	.001	.001	.000	.	.000	.687	.002
	N	192	192	192	192	192	192	192
OPENM	Pearson Correlation	.327**	.414**	-.404**	-.372**	1.000	.039	.325**
	Sig. (2-tailed)	.000	.000	.000	.000	.	.594	.000
	N	192	192	192	192	192	192	192
POWERDIS	Pearson Correlation	.214**	.224**	.058	-.029	.039	1.000	.105
	Sig. (2-tailed)	.003	.002	.425	.687	.594	.	.146
	N	192	192	192	192	192	192	192
COLLECT	Pearson Correlation	.352**	.335**	-.144*	-.220**	.325**	.105	1.000
	Sig. (2-tailed)	.000	.000	.046	.002	.000	.146	.
	N	192	192	192	192	192	192	192

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 6.4

CROSSTABULATIONS RESULTS

for

Constructive Controversy (OpenM) against

1. Age of Teams (pages 450-452)
2. Skill of Teams (453-455)
3. Size of Teams (456-458)

Crosstabs - OpenM (Constructive Controversy) against Age

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
OPENM * AGE	192	100.0%	0	.0%	192	100.0%

OPENM * AGE Crosstabulation

			AGE						Total
			Under 20	21 - 30	31 to 40	41 - 50	51 to 60	Over 60	
OPENM	1.51 to 2.00	Count	0	0	0	0	1	0	1
		Expected Count	.0	.1	.2	.3	.3	.1	1.0
		% within OPENM	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
		% within AGE	.0%	.0%	.0%	.0%	1.5%	.0%	.5%
		% of Total	.0%	.0%	.0%	.0%	.5%	.0%	.5%
	2.01 to 2.50	Count	0	1	1	0	0	1	3
		Expected Count	.1	.3	.6	.8	1.0	.2	3.0
		% within OPENM	.0%	33.3%	33.3%	.0%	.0%	33.3%	100.0%
		% within AGE	.0%	5.6%	2.8%	.0%	.0%	7.7%	1.6%
		% of Total	.0%	.5%	.5%	.0%	.0%	.5%	1.6%
	2.51 to 3.00	Count	0	0	1	0	2	1	4
		Expected Count	.1	.4	.8	1.1	1.4	.3	4.0
		% within OPENM	.0%	.0%	25.0%	.0%	50.0%	25.0%	100.0%
		% within AGE	.0%	.0%	2.8%	.0%	3.0%	7.7%	2.1%
		% of Total	.0%	.0%	.5%	.0%	1.0%	.5%	2.1%
	3.01 to 3.50	Count	0	2	2	3	9	2	18
		Expected Count	.5	1.7	3.4	5.1	6.2	1.2	18.0
		% within OPENM	.0%	11.1%	11.1%	16.7%	50.0%	11.1%	100.0%
		% within AGE	.0%	11.1%	5.6%	5.6%	13.6%	15.4%	9.4%
		% of Total	.0%	1.0%	1.0%	1.6%	4.7%	1.0%	9.4%

OPENM * AGE Crosstabulation

			AGE						
			Under 20	21 - 30	31 to 40	41 - 50	51 to 60	Over 60	Total
OPENM	3.51 to 4.00	Count	1	8	26	36	32	6	109
		Expected Count	2.8	10.2	20.4	30.7	37.5	7.4	109.0
		% within OPENM	.9%	7.3%	23.9%	33.0%	29.4%	5.5%	100.0%
		% within AGE	20.0%	44.4%	72.2%	66.7%	48.5%	46.2%	56.8%
		% of Total	.5%	4.2%	13.5%	18.8%	16.7%	3.1%	56.8%
	4.01 to 4.50	Count	2	6	3	10	17	2	40
		Expected Count	1.0	3.8	7.5	11.3	13.8	2.7	40.0
		% within OPENM	5.0%	15.0%	7.5%	25.0%	42.5%	5.0%	100.0%
		% within AGE	40.0%	33.3%	8.3%	18.5%	25.8%	15.4%	20.8%
		% of Total	1.0%	3.1%	1.6%	5.2%	8.9%	1.0%	20.8%
	4.51 to 5.00	Count	2	1	3	5	5	1	17
		Expected Count	.4	1.6	3.2	4.8	5.8	1.2	17.0
		% within OPENM	11.8%	5.9%	17.6%	29.4%	29.4%	5.9%	100.0%
		% within AGE	40.0%	5.6%	8.3%	9.3%	7.6%	7.7%	8.9%
		% of Total	1.0%	.5%	1.6%	2.6%	2.6%	.5%	8.9%
Total		Count	5	18	36	54	66	13	192
		Expected Count	5.0	18.0	36.0	54.0	66.0	13.0	192.0
		% within OPENM	2.6%	9.4%	18.8%	28.1%	34.4%	6.8%	100.0%
		% within AGE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	2.6%	9.4%	18.8%	28.1%	34.4%	6.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.867[a]	30	.286
Likelihood Ratio	33.113	30	.318
Linear-by-Linear Association	2.072	1	.150
N of Valid Cases	192		

a. 31 cells (73.8%) have expected count less than 5. The minimum expected count is .03.

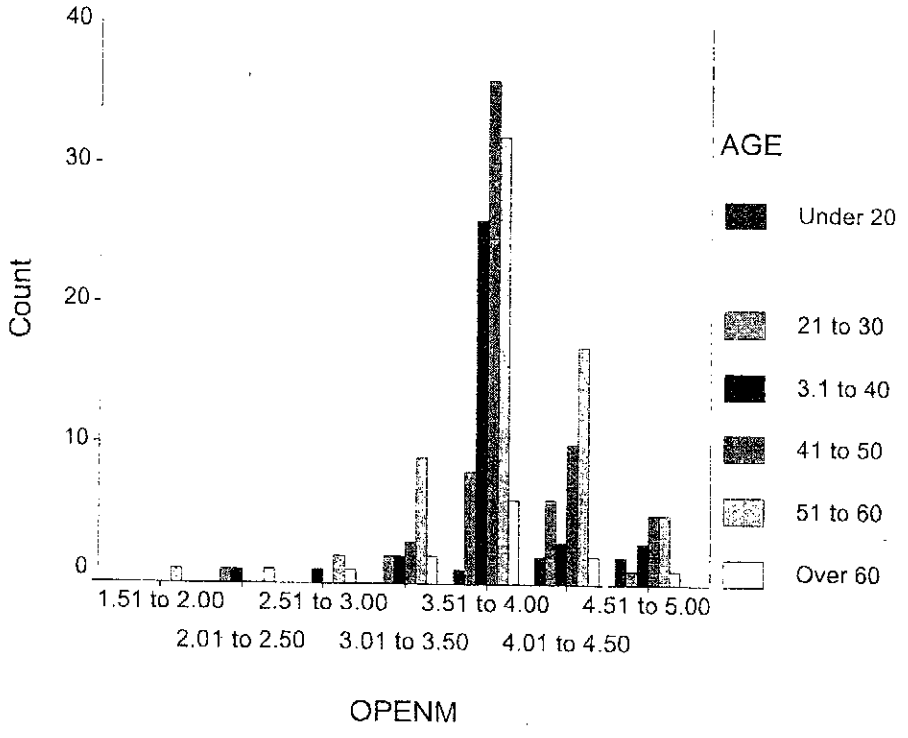
Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	-.104	.081	-1.444	.150[c]
Ordinal by Ordinal	Spearman Correlation	-.077	.078	-1.070	.286[c]
N of Valid Cases		192			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.



Crosstabs - OpenM (Constructive Controversy) against Skill of Teams

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
OPENM * SKILL	192	100.0%	0	.0%	192	100.0%

OPENM * SKILL Crosstabulation

			SKILL								
			Fitters	Steel Fabricators	Electrician	Riggers	Painters	Joiners	Pipe Workers	Welders	Machinists
OPENM	1.51 to 2.00	Count	0	1	0	0	0	0	0	0	0
		Expected Count	.4	.2	.1	.1	.1	.0	.0	.0	.0
	2.01 to 2.50	Count	1	2	0	0	0	0	0	0	0
		Expected Count	1.1	.6	.4	.2	.2	.1	.1	.1	.1
	2.51 to 3.00	Count	1	1	1	0	1	0	0	0	0
		Expected Count	1.5	.8	.5	.3	.3	.2	.1	.1	.1
	3.01 to 3.50	Count	1.5	4	.5	1	0	1	2	0	0
		Expected Count	9	3.5	2.3	1.4	1.3	.8	.7	.4	.5
	3.51 to 4.00	Count	37	23	11	10	11	6	4	1	2
		Expected Count	40.9	21.0	13.6	8.5	7.9	4.5	4.0	2.3	2.8
	4.01 to 4.50	Count	14	5	6	4	2	1	1	3	2
		Expected Count	15.0	7.7	5.0	3.1	2.9	1.7	1.5	.8	1.0
	4.51 to 5.00	Count	10	1	5	0	0	0	0	0	1
		Expected Count	6.4	3.3	2.1	1.3	1.2	.7	.6	.4	.4
Total		Count	72	37	24	15	14	8	7	4	5
		Expected Count	72.0	37.0	24.0	15.0	14.0	8.0	7.0	4.0	5.0

OPENM * SKILL Crosstabulation

			SKILL			
			Air-Cond. Mechnics	NDT	Safety Officers	Total
OPENM	1.51 to 2.00	Count	0	0	0	1
		Expected Count	.0	.0	.0	1.0
	2.01 to 2.50	Count	0	0	0	3
		Expected Count	.0	.0	.0	3.0
	2.51 to 3.00	Count	0	0	0	4
		Expected Count	.0	.0	.0	4.0
	3.01 to 3.50	Count	0	0	0	18
		Expected Count	.2	.2	.2	18.0
	3.51 to 4.00	Count	1	2	1	109
		Expected Count	1.1	1.1	1.1	109.0
	4.01 to 4.50	Count	1	0	1	40
		Expected Count	.4	.4	.4	40.0
	4.51 to 5.00	Count	0	0	0	17
		Expected Count	.2	.2	.2	17.0
Total		Count	2	2	2	192
		Expected Count	2.0	2.0	2.0	192.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	47.940[a]	66	.954
Likelihood Ratio	50.428	66	.922
Linear-by-Linear Association	.371	1	.542
N of Valid Cases	192		

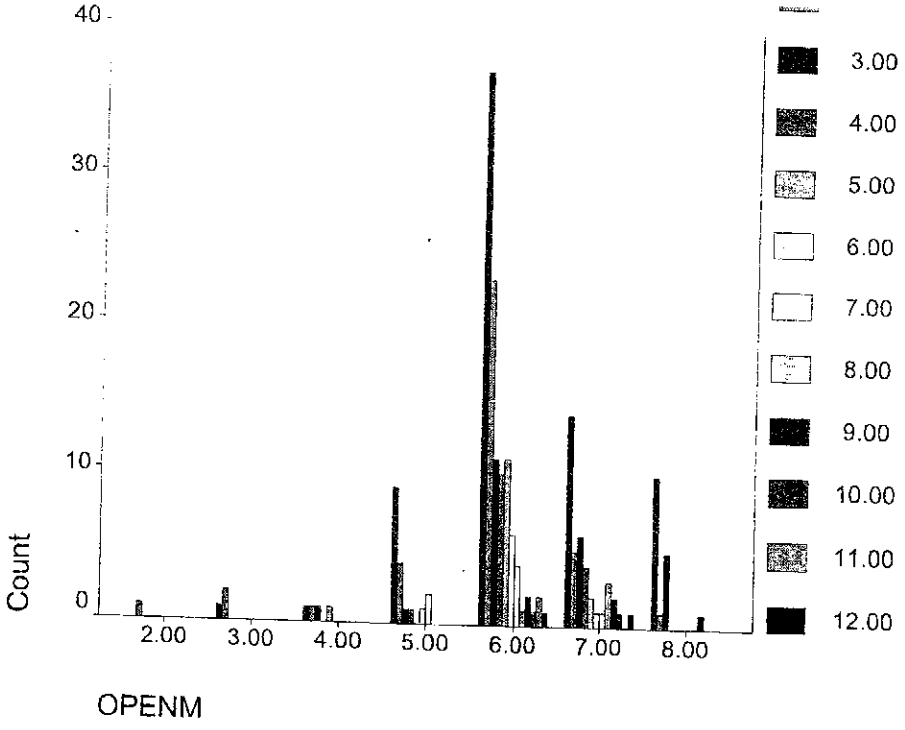
a. 74 cells (88.1%) have expected count less than 5. The minimum expected count is .01.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.447	.954
N of Valid Cases		192	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.



Crosstabs - OpenM (Constructive Controversy) aginast Size of Teams

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
OPENM * TEAMZ	61	100.0%	0	.0%	61	100.0%

OPENM * TEAMZ Crosstabulation

			TEAMZ				
			3.00	4.00	5.00	6.00	7.00
OPENM	2.51 to 3.00	Count	0	0	0	1	0
		Expected Count	.0	.4	.0	.2	.0
		% within OPENM	.0%	.0%	.0%	100.0%	.0%
		% within TEAMZ	.0%	.0%	.0%	9.1%	.0%
		% of Total	.0%	.0%	.0%	1.6%	.0%
	3.01 to 3.50	Count	0	0	0	2	0
		Expected Count	.0	1.3	.1	.5	.0
		% within OPENM	.0%	.0%	.0%	66.7%	.0%
		% within TEAMZ	.0%	.0%	.0%	18.2%	.0%
		% of Total	.0%	.0%	.0%	3.3%	.0%
	3.51 to 4.00	Count	0	20	2	3	1
		Expected Count	.6	17.3	1.3	7.0	.6
		% within OPENM	.0%	51.3%	5.1%	7.7%	2.6%
		% within TEAMZ	.0%	74.1%	100.0%	27.3%	100.0%
		% of Total	.0%	32.8%	3.3%	4.9%	1.6%
	4.01 to 4.50	Count	1	5	0	5	0
		Expected Count	.2	6.6	.5	2.7	.2
		% within OPENM	6.7%	33.3%	.0%	33.3%	.0%
		% within TEAMZ	100.0%	18.5%	.0%	45.5%	.0%
		% of Total	1.6%	8.2%	.0%	8.2%	.0%
	4.51 to 5.00	Count	0	2	0	0	0
		Expected Count	.0	1.3	.1	.5	.0
		% within OPENM	.0%	66.7%	.0%	.0%	.0%
		% within TEAMZ	.0%	7.4%	.0%	.0%	.0%
		% of Total	.0%	3.3%	.0%	.0%	.0%
Total		Count	1	27	2	11	1
		Expected Count	1.0	27.0	2.0	11.0	1.0
		% within OPENM	1.6%	44.3%	3.3%	18.0%	1.6%
		% within TEAMZ	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.6%	44.3%	3.3%	18.0%	1.6%

OPENM * TEAMZ Crosstabulation

			TEAMZ			
			8.00	9.00	10.00	Total
OPENM	2.51 to 3.00	Count	0	0	0	1
		Expected Count	.2	.0	.1	1.0
		% within OPENM	.0%	.0%	.0%	100.0%
		% within TEAMZ	.0%	.0%	.0%	1.6%
		% of Total	.0%	.0%	.0%	1.6%
	3.01 to 3.50	Count	1	0	0	3
		Expected Count	.6	.0	.2	3.0
		% within OPENM	33.3%	.0%	.0%	100.0%
		% within TEAMZ	7.7%	.0%	.0%	4.9%
		% of Total	1.6%	.0%	.0%	4.9%
	3.51 to 4.00	Count	7	1	5	39
		Expected Count	8.3	.6	3.2	39.0
		% within OPENM	17.9%	2.6%	12.8%	100.0%
		% within TEAMZ	53.8%	100.0%	100.0%	63.9%
		% of Total	11.5%	1.6%	8.2%	63.9%
	4.01 to 4.50	Count	4	0	0	15
		Expected Count	3.2	.2	1.2	15.0
		% within OPENM	26.7%	.0%	.0%	100.0%
		% within TEAMZ	30.8%	.0%	.0%	24.6%
		% of Total	6.6%	.0%	.0%	24.6%
	4.51 to 5.00	Count	1	0	0	3
		Expected Count	.6	.0	.2	3.0
		% within OPENM	33.3%	.0%	.0%	100.0%
		% within TEAMZ	7.7%	.0%	.0%	4.9%
		% of Total	1.6%	.0%	.0%	4.9%
Total		Count	13	1	5	61
		Expected Count	13.0	1.0	5.0	61.0
		% within OPENM	21.3%	1.6%	8.2%	100.0%
		% within TEAMZ	100.0%	100.0%	100.0%	100.0%
		% of Total	21.3%	1.6%	8.2%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.584[a]	28	.650
Likelihood Ratio	26.414	28	.550
Linear-by-Linear Association	.579	1	.447
N of Valid Cases	61		

a. 36 cells (90.0%) have expected count less than 5. The minimum expected count is .02.

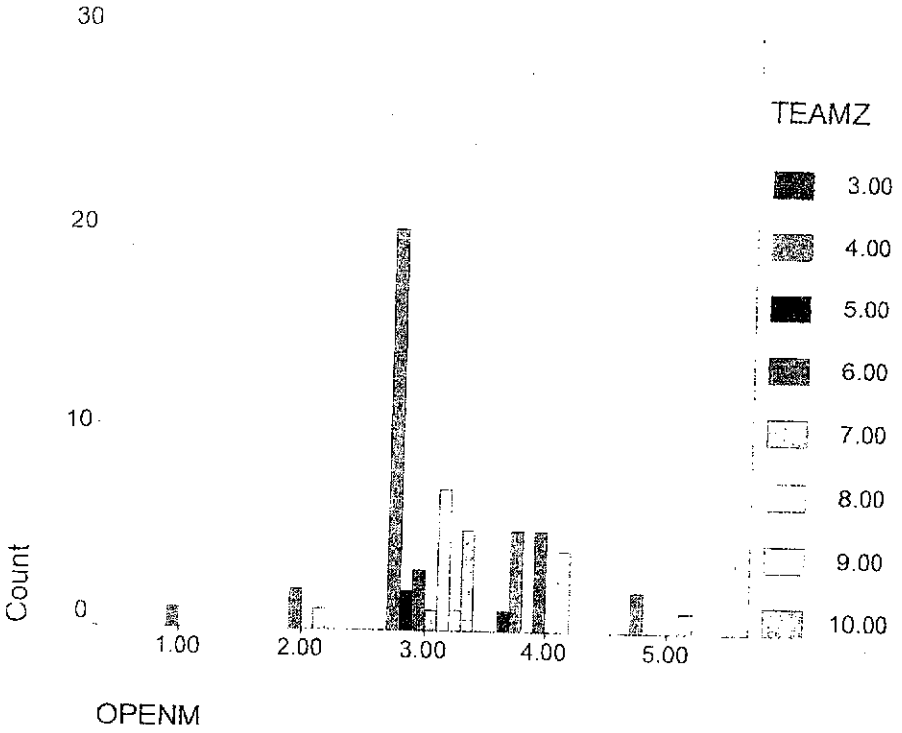
Symmetric Measures

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	-.098	.098	-.758	.451[c]
Ordinal by Ordinal	Spearman Correlation	-.102	.112	-.789	.433[c]
N of Valid Cases		61			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.


30
20
10
0
Count
1.00
2.00
3.00
4.00
5.00
OPENM
TEAMZ
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00

Appendix 6.5

MULTIPLE REGRESSION TESTS

1. For 192 individual employees:

   i) Hypothesis No. 1 – OpenM vs Power Distance and Collectivism (pages 460-464)

   ii) Hypothesis No. 2 – OpenM vs Cooperation, Competition and Independence (pages 465-469)

   iii) Others to check if adding explanation power (R Square):
   a) OpenM vs Power Distance, Collectivism and Conformity (pages 470-474)
   b) OpenM vs Power Distance, Collectivism, Conformity, Age, Skill and Size of Teams (pages 475-480)
   c) OpenM vs Cooperation, Competition, Independence, Age, Skill and Size of Teams (pages 481-486)
   d) OpenM vs Cooperation, Competition, Independence, Power Distance and Collectivism (pages 487-494)

2. For 61 Teams:

   i) Hypothesis No. 1 – OpenM vs Power Distance and Collectivism (pages 495-499)

   ii) Hypothesis No. 2 – OpenM vs Cooperation, Competition and Independence (pages 5008-504)

   iii) Others to check if adding explanation power (R Square):
   a) OpenM vs Power Distance, Collectivism and Conformity (pages 505-509)
   b) OpenM vs Cooperation, Competition, Independence, Power Distance and Collectivism (pages 510-514)

Regression - For Individual Level - OpenM with Power Distance and Collectivism

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
POWERDIS	3.7487	.6654	192
COLLECT	3.7161	.6603	192

Correlations

		OPENM	POWERDIS	COLLECT
Pearson Correlation	OPENM	1.000	-.022	.174
	POWERDIS	-.022	1.000	.764
	COLLECT	.174	.764	1.000
Sig. (1-tailed)	OPENM	.	.383	.008
	POWERDIS	.383	.	.000
	COLLECT	.008	.000	.
N	OPENM	192	192	192
	POWERDIS	192	192	192
	COLLECT	192	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COLLECT		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	POWERDIS		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174[a]	.030	.025	.4850
2	.296[b]	.088	.078	.4717

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.030	5.923	1	190	.016
2	.057	11.875	1	189	.001

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.393	1	1.393	5.923	.016[a]
	Residual	44.689	190	.235		
	Total	46.082	191			
2	Regression	4.035	2	2.018	9.069	.000[b]
	Residual	42.047	189	.222		
	Total	46.082	191			

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.427	.201		17.086	.000
	COLLECT	.129	.053	.174	2.434	.016
2	(Constant)	3.670	.207		17.692	.000
	COLLECT	.340	.080	.457	4.247	.000
	POWERDIS	-.274	.080	-.371	-3.446	.001

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	3.031	3.822		
	COLLECT	.025	.234	1.000	1.000
2	(Constant)	3.261	4.079		
	COLLECT	.182	.498	.416	2.402
	POWERDIS	-.431	-.117	.416	2.402

a. Dependent Variable: OPENM

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation
1	POWERDIS	-.371[a]	-3.446	.001	-.243

Excluded Variables[b]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	POWERDIS	.416	2.402	.416

a. Predictors in the Model: (Constant), COLLECT

b. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COLLECT	POWERDIS
1	1	1.985	1.000	.01	.01	
	2	1.534E-02	11.373	.99	.99	
2	1	2.975	1.000	.00	.00	.00
	2	1.804E-02	12.842	1.00	.12	.12
	3	7.178E-03	20.357	.00	.88	.88

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
70	-3.311	2.44	4.0015	-1.5615
110	-3.100	2.44	3.9021	-1.4621

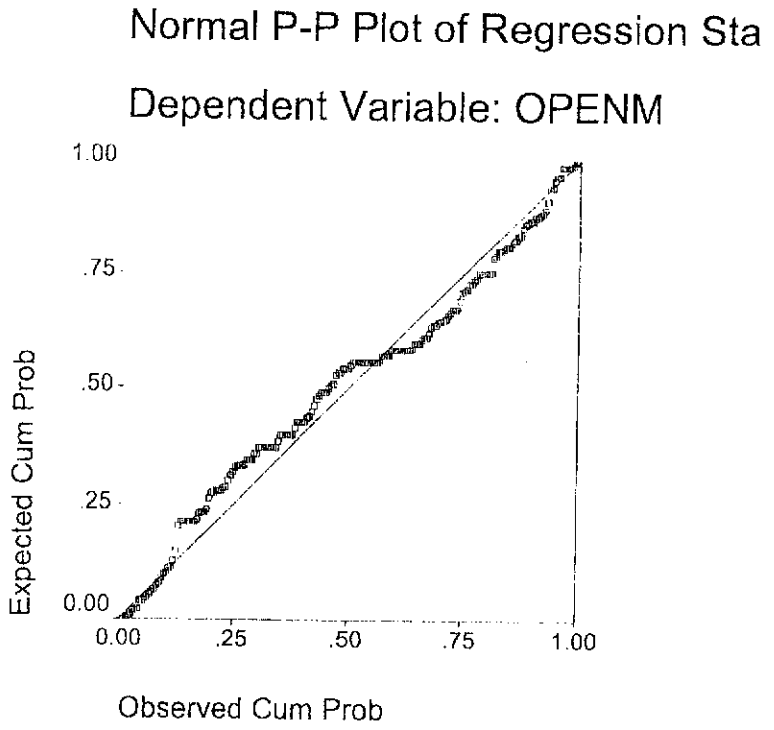
a. Dependent Variable: OPENM

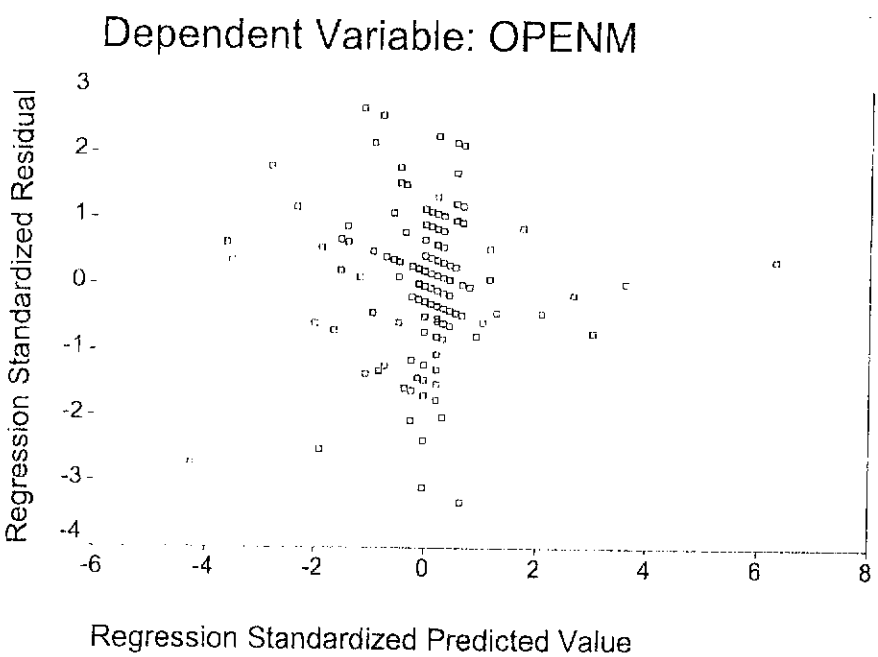
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.2879	4.8234	3.9075	.1453	192
Std. Predicted Value	-4.263	6.302	.000	1.000	192
Standard Error of Predicted Value	3.414E-02	.2300	5.277E-02	2.636E-02	192
Adjusted Predicted Value	3.3492	4.7683	3.9061	.1446	192
Residual	-1.5615	1.2637	2.981E-15	.4692	192
Std. Residual	-3.311	2.679	.000	.995	192
Stud. Residual	-3.356	2.834	.001	1.007	192
Deleted Residual	-1.6048	1.4136	1.382E-03	.4815	192
Stud. Deleted Residual	-3.452	2.888	.001	1.016	192
Mahal. Distance	.006	44.433	1.990	4.383	192
Cook's Distance	.000	.321	.009	.036	192
Centered Leverage Value	.000	.233	.010	.023	192

a. Dependent Variable: OPENM

Charts


Normal P-P Plot of Regression Sta
Dependent Variable: OPENM
Expected Cum Prob
Observed Cum Prob
0.00
.25
.50
.75
1.00


Scatterplot
Dependent Variable: OPENM
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3
-4
-6
-4
-2
0
2
4
6
8

Regression - For Individual Level - OpenM with Cooperation, Competition and Independence

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
COOP	4.1875	.4242	192
COMP	2.1646	.7561	192
INDEP	2.4342	.7777	192

Correlations

		OPENM	COOP	COMP	INDEP
Pearson Correlation	OPENM	1.000	.363	-.386	-.235
	COOP	.363	1.000	-.300	-.219
	COMP	-.386	-.300	1.000	.425
	INDEP	-.235	-.219	.425	1.000
Sig. (1-tailed)	OPENM	.	.000	.000	.001
	COOP	.000	.	.000	.001
	COMP	.000	.000	.	.000
	INDEP	.001	.001	.000	.
N	OPENM	192	192	192	192
	COOP	192	192	192	192
	COMP	192	192	192	192
	INDEP	192	192	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COMP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	COOP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	.149	.145	.4542
2	.465[b]	.216	.208	.4371

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.149	33.360	1	190	.000
2	.067	16.158	1	189	.000

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.883	1	6.883	33.360	.000[a]
	Residual	39.200	190	.206		
	Total	46.082	191			
2	Regression	9.970	2	4.985	26.090	.000[b]
	Residual	36.112	189	.191		
	Total	46.082	191			

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.451	.100		44.673	.000
	COMP	-.251	.043	-.386	-5.776	.000
2	(Constant)	3.021	.368		8.200	.000
	COMP	-.198	.044	-.305	-4.521	.000
	COOP	.314	.078	.271	4.020	.000

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	4.254	4.647		
	COMP	-.337	-.165	1.000	1.000
2	(Constant)	2.294	3.748		
	COMP	-.285	-.112	.910	1.099
	COOP	.160	.468	.910	1.099

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COOP	.271[a]	4.020	.000	.281	.910	1.099	.910
	INDEP	-.086[a]	-1.162	.247	-.084	.819	1.221	.819
2	INDEP	-.056[b]	-.782	.435	-.057	.810	1.235	.774

a. Predictors in the Model: (Constant), COMP

b. Predictors in the Model: (Constant), COMP, COOP

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COMP	COOP
1	1	1.944	1.000	.03	.03	
	2	5.567E-02	5.910	.97	.97	
2	1	2.913	1.000	.00	.01	.00
	2	8.301E-02	5.924	.01	.79	.03
	3	4.117E-03	26.598	.99	.20	.97

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
3	-3.941	2.00	3.7226	-1.7226
70	-3.003	2.44	3.7526	-1.3126
110	-3.116	2.44	3.8019	-1.3619

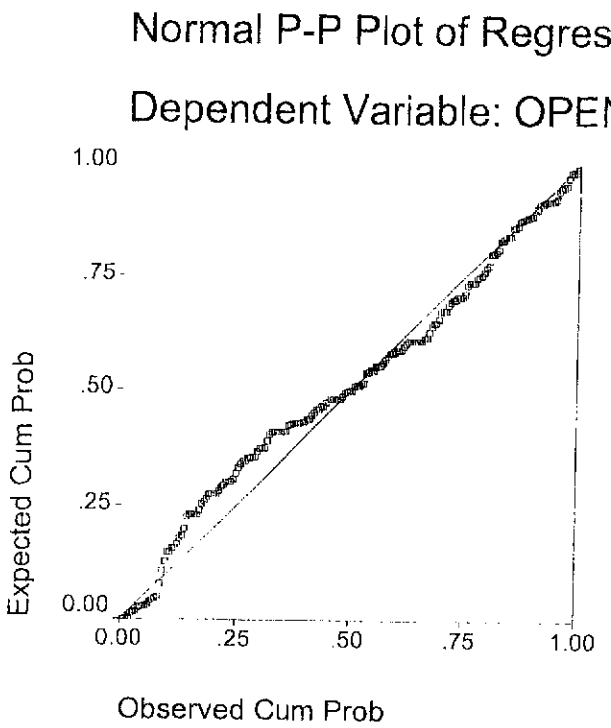
a. Dependent Variable: OPENM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.1474	4.3936	3.9075	.2285	192
Std. Predicted Value	-3.327	2.128	.000	1.000	192
Standard Error of Predicted Value	3.161E-02	.1578	5.148E-02	1.836E-02	192
Adjusted Predicted Value	3.1085	4.3922	3.9063	.2306	192
Residual	-1.7226	1.0177	2.244E-15	.4348	192
Std. Residual	-3.941	2.328	.000	.995	192
Stud. Residual	-3.959	2.337	.001	1.005	192
Deleted Residual	-1.7385	1.0742	1.222E-03	.4438	192
Stud. Deleted Residual	-4.123	2.365	.000	1.015	192
Mahal. Distance	.004	23.897	1.990	2.585	192
Cook's Distance	.000	.262	.007	.023	192
Centered Leverage Value	.000	.125	.010	.014	192

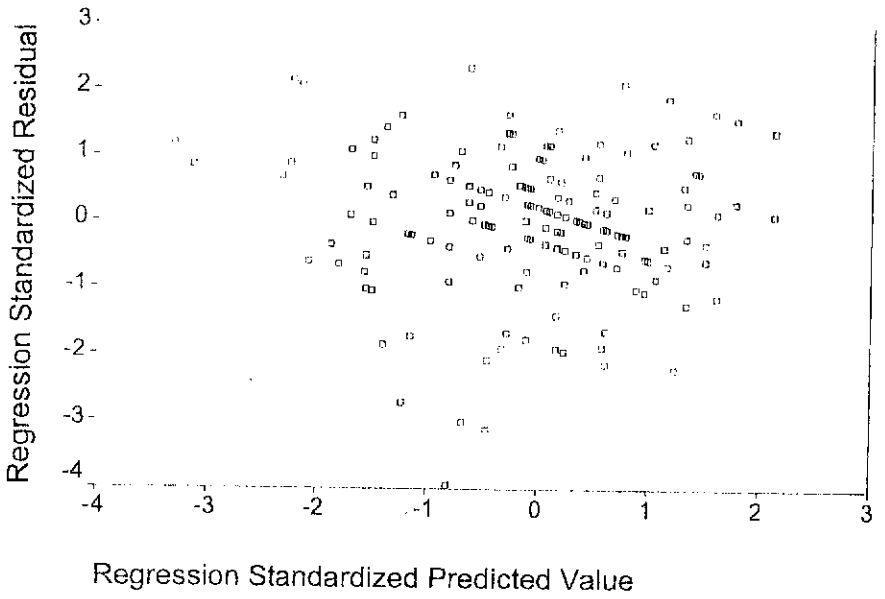
a. Dependent Variable: OPENM

Charts



Scatterplot

Dependent Variable: OPENM



Regression - For Individual Level - OpenM with Power Distance, Collectivism and Conformity

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
POWERDIS	3.7487	.6654	192
COLLECT	3.7161	.6603	192
CONFORM	3.4488	.6101	192

Correlations

		OPENM	POWERDIS	COLLECT	CONFORM
Pearson Correlation	OPENM	1.000	-.022	.174	.042
	POWERDIS	-.022	1.000	.764	.044
	COLLECT	.174	.764	1.000	.024
	CONFORM	.042	.044	.024	1.000
Sig. (1-tailed)	OPENM	.	.383	.008	.281
	POWERDIS	.383	.	.000	.271
	COLLECT	.008	.000	.	.370
	CONFORM	.281	.271	.370	.
N	OPENM	192	192	192	192
	POWERDIS	192	192	192	192
	COLLECT	192	192	192	192
	CONFORM	192	192	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COLLECT		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	POWERDIS		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174[a]	.030	.025	.4850
2	.296[b]	.088	.078	.4717

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.030	5.923	1	190	.016
2	.057	11.875	1	189	.001

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.393	1	1.393	5.923	.016[a]
	Residual	44.689	190	.235		
	Total	46.082	191			
2	Regression	4.035	2	2.018	9.069	.000[b]
	Residual	42.047	189	.222		
	Total	46.082	191			

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.427	.201		17.086	.000
	COLLECT	.129	.053	.174	2.434	.016
2	(Constant)	3.670	.207		17.692	.000
	COLLECT	.340	.080	.457	4.247	.000
	POWERDIS	-.274	.080	-.371	-3.446	.001

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	3.031	3.822		
	COLLECT	.025	.234	1.000	1.000
2	(Constant)	3.261	4.079		
	COLLECT	.182	.498	.416	2.402
	POWERDIS	-.431	-.117	.416	2.402

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation
1	POWERDIS	-.371[a]	-3.446	.001	-.243
	CONFORM	.038[a]	.531	.596	.039
2	CONFORM	.048[b]	.686	.493	.050

Excluded Variables[c]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	POWERDIS	.416	2.402	.416
	CONFORM	.999	1.001	.999
2	CONFORM	.998	1.002	.416

a. Predictors in the Model: (Constant), COLLECT

b. Predictors in the Model: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COLLECT	POWERDIS
1	1	1.985	1.000	.01	.01	
	2	1.534E-02	11.373	.99	.99	
2	1	2.975	1.000	.00	.00	.00
	2	1.804E-02	12.842	1.00	.12	.12
	3	7.178E-03	20.357	.00	.88	.88

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
70	-3.311	2.44	4.0015	-1.5615
110	-3.100	2.44	3.9021	-1.4621

a. Dependent Variable: OPENM

Residuals Statistics[a]

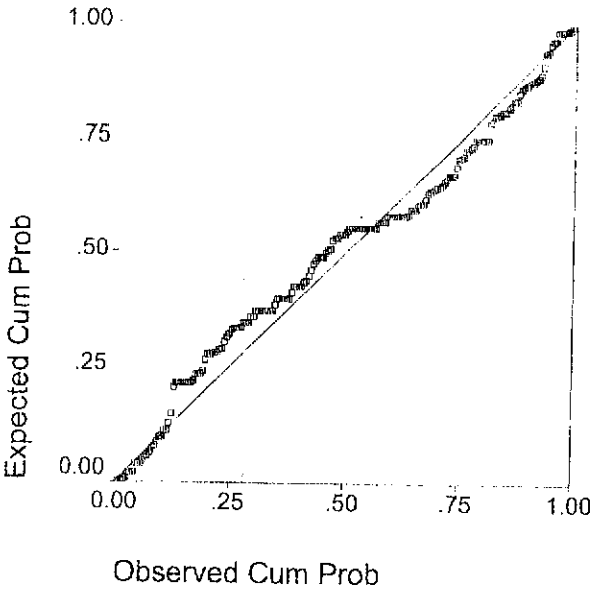
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.2879	4.8234	3.9075	.1453	192
Std. Predicted Value	-4.263	6.302	.000	1.000	192
Standard Error of Predicted Value	3.414E-02	.2300	5.277E-02	2.636E-02	192
Adjusted Predicted Value	3.3492	4.7683	3.9061	.1446	192
Residual	-1.5615	1.2637	2.981E-15	.4692	192
Std. Residual	-3.311	2.679	.000	.995	192
Stud. Residual	-3.356	2.834	.001	1.007	192
Deleted Residual	-1.6048	1.4136	1.382E-03	.4815	192
Stud. Deleted Residual	-3.452	2.888	.001	1.016	192
Mahal. Distance	.006	44.433	1.990	4.383	192
Cook's Distance	.000	.321	.009	.036	192
Centered Leverage Value	.000	.233	.010	.023	192

a. Dependent Variable: OPENM

Charts

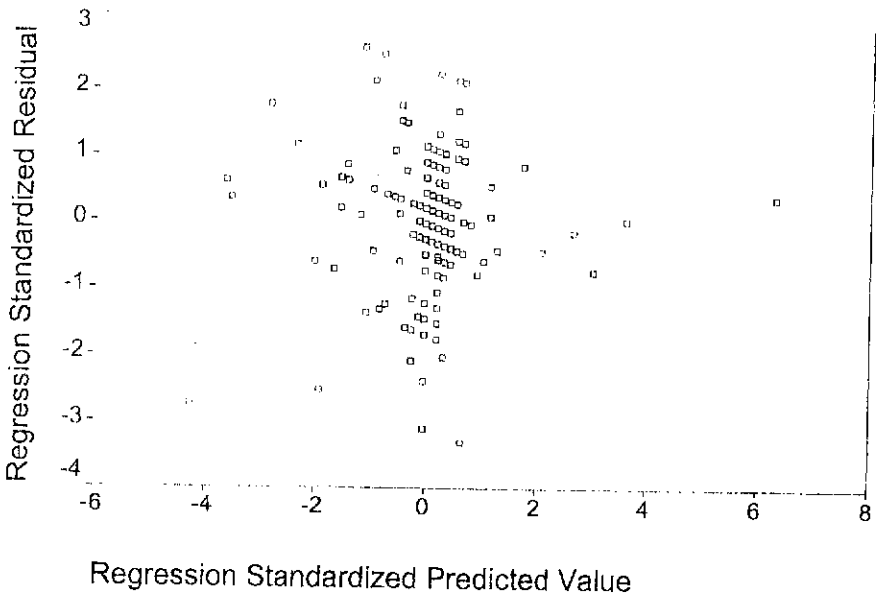
Normal P-P Plot of Regression Sta

Dependent Variable: OPENM



Scatterplot

Dependent Variable: OPENM



Regression - Individual Level - OpenM with Power Dis, Collect, Conform, Age, Team Size & Team Skill

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
POWERDIS	3.7487	.6654	192
COLLECT	3.7161	.6603	192
CONFORM	3.4488	.6101	192
AGE	3.4167	1.1860	192
TEAMZ	6.5781	2.1279	192
SKILL	3.0625	2.5554	192

Correlations

		OPENM	POWERDIS	COLLECT	CONFORM	AGE
Pearson Correlation	OPENM	1.000	-.022	.174	.042	.018
	POWERDIS	-.022	1.000	.764	.044	.208
	COLLECT	.174	.764	1.000	.024	.158
	CONFORM	.042	.044	.024	1.000	.005
	AGE	.018	.208	.158	.005	1.000
	TEAMZ	-.121	-.070	-.088	.158	.186
	SKILL	.076	.053	.035	-.074	.038
Sig. (1-tailed)	OPENM	.	.383	.008	.281	.401
	POWERDIS	.383	.	.000	.271	.002
	COLLECT	.008	.000	.	.370	.014
	CONFORM	.281	.271	.370	.	.472
	AGE	.401	.002	.014	.472	.
	TEAMZ	.047	.168	.114	.014	.005
	SKILL	.148	.232	.317	.153	.300
N	OPENM	192	192	192	192	192
	POWERDIS	192	192	192	192	192
	COLLECT	192	192	192	192	192
	CONFORM	192	192	192	192	192
	AGE	192	192	192	192	192
	TEAMZ	192	192	192	192	192
	SKILL	192	192	192	192	192

Correlations

		TEAMZ	SKILL
Pearson Correlation	OPENM	-.121	.076
	POWERDIS	-.070	.053
	COLLECT	-.088	.035
	CONFORM	.158	-.074
	AGE	.186	.038
	TEAMZ	1.000	-.299
	SKILL	-.299	1.000
Sig. (1-tailed)	OPENM	.047	.148
	POWERDIS	.168	.232
	COLLECT	.114	.317
	CONFORM	.014	.153
	AGE	.005	.300
	TEAMZ	.	.000
	SKILL	.000	.
N	OPENM	192	192
	POWERDIS	192	192
	COLLECT	192	192
	CONFORM	192	192
	AGE	192	192
	TEAMZ	192	192
	SKILL	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COLLECT	.	Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	POWERDIS	.	Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.174[a]	.030	.025	.4850
2	.296[b]	.088	.078	.4717

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.030	5.923	1	190	.016
2	.057	11.875	1	189	.001

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.393	1	1.393	5.923	.016[a]
	Residual	44.689	190	.235		
	Total	46.082	191			
2	Regression	4.035	2	2.018	9.069	.000[b]
	Residual	42.047	189	.222		
	Total	46.082	191			

a. Predictors: (Constant), COLLECT

b. Predictors: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.427	.201		17.086	.000
	COLLECT	.129	.053	.174	2.434	.016
2	(Constant)	3.670	.207		17.692	.000
	COLLECT	.340	.080	.457	4.247	.000
	POWERDIS	-.274	.080	-.371	-3.446	.001

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	3.031	3.822		
	COLLECT	.025	.234	1.000	1.000
2	(Constant)	3.261	4.079		
	COLLECT	.182	.498	.416	2.402
	POWERDIS	-.431	-.117	.416	2.402

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation
1	POWERDIS	-.371[a]	-3.446	.001	-.243
	CONFORM	.038[a]	.531	.596	.039
	AGE	-.010[a]	-.133	.894	-.010
	TEAMZ	-.107[a]	-1.496	.136	-.108
	SKILL	.070[a]	.977	.330	.071
2	CONFORM	.048[b]	.686	.493	.050
	AGE	.024[b]	.335	.738	.024
	TEAMZ	-.108[b]	-1.554	.122	-.113
	SKILL	.080[b]	1.150	.252	.084

Excluded Variables[c]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	POWERDIS	.416	2.402	.416
	CONFORM	.999	1.001	.999
	AGE	.975	1.026	.975
	TEAMZ	.992	1.008	.992
	SKILL	.999	1.001	.999
2	CONFORM	.998	1.002	.416
	AGE	.957	1.045	.409
	TEAMZ	.992	1.008	.415
	SKILL	.997	1.003	.416

a. Predictors in the Model: (Constant), COLLECT

b. Predictors in the Model: (Constant), COLLECT, POWERDIS

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COLLECT	POWERDIS
1	1	1.985	1.000	.01	.01	
	2	1.534E-02	11.373	.99	.99	
2	1	2.975	1.000	.00	.00	.00
	2	1.804E-02	12.842	1.00	.12	.12
	3	7.178E-03	20.357	.00	.88	.88

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
70	-3.311	2.44	4.0015	-1.5615
110	-3.100	2.44	3.9021	-1.4621

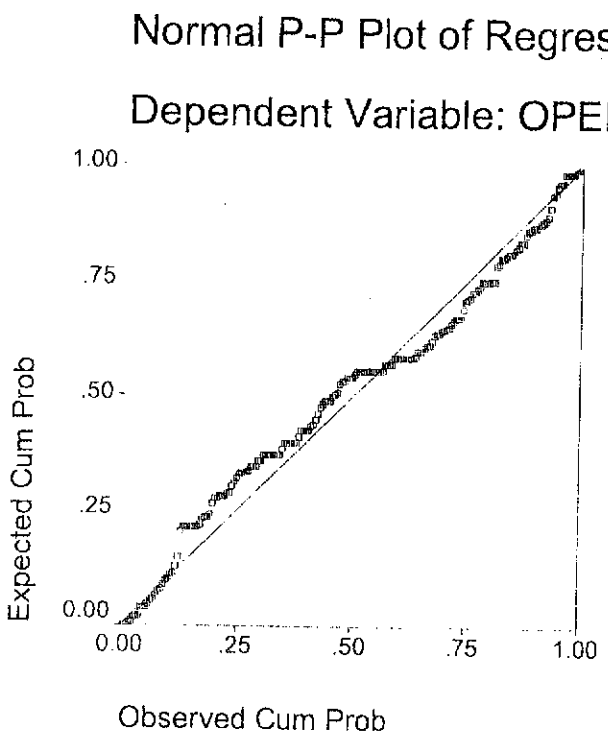
a. Dependent Variable: OPENM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.2879	4.8234	3.9075	.1453	192
Std. Predicted Value	-4.263	6.302	.000	1.000	192
Standard Error of Predicted Value	3.414E-02	.2300	5.277E-02	2.636E-02	192
Adjusted Predicted Value	3.3492	4.7683	3.9061	.1446	192
Residual	-1.5615	1.2637	2.981E-15	.4692	192
Std. Residual	-3.311	2.679	.000	.995	192
Stud. Residual	-3.356	2.834	.001	1.007	192
Deleted Residual	-1.6048	1.4136	1.382E-03	.4815	192
Stud. Deleted Residual	-3.452	2.888	.001	1.016	192
Mahal. Distance	.006	44.433	1.990	4.383	192
Cook's Distance	.000	.321	.009	.036	192
Centered Leverage Value	.000	.233	.010	.023	192

a. Dependent Variable: OPENM

Charts


Normal P-P Plot of Regression Sta
Dependent Variable: OPENM
Expected Cum Prob
Observed Cum Prob
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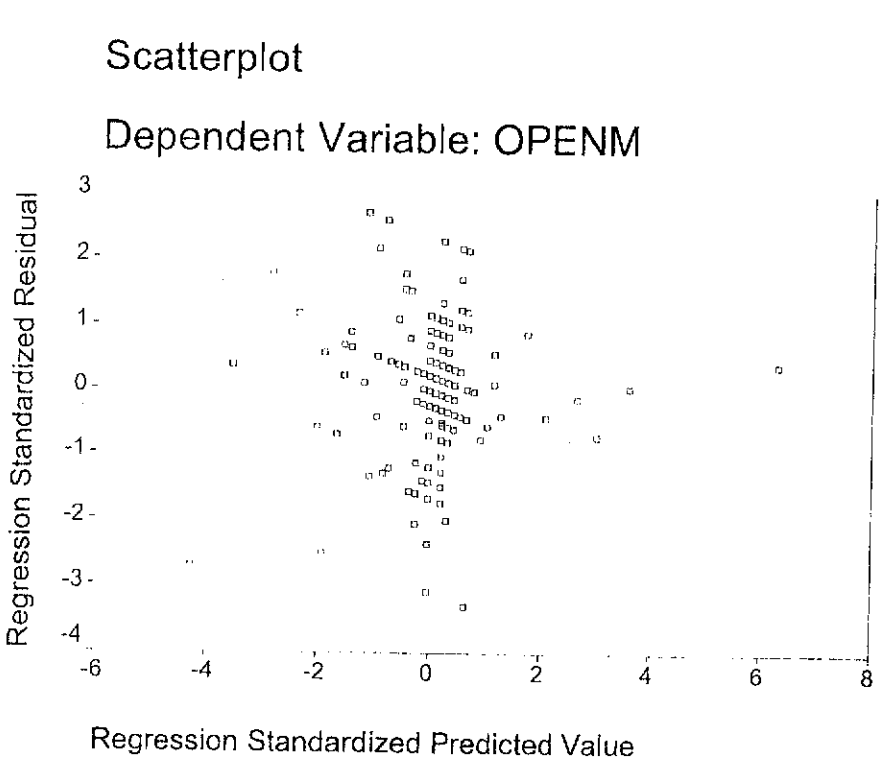
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00


Scatterplot
Dependent Variable: OPENM
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3
-4
-6
-4
-2
0
2
4
6
8

Regression - Individual Level - OpenM with Coop, Comp, Indep, Age, Team Size & Team Skill

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
COOP	4.1875	.4242	192
COMP	2.1646	.7561	192
INDEP	2.4342	.7777	192
AGE	3.4167	1.1860	192
TEAMZ	6.5781	2.1279	192
SKILL	3.0625	2.5554	192

Correlations

		OPENM	COOP	COMP	INDEP	AGE
Pearson Correlation	OPENM	1.000	.363	-.386	-.235	.018
	COOP	.363	1.000	-.300	-.219	-.002
	COMP	-.386	-.300	1.000	.425	.057
	INDEP	-.235	-.219	.425	1.000	.004
	AGE	.018	-.002	.057	.004	1.000
	TEAMZ	-.121	-.111	.157	.046	.186
	SKILL	.076	-.067	-.026	-.054	.038
Sig. (1-tailed)	OPENM	.	.000	.000	.001	.401
	COOP	.000	.	.000	.001	.489
	COMP	.000	.000	.	.000	.214
	INDEP	.001	.001	.000	.	.478
	AGE	.401	.489	.214	.478	.
	TEAMZ	.047	.062	.015	.261	.005
	SKILL	.148	.178	.360	.230	.300
N	OPENM	192	192	192	192	192
	COOP	192	192	192	192	192
	COMP	192	192	192	192	192
	INDEP	192	192	192	192	192
	AGE	192	192	192	192	192
	TEAMZ	192	192	192	192	192
	SKILL	192	192	192	192	192

Correlations

		TEAMZ	SKILL
Pearson Correlation	OPENM	-.121	.076
	COOP	-.111	-.067
	COMP	.157	-.026
	INDEP	.046	-.054
	AGE	.186	.038
	TEAMZ	1.000	-.299
	SKILL	-.299	1.000
Sig. (1-tailed)	OPENM	.047	.148
	COOP	.062	.178
	COMP	.015	.360
	INDEP	.261	.230
	AGE	.005	.300
	TEAMZ	.	.000
	SKILL	.000	.
N	OPENM	192	192
	COOP	192	192
	COMP	192	192
	INDEP	192	192
	AGE	192	192
	TEAMZ	192	192
	SKILL	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COMP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	COOP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	.149	.145	.4542
2	.465[b]	.216	.208	.4371

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.149	33.360	1	190	.000
2	.067	16.158	1	189	.000

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.883	1	6.883	33.360	.000[a]
	Residual	39.200	190	.206		
	Total	46.082	191			
2	Regression	9.970	2	4.985	26.090	.000[b]
	Residual	36.112	189	.191		
	Total	46.082	191			

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.451	.100		44.673	.000
	COMP	-.251	.043	-.386	-5.776	.000
2	(Constant)	3.021	.368		8.200	.000
	COMP	-.198	.044	-.305	-4.521	.000
	COOP	.314	.078	.271	4.020	.000

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	4.254	4.647		
	COMP	-.337	-.165	1.000	1.000
2	(Constant)	2.294	3.748		
	COMP	-.285	-.112	.910	1.099
	COOP	.160	.468	.910	1.099

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COOP	.271[a]	4.020	.000	.281	.910	1.099	.910
	INDEP	-.086[a]	-1.162	.247	-.084	.819	1.221	.819
	AGE	.040[a]	.603	.547	.044	.997	1.003	.997
	TEAMZ	-.062[a]	-.916	.361	-.066	.975	1.025	.975
	SKILL	.066[a]	.983	.327	.071	.999	1.001	.999
2	INDEP	-.056[b]	-.782	.435	-.057	.810	1.235	.774
	AGE	.036[b]	.563	.574	.041	.996	1.004	.907
	TEAMZ	-.044[b]	-.679	.498	-.049	.971	1.030	.895
	SKILL	.087[b]	1.343	.181	.098	.993	1.007	.905

a. Predictors in the Model: (Constant), COMP

b. Predictors in the Model: (Constant), COMP, COOP

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COMP	COOP
1	1	1.944	1.000	.03	.03	
	2	5.567E-02	5.910	.97	.97	
2	1	2.913	1.000	.00	.01	.00
	2	8.301E-02	5.924	.01	.79	.03
	3	4.117E-03	26.598	.99	.20	.97

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
3	-3.941	2.00	3.7226	-1.7226
70	-3.003	2.44	3.7526	-1.3126
110	-3.116	2.44	3.8019	-1.3619

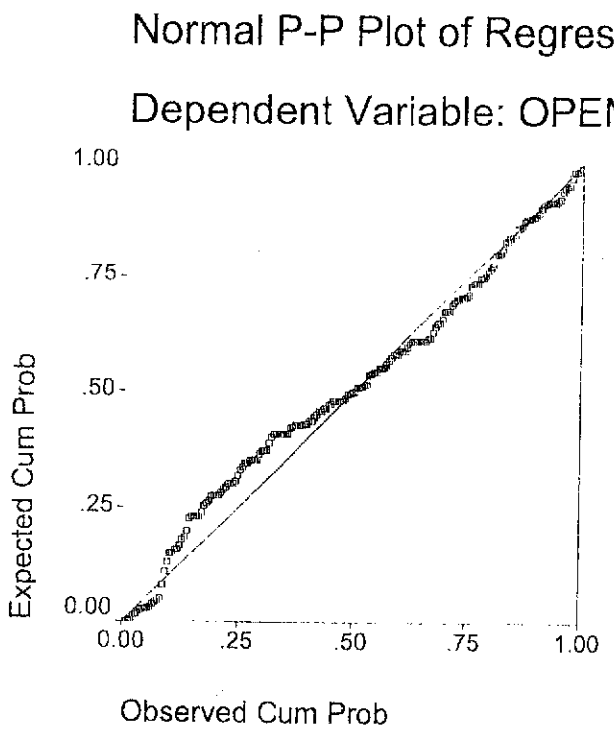
a. Dependent Variable: OPENM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.1474	4.3936	3.9075	.2285	192
Std. Predicted Value	-3.327	2.128	.000	1.000	192
Standard Error of Predicted Value	3.161E-02	.1578	5.148E-02	1.836E-02	192
Adjusted Predicted Value	3.1085	4.3922	3.9063	.2306	192
Residual	-1.7226	1.0177	2.244E-15	.4348	192
Std. Residual	-3.941	2.328	.000	.995	192
Stud. Residual	-3.959	2.337	.001	1.005	192
Deleted Residual	-1.7385	1.0742	1.222E-03	.4438	192
Stud. Deleted Residual	-4.123	2.365	.000	1.015	192
Mahal. Distance	.004	23.897	1.990	2.585	192
Cook's Distance	.000	.262	.007	.023	192
Centered Leverage Value	.000	.125	.010	.014	192

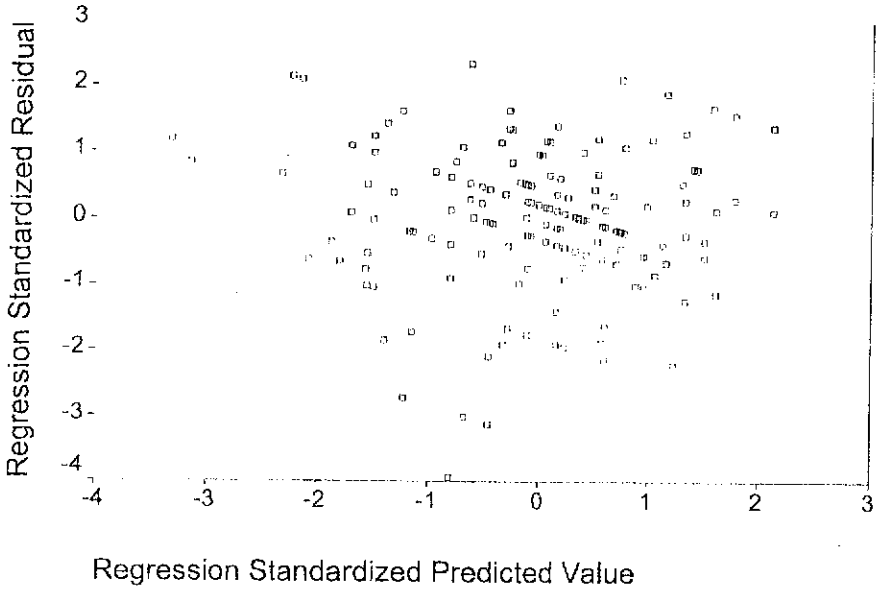
a. Dependent Variable: OPENM

Charts



Scatterplot

Dependent Variable: OPENM



Regression - For Individual Level - OpenM with Coop, Comp, Indep, Power Dis and Collect

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9075	.4912	192
COOP	4.1875	.4242	192
COMP	2.1646	.7561	192
INDEP	2.4342	.7777	192
POWERDIS	3.7487	.6654	192
COLLECT	3.7161	.6603	192

Correlations

		OPENM	COOP	COMP	INDEP
Pearson Correlation	OPENM	1.000	.363	-.386	-.235
	COOP	.363	1.000	-.300	-.219
	COMP	-.386	-.300	1.000	.425
	INDEP	-.235	-.219	.425	1.000
	POWERDIS	-.022	.207	.059	-.011
	COLLECT	.174	.202	-.031	-.082
Sig. (1-tailed)	OPENM	.	.000	.000	.001
	COOP	.000	.	.000	.001
	COMP	.000	.000	.	.000
	INDEP	.001	.001	.000	.
	POWERDIS	.383	.002	.207	.439
	COLLECT	.008	.002	.333	.128
N	OPENM	192	192	192	192
	COOP	192	192	192	192
	COMP	192	192	192	192
	INDEP	192	192	192	192
	POWERDIS	192	192	192	192
	COLLECT	192	192	192	192

Correlations

		POWERDIS	COLLECT
Pearson Correlation	OPENM	-.022	.174
	COOP	.207	.202
	COMP	.059	-.031
	INDEP	-.011	-.082
	POWERDIS	1.000	.764
	COLLECT	.764	1.000
Sig. (1-tailed)	OPENM	.383	.008
	COOP	.002	.002
	COMP	.207	.333
	INDEP	.439	.128
	POWERDIS	.	.000
	COLLECT	.000	.
N	OPENM	192	192
	COOP	192	192
	COMP	192	192
	INDEP	192	192
	POWERDIS	192	192
	COLLECT	192	192

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COMP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	COOP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
3	COLLECT		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
4	POWERDIS		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	.149	.145	.4542
2	.465[b]	.216	.208	.4371
3	.478[c]	.229	.217	.4348
4	.528[d]	.279	.263	.4216

Model Summary[e]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.149	33.360	1	190	.000
2	.067	16.158	1	189	.000
3	.013	3.049	1	188	.082
4	.050	12.936	1	187	.000

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Predictors: (Constant), COMP, COOP, COLLECT

d. Predictors: (Constant), COMP, COOP, COLLECT, POWERDIS

e. Dependent Variable: OPENM

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.883	1	6.883	33.360	.000[a]
	Residual	39.200	190	.206		
	Total	46.082	191			
2	Regression	9.970	2	4.985	26.090	.000[b]
	Residual	36.112	189	.191		
	Total	46.082	191			
3	Regression	10.546	3	3.515	18.598	.000[c]
	Residual	35.536	188	.189		
	Total	46.082	191			
4	Regression	12.846	4	3.211	18.068	.000[d]
	Residual	33.237	187	.178		
	Total	46.082	191			

a. Predictors: (Constant), COMP

b. Predictors: (Constant), COMP, COOP

c. Predictors: (Constant), COMP, COOP, COLLECT

d. Predictors: (Constant), COMP, COOP, COLLECT, POWERDIS

e. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.451	.100		44.673	.000
	COMP	-.251	.043	-.386	-5.776	.000
2	(Constant)	3.021	.368		8.200	.000
	COMP	-.198	.044	-.305	-4.521	.000
	COOP	.314	.078	.271	4.020	.000
3	(Constant)	2.828	.383		7.387	.000
	COMP	-.201	.044	-.309	-4.598	.000
	COOP	.286	.079	.247	3.605	.000
	COLLECT	8.499E-02	.049	.114	1.746	.082
4	(Constant)	2.869	.371		7.724	.000
	COMP	-.176	.043	-.270	-4.098	.000
	COOP	.322	.078	.278	4.148	.000
	COLLECT	.281	.072	.378	3.898	.000
	POWERDIS	-.260	.072	-.352	-3.597	.000

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	4.254	4.647		
	COMP	-.337	-.165	1.000	1.000
2	(Constant)	2.294	3.748		
	COMP	-.285	-.112	.910	1.099
	COOP	.160	.468	.910	1.099
3	(Constant)	2.073	3.583		
	COMP	-.287	-.115	.909	1.100
	COOP	.130	.443	.873	1.146
	COLLECT	-.011	.181	.958	1.044
4	(Constant)	2.136	3.601		
	COMP	-.260	-.091	.885	1.129
	COOP	.169	.475	.859	1.165
	COLLECT	.139	.424	.410	2.440
	POWERDIS	-.402	-.117	.403	2.484

a. Dependent Variable: OPENM

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation
1	COOP	.271[a]	4.020	.000	.281
	INDEP	-.086[a]	-1.162	.247	-.084
	POWERDIS	.001[a]	.019	.985	.001
	COLLECT	.162[a]	2.451	.015	.176
2	INDEP	-.056[b]	-.782	.435	-.057
	POWERDIS	-.063[b]	-.955	.341	-.069
	COLLECT	.114[b]	1.746	.082	.126
3	INDEP	-.049[c]	-.689	.491	-.050
	POWERDIS	-.352[c]	-3.597	.000	-.254
4	INDEP	-.039[d]	-.563	.574	-.041

Excluded Variables[e]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	COOP	.910	1.099	.910
	INDEP	.819	1.221	.819
	POWERDIS	.996	1.004	.996
	COLLECT	.999	1.001	.999
2	INDEP	.810	1.235	.774
	POWERDIS	.941	1.063	.860
	COLLECT	.958	1.044	.873
3	INDEP	.807	1.238	.772
	POWERDIS	.403	2.484	.403
4	INDEP	.806	1.241	.402

a. Predictors in the Model: (Constant), COMP

b. Predictors in the Model: (Constant), COMP, COOP

c. Predictors in the Model: (Constant), COMP, COOP, COLLECT

d. Predictors in the Model: (Constant), COMP, COOP, COLLECT, POWERDIS

e. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index
1	1	1.944	1.000
	2	5.567E-02	5.910
2	1	2.913	1.000
	2	8.301E-02	5.924
	3	4.117E-03	26.598
3	1	3.883	1.000
	2	9.330E-02	6.451
	3	1.962E-02	14.068
	4	4.087E-03	30.824
4	1	4.864	1.000
	2	9.873E-02	7.019
	3	2.568E-02	13.764
	4	7.103E-03	26.170
	5	4.058E-03	34.624

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions				
		(Constant)	COMP	COOP	COLLECT	POWERDIS
1	1	.03	.03			
	2	.97	.97			
2	1	.00	.01	.00		
	2	.01	.79	.03		
	3	.99	.20	.97		
3	1	.00	.01	.00	.00	
	2	.00	.79	.01	.03	
	3	.04	.01	.10	.96	
	4	.95	.19	.89	.01	
4	1	.00	.00	.00	.00	.00
	2	.00	.78	.01	.01	.01
	3	.05	.01	.11	.11	.11
	4	.01	.01	.01	.85	.86
	5	.94	.20	.88	.03	.02

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
70	-3.283	2.44	3.8241	-1.3841
110	-3.249	2.44	3.8096	-1.3696

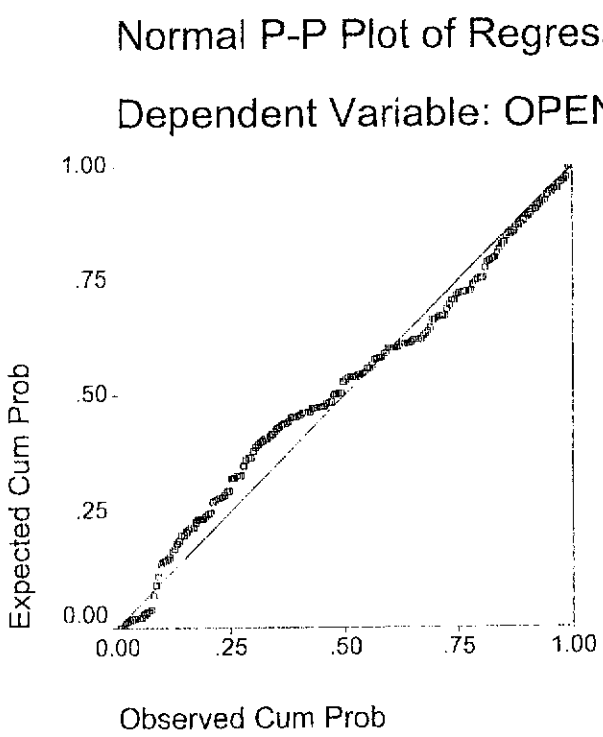
a. Dependent Variable: OPENM

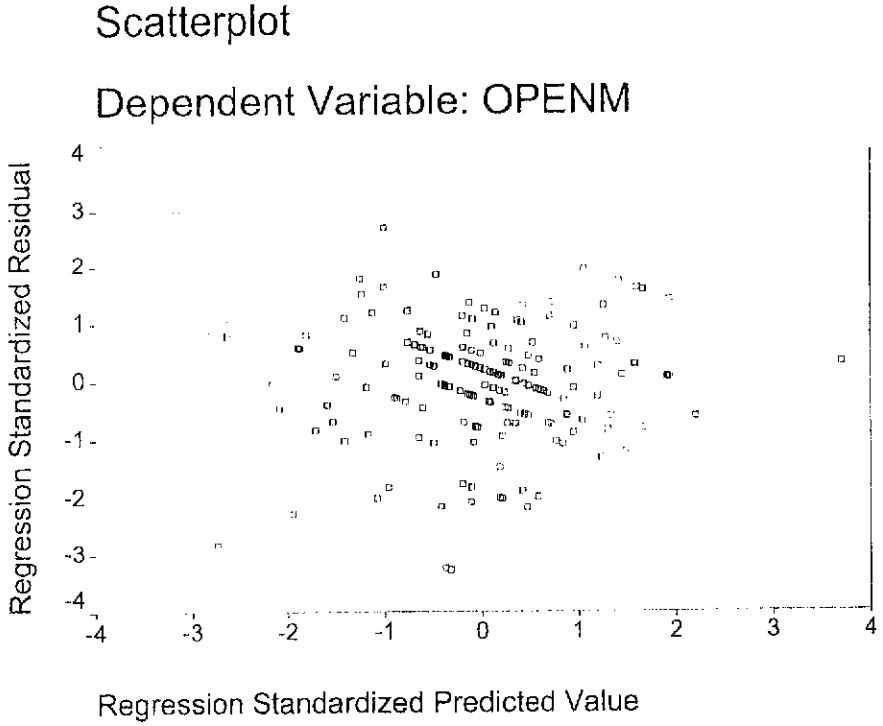
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.0859	4.8673	3.9075	.2593	192
Std. Predicted Value	-3.168	3.701	.000	1.000	192
Standard Error of Predicted Value	3.059E-02	.2073	6.255E-02	2.683E-02	192
Adjusted Predicted Value	2.8400	4.8250	3.9051	.2610	192
Residual	-1.3841	1.2441	2.510E-15	.4172	192
Std. Residual	-3.283	2.951	.000	.989	192
Stud. Residual	-3.374	3.229	.003	1.009	192
Deleted Residual	-1.4621	1.4900	2.399E-03	.4345	192
Stud. Deleted Residual	-3.473	3.315	.002	1.019	192
Mahal. Distance	.011	45.192	3.979	5.348	192
Cook's Distance	.000	.412	.009	.036	192
Centered Leverage Value	.000	.237	.021	.028	192

a. Dependent Variable: OPENM

Charts


Normal P-P Plot of Regression Sta
Dependent Variable: OPENM
Expected Cum Prob
Observed Cum Prob
0.00
.25
.50
.75
1.00


Scatterplot
Dependent Variable: OPENM
Regression Standardized Residual
Regression Standardized Predicted Value
4
3
2
1
0
-1
-2
-3
-4

Regression - For Team Level - OpenM with Power Distance and Collectivism

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9355	.3332	61
POWDIS	3.7686	.4551	61
COLLECT	3.6688	.4543	61

Correlations

		OPENM	POWDIS	COLLECT
Pearson Correlation	OPENM	1.000	.113	.404
	POWDIS	.113	1.000	.350
	COLLECT	.404	.350	1.000
Sig. (1-tailed)	OPENM	.	.193	.001
	POWDIS	.193	.	.003
	COLLECT	.001	.003	.
N	OPENM	61	61	61
	POWDIS	61	61	61
	COLLECT	61	61	61

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COLLECT		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	.163	.149	.3073

Model Summary[b]

	Change Statistics				
Model	R Square Change	F Change	df1	df2	Sig. F Change
1	.163	11.529	1	59	.001

a. Predictors: (Constant), COLLECT

b. Dependent Variable: OPENM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.089	1	1.089	11.529	.001[a]
	Residual	5.572	59	9.445E-02		
	Total	6.661	60			

a. Predictors: (Constant), COLLECT

b. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.848	.323		8.821	.000
	COLLECT	.297	.087	.404	3.395	.001

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.202	3.494		
	COLLECT	.122	.471	1.000	1.000

a. Dependent Variable: OPENM

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation
1	POWDIS	-.032[a]	-.253	.801	-.033

Excluded Variables[b]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	POWDIS	.877	1.140	.877

a. Predictors in the Model: (Constant), COLLECT

b. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	COLLECT
1	1	1.993	1.000	.00	.00
	2	7.457E-03	16.347	1.00	1.00

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
1	-3.524	2.70	3.7866	-1.0829

a. Dependent Variable: OPENM

Residuals Statistics[a]

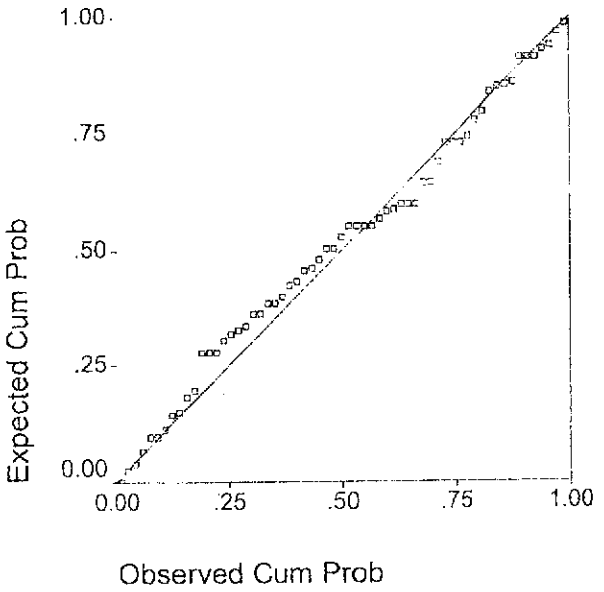
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5889	4.2562	3.9355	.1347	61
Std. Predicted Value	-2.573	2.380	.000	1.000	61
Standard Error of Predicted Value	3.935E-02	.1094	5.305E-02	1.695E-02	61
Adjusted Predicted Value	3.5857	4.2518	3.9344	.1331	61
Residual	-1.0829	.6701	3.130E-16	.3048	61
Std. Residual	-3.524	2.180	.000	.992	61
Stud. Residual	-3.590	2.201	.002	1.011	61
Deleted Residual	-1.1243	.6828	1.169E-03	.3171	61
Stud. Deleted Residual	-4.027	2.278	-.004	1.047	61
Mahal. Distance	.000	6.619	.984	1.478	61
Cook's Distance	.000	.246	.021	.047	61
Centered Leverage Value	.000	.110	.016	.025	61

a. Dependent Variable: OPENM

Charts

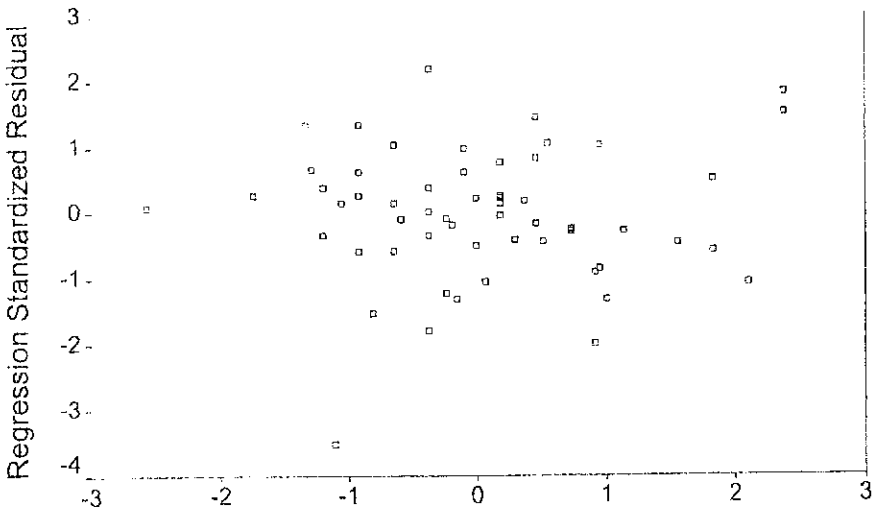
Normal P-P Plot of Regression Sta

Dependent Variable: OPENM



Scatterplot

Dependent Variable: OPENM



Regression - For Team Level - OpenM with Coop, Comp & Indep

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9355	.3332	61
COOP	4.1845	.2602	61
COMP	2.1580	.4821	61
INDEP	2.3147	.5312	61

Correlations

		OPENM	COOP	COMP	INDEP
Pearson Correlation	OPENM	1.000	.523	-.449	-.491
	COOP	.523	1.000	-.380	-.420
	COMP	-.449	-.380	1.000	.672
	INDEP	-.491	-.420	.672	1.000
Sig. (1-tailed)	OPENM	.	.000	.000	.000
	COOP	.000	.	.001	.000
	COMP	.000	.001	.	.000
	INDEP	.000	.000	.000	.
N	OPENM	61	61	61	61
	COOP	61	61	61	61
	COMP	61	61	61	61
	INDEP	61	61	61	61

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COOP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	INDEP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523[a]	.274	.261	.2864
2	.603[b]	.363	.341	.2705

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.274	22.236	1	59	.000
2	.089	8.135	1	58	.006

a. Predictors: (Constant), COOP

b. Predictors: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.823	1	1.823	22.236	.000[a]
	Residual	4.838	59	8.200E-02		
	Total	6.661	60			
2	Regression	2.418	2	1.209	16.530	.000[b]
	Residual	4.243	58	7.315E-02		
	Total	6.661	60			

a. Predictors: (Constant), COOP

b. Predictors: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.132	.596		1.900	.062
	COOP	.670	.142	.523	4.716	.000
2	(Constant)	2.351	.707		3.327	.002
	COOP	.493	.148	.385	3.334	.001
	INDEP	-.207	.072	-.329	-2.852	.006

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.060	2.324		
	COOP	.386	.954	1.000	1.000
2	(Constant)	.936	3.765		
	COOP	.197	.789	.824	1.214
	INDEP	-.352	-.062	.824	1.214

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	COMP	-.293[a]	-2.556	.013	-.318	.856	1.168	.856
	INDEP	-.329[a]	-2.852	.006	-.351	.824	1.214	.824
2	COMP	-.153[b]	-1.068	.290	-.140	.536	1.865	.516

a. Predictors in the Model: (Constant), COOP

b. Predictors in the Model: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COOP	INDEP
1	1	1.998	1.000	.00	.00	
	2	1.896E-03	32.465	1.00	1.00	
2	1	2.960	1.000	.00	.00	.00
	2	3.815E-02	8.809	.01	.02	.70
	3	1.361E-03	46.643	.99	.98	.29

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
1	-4.144	2.70	3.8244	-1.1207

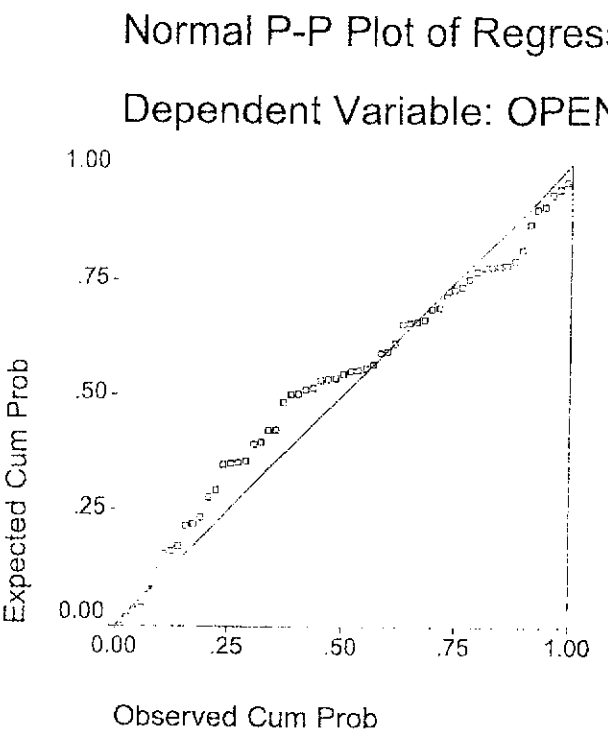
a. Dependent Variable: OPENM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.4813	4.5131	3.9355	.2008	61
Std. Predicted Value	-2.263	2.877	.000	1.000	61
Standard Error of Predicted Value	3.598E-02	.1068	5.733E-02	1.777E-02	61
Adjusted Predicted Value	3.4267	4.4744	3.9324	.2009	61
Residual	-1.1207	.4817	5.315E-16	.2659	61
Std. Residual	-4.144	1.781	.000	.983	61
Stud. Residual	-4.190	1.879	.006	1.005	61
Deleted Residual	-1.1460	.5362	3.119E-03	.2778	61
Stud. Deleted Residual	-4.974	1.922	-.008	1.070	61
Mahal. Distance	.078	8.374	1.967	1.975	61
Cook's Distance	.000	.133	.015	.028	61
Centered Leverage Value	.001	.140	.033	.033	61

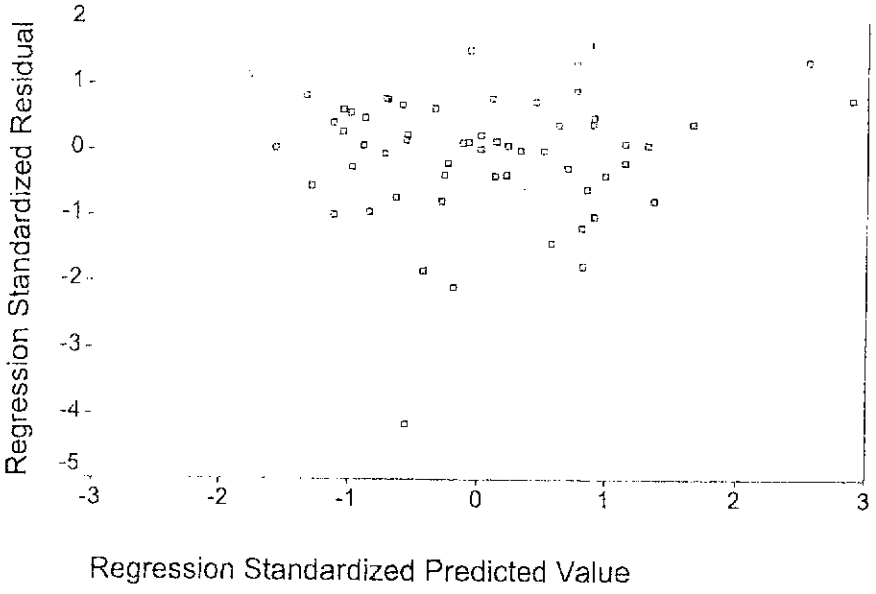
a. Dependent Variable: OPENM

Charts



Scatterplot

Dependent Variable: OPENM



Regression - For Team Level - OpenM with Power Distance, Collectivism and Conformity

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9355	.3332	61
POWDIS	3.7686	.4551	61
COLLECT	3.6688	.4543	61
CONFORM	3.2094	.5363	61

Correlations

		OPENM	POWDIS	COLLECT	CONFORM
Pearson Correlation	OPENM	1.000	.113	.404	-.047
	POWDIS	.113	1.000	.350	-.102
	COLLECT	.404	.350	1.000	-.015
	CONFORM	-.047	-.102	-.015	1.000
Sig. (1-tailed)	OPENM	.	.193	.001	.359
	POWDIS	.193	.	.003	.218
	COLLECT	.001	.003	.	.455
	CONFORM	.359	.218	.455	.
N	OPENM	61	61	61	61
	POWDIS	61	61	61	61
	COLLECT	61	61	61	61
	CONFORM	61	61	61	61

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COLLECT		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	.163	.149	.3073

Model Summary[b]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.163	11.529	1	59	.001

a. Predictors: (Constant), COLLECT

b. Dependent Variable: OPENM

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.089	1	1.089	11.529	.001[a]
	Residual	5.572	59	9.445E-02		
	Total	6.661	60			

a. Predictors: (Constant), COLLECT

b. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.848	.323		8.821	.000
	COLLECT	.297	.087	.404	3.395	.001

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.202	3.494		
	COLLECT	.122	.471	1.000	1.000

a. Dependent Variable: OPENM

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation
1	POWDIS	-.032[a]	-.253	.801	-.033
	CONFORM	-.041[a]	-.344	.732	-.045

Excluded Variables[b]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	POWDIS	.877	1.140	.877
	CONFORM	1.000	1.000	1.000

a. Predictors in the Model: (Constant), COLLECT

b. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	COLLECT
1	1	1.993	1.000	.00	.00
	2	7.457E-03	16.347	1.00	1.00

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
1	-3.524	2.70	3.7866	-1.0829

a. Dependent Variable: OPENM

Residuals Statistics[a]

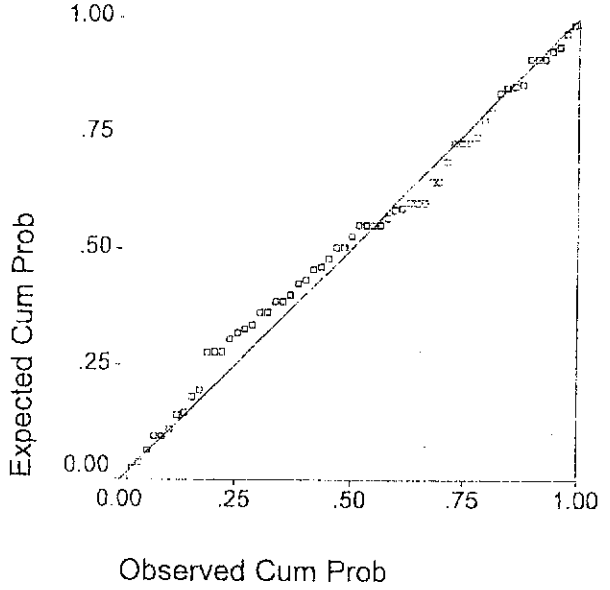
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.5889	4.2562	3.9355	.1347	61
Std. Predicted Value	-2.573	2.380	.000	1.000	61
Standard Error of Predicted Value	3.935E-02	.1094	5.305E-02	1.695E-02	61
Adjusted Predicted Value	3.5857	4.2518	3.9344	.1331	61
Residual	-1.0829	.6701	3.130E-16	.3048	61
Std. Residual	-3.524	2.180	.000	.992	61
Stud. Residual	-3.590	2.201	.002	1.011	61
Deleted Residual	-1.1243	.6828	1.169E-03	.3171	61
Stud. Deleted Residual	-4.027	2.278	-.004	1.047	61
Mahal. Distance	.000	6.619	.984	1.478	61
Cook's Distance	.000	.246	.021	.047	61
Centered Leverage Value	.000	.110	.016	.025	61

a. Dependent Variable: OPENM

Charts

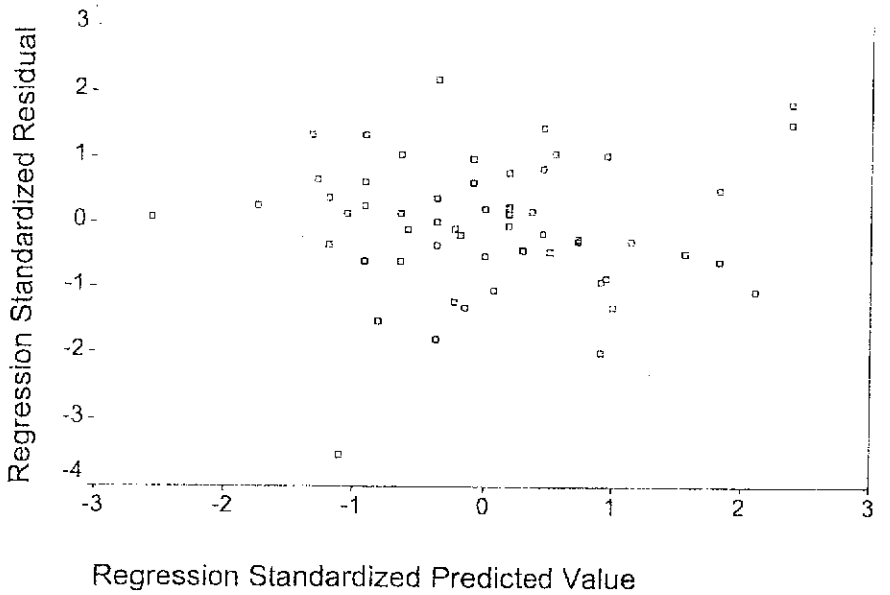
Normal P-P Plot of Regression Sta

Dependent Variable: OPENM



Scatterplot

Dependent Variable: OPENM



Regression For Team Level - OpenM with Coop, Comp, Indep, Power Dis & Collect

Descriptive Statistics

	Mean	Std. Deviation	N
OPENM	3.9355	.3332	61
COOP	4.1845	.2602	61
COMP	2.1580	.4821	61
INDEP	2.3147	.5312	61
POWDIS	3.7686	.4551	61
COLLECT	3.6688	.4543	61

Correlations

		OPENM	COOP	COMP	INDEP	POWDIS	COLLECT
Pearson Correlation	OPENM	1.000	.523	-.449	-.491	.113	.404
	COOP	.523	1.000	-.380	-.420	.202	.405
	COMP	-.449	-.380	1.000	.672	.000	-.188
	INDEP	-.491	-.420	.672	1.000	-.188	-.372
	POWDIS	.113	.202	.000	-.188	1.000	.350
	COLLECT	.404	.405	-.188	-.372	.350	1.000
Sig. (1-tailed)	OPENM	.	.000	.000	.000	.193	.001
	COOP	.000	.	.001	.000	.060	.001
	COMP	.000	.001	.	.000	.500	.073
	INDEP	.000	.000	.000	.	.073	.002
	POWDIS	.193	.060	.500	.073	.	.003
	COLLECT	.001	.001	.073	.002	.003	.
N	OPENM	61	61	61	61	61	61
	COOP	61	61	61	61	61	61
	COMP	61	61	61	61	61	61
	INDEP	61	61	61	61	61	61
	POWDIS	61	61	61	61	61	61
	COLLECT	61	61	61	61	61	61

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	COOP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).
2	INDEP		Stepwise (Criteria: Probability-of-F-to-enter <= .100, Probability-of-F-to-remove >= .110).

a. Dependent Variable: OPENM

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.523[a]	.274	.261	.2864
2	.603[b]	.363	.341	.2705

Model Summary[c]

Model	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change
1	.274	22.236	1	59	.000
2	.089	8.135	1	58	.006

a. Predictors: (Constant), COOP

b. Predictors: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.823	1	1.823	22.236	.000[a]
	Residual	4.838	59	8.200E-02		
	Total	6.661	60			
2	Regression	2.418	2	1.209	16.530	.000[b]
	Residual	4.243	58	7.315E-02		
	Total	6.661	60			

a. Predictors: (Constant), COOP

b. Predictors: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.132	.596		1.900	.062
	COOP	.670	.142	.523	4.716	.000
2	(Constant)	2.351	.707		3.327	.002
	COOP	.493	.148	.385	3.334	.001
	INDEP	-.207	.072	-.329	-2.852	.006

Coefficients[a]

Model		95% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.060	2.324		
	COOP	.386	.954	1.000	1.000
2	(Constant)	.936	3.765		
	COOP	.197	.789	.824	1.214
	INDEP	-.352	-.062	.824	1.214

a. Dependent Variable: OPENM

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation
1	COMP	-.293[a]	-2.556	.013	-.318
	INDEP	-.329[a]	-2.852	.006	-.351
	POWDIS	.008[a]	.071	.944	.009
	COLLECT	.230[a]	1.942	.057	.247
2	COMP	-.153[b]	-1.068	.290	-.140
	POWDIS	-.028[b]	-.256	.799	-.034
	COLLECT	.160[b]	1.364	.178	.178

Excluded Variables[c]

Model		Collinearity Statistics		
		Tolerance	VIF	Minimum Tolerance
1	COMP	.856	1.168	.856
	INDEP	.824	1.214	.824
	POWDIS	.959	1.042	.959
	COLLECT	.836	1.196	.836
2	COMP	.536	1.865	.516
	POWDIS	.946	1.057	.808
	COLLECT	.786	1.272	.752

a. Predictors in the Model: (Constant), COOP

b. Predictors in the Model: (Constant), COOP, INDEP

c. Dependent Variable: OPENM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	COOP	INDEP
1	1	1.998	1.000	.00	.00	
	2	1.896E-03	32.465	1.00	1.00	
2	1	2.960	1.000	.00	.00	.00
	2	3.815E-02	8.809	.01	.02	.70
	3	1.361E-03	46.643	.99	.98	.29

a. Dependent Variable: OPENM

Casewise Diagnostics[a]

Case Number	Std. Residual	OPENM	Predicted Value	Residual
1	-4.144	2.70	3.8244	-1.1207

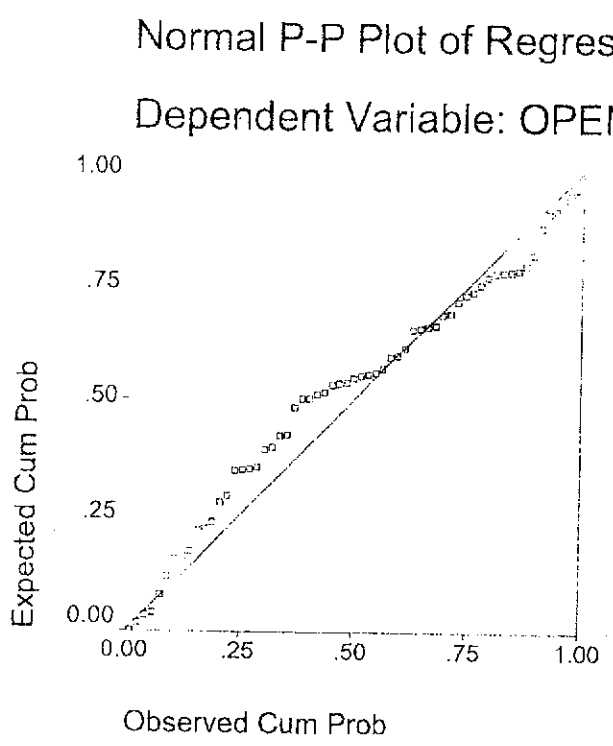
a. Dependent Variable: OPENM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.4813	4.5131	3.9355	.2008	61
Std. Predicted Value	-2.263	2.877	.000	1.000	61
Standard Error of Predicted Value	3.598E-02	.1068	5.733E-02	1.777E-02	61
Adjusted Predicted Value	3.4267	4.4744	3.9324	.2009	61
Residual	-1.1207	.4817	5.315E-16	.2659	61
Std. Residual	-4.144	1.781	.000	.983	61
Stud. Residual	-4.190	1.879	.006	1.005	61
Deleted Residual	-1.1460	.5362	3.119E-03	.2778	61
Stud. Deleted Residual	-4.974	1.922	-.008	1.070	61
Mahal. Distance	.078	8.374	1.967	1.975	61
Cook's Distance	.000	.133	.015	.028	61
Centered Leverage Value	.001	.140	.033	.033	61

a. Dependent Variable: OPENM

Charts


Normal P-P Plot of Regression Sta
Dependent Variable: OPENM
Expected Cum Prob
Observed Cum Prob
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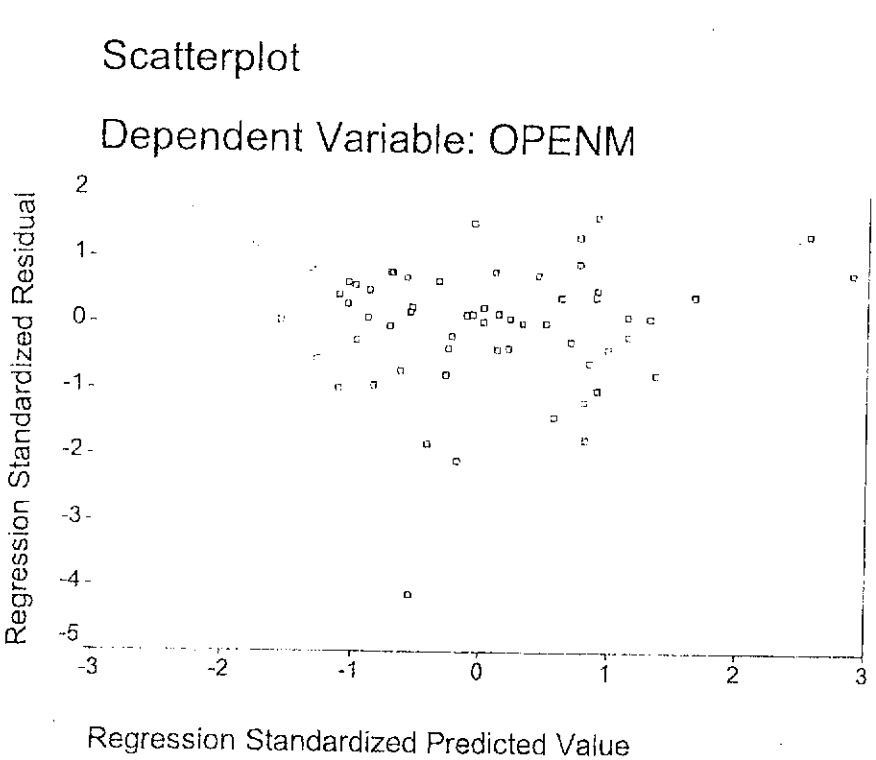
.75
.50
.25
0.00
0.00
.25
.50
.75
1.00


Scatterplot
Dependent Variable: OPENM
Regression Standardized Residual
Regression Standardized Predicted Value
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0
-1
-2
-3
-4
-5
-3
-2
-1
0
1
2
3

Appendix 6.6

FACTOR ANALYSIS
(pages 515-529)

Part 1: Factor Analysis

Correlation Matrix

		A1	A2	A3	A4	A5	B1
Correlation	A1	1.000	.416	.276	.189	.123	.276
	A2	.416	1.000	.272	.298	.328	.356
	A3	.276	.272	1.000	.346	.115	.281
	A4	.189	.298	.346	1.000	.260	.240
	A5	.123	.328	.115	.260	1.000	.152
	B1	.276	.356	.281	.240	.152	1.000
	B2	.158	.158	.134	.260	.319	.297
	B3	.107	.193	.237	.265	.278	.069
	B4	.262	.260	.287	.223	.400	.199
	B5	.286	.162	.255	.197	.191	.393
	B6	-.095	-.247	-.090	-.107	-.244	-.017
	B7	-.060	-.090	-.061	-.105	-.334	-.034
	B8	-.206	-.156	-.207	-.168	-.207	-.030
	B9	.023	-.065	-.089	-.178	-.090	.102
	B10	-.120	-.249	-.162	-.232	-.249	-.030
	B11	-.087	-.081	-.133	-.202	-.314	.049
	B12	-.111	-.203	-.193	-.123	-.212	.001
	B13	-.091	-.175	-.065	-.026	-.128	.076
	B14	.061	-.050	-.061	-.123	.000	-.061
	B15	-.045	-.251	-.141	-.115	-.258	-.101
	B16	-.051	-.234	-.023	-.095	-.148	.073
	C1	.230	.193	.181	.238	.273	.242
	C2	.197	.180	.132	.165	.172	.235
	C3	.176	.258	.177	.141	.292	.172
	C4	.104	.229	.145	.253	.298	.157
	C5	.075	.128	.090	.172	.352	.095
	C6	.086	.177	.105	.093	.017	.079
	C7	.081	.254	.220	.057	.284	.214
	C8	.189	.144	.094	.122	.331	.110
	C9	.024	.115	-.010	.084	.092	.125
	D1	.141	.116	.161	.034	.085	.115
	D2	.075	-.007	.114	.005	-.016	.086
	D3	.236	.102	.094	.005	.029	.179
	D4	.080	.122	.197	.088	.169	.132
	D5	.162	.174	.003	-.057	.222	.093
	D6	.051	.146	.045	.012	.126	.149
	D7	.123	.084	.124	.206	.099	.101
	D8	.258	.367	.304	.106	.185	.297
	D9	.296	.130	.215	.201	.123	.163
	D10	.222	.243	.096	.225	.216	.205
	D11	.181	.221	.111	.047	.124	.203
	D12	.122	.057	.149	.043	.060	.140
	D13	-.133	-.114	-.042	-.069	-.174	.087
	D14	-.038	-.091	-.110	.023	.054	.085

Correlation Matrix

		B2	B3	B4	B5	B6	B7
Correlation	A1	.158	.107	.262	.286	-.095	-.060
	A2	.158	.193	.260	.162	-.247	-.090
	A3	.134	.237	.287	.255	-.090	-.061
	A4	.260	.265	.223	.197	-.107	-.105
	A5	.319	.278	.400	.191	-.244	-.334
	B1	.297	.069	.199	.393	-.017	-.034
	B2	1.000	.334	.409	.444	-.190	-.203
	B3	.334	1.000	.396	.180	-.177	-.317
	B4	.409	.396	1.000	.438	-.166	-.261
	B5	.444	.180	.438	1.000	-.005	-.062
	B6	-.190	-.177	-.166	-.005	1.000	.518
	B7	-.203	-.317	-.261	-.062	.518	1.000
	B8	-.146	-.160	-.297	-.220	.319	.375
	B9	-.018	-.158	-.137	-.038	.380	.367
	B10	-.069	-.293	-.158	-.128	.347	.353
	B11	-.225	-.184	-.166	-.168	.288	.334
	B12	-.185	-.413	-.253	-.121	.312	.200
	B13	-.050	-.172	-.129	-.061	.364	.225
	B14	-.064	-.025	-.111	-.080	.188	.098
	B15	-.131	-.126	-.116	-.087	.385	.427
	B16	.001	-.111	-.041	-.059	.322	.290
	C1	.278	.234	.304	.350	-.143	-.145
	C2	.134	.108	.159	.240	-.218	-.222
	C3	.206	.295	.307	.247	-.309	-.331
	C4	.228	.192	.232	.262	-.201	-.177
	C5	.132	.207	.137	.123	-.247	-.171
	C6	.177	.136	.111	.179	-.098	.000
	C7	.196	.146	.202	.183	-.100	-.060
	C8	.147	.174	.217	.259	-.247	-.319
	C9	.046	.009	.068	.111	-.087	-.048
	D1	.201	.107	.138	.121	.072	.136
	D2	.132	-.019	.123	.060	.111	.057
	D3	.132	.024	.131	.137	-.106	-.024
	D4	.187	.013	.122	.045	-.093	-.075
	D5	.051	.079	.106	.081	-.103	-.203
	D6	.014	.074	.095	.081	-.084	-.110
	D7	.120	.073	.078	.139	-.046	-.059
	D8	.173	.207	.231	.269	-.085	-.101
	D9	.148	.086	.201	.327	-.111	-.121
	D10	.199	.205	.182	.230	-.159	-.127
	D11	.220	.260	.329	.120	-.088	-.158
	D12	.033	.107	.149	.127	-.005	-.060
	D13	-.163	-.281	-.123	-.143	.126	.200
	D14	.180	.029	.086	.056	-.068	-.072

Correlation Matrix

		B8	B9	B10	B11	B12	B13
Correlation	A1	-.206	.023	-.120	-.087	-.111	-.091
	A2	-.156	-.065	-.249	-.081	-.203	-.175
	A3	-.207	-.089	-.162	-.133	-.193	-.065
	A4	-.168	-.178	-.232	-.202	-.123	-.026
	A5	-.207	-.090	-.249	-.314	-.212	-.128
	B1	-.030	.102	-.030	.049	.001	.076
	B2	-.146	-.018	-.069	-.225	-.185	-.050
	B3	-.160	-.158	-.293	-.184	-.413	-.172
	B4	-.297	-.137	-.158	-.166	-.253	-.129
	B5	-.220	-.038	-.128	-.168	-.121	-.061
	B6	.319	.380	.347	.288	.312	.364
	B7	.375	.367	.353	.334	.200	.225
	B8	1.000	.411	.372	.354	.288	.280
	B9	.411	1.000	.357	.316	.305	.291
	B10	.372	.357	1.000	.293	.327	.289
	B11	.354	.316	.293	1.000	.372	.415
	B12	.288	.305	.327	.372	1.000	.466
	B13	.280	.291	.289	.415	.466	1.000
	B14	.139	.176	.124	.155	.223	.288
	B15	.274	.369	.312	.319	.311	.311
	B16	.190	.176	.335	.333	.352	.416
	C1	-.325	-.148	-.130	-.170	-.191	-.016
	C2	-.229	-.280	-.202	-.110	-.180	-.050
	C3	-.284	-.273	-.308	-.096	-.299	-.181
	C4	-.250	-.162	-.216	-.258	-.151	-.046
	C5	-.151	-.078	-.142	-.229	-.155	-.171
	C6	-.116	-.133	-.016	-.117	-.222	-.076
	C7	-.155	-.088	-.102	-.200	-.258	-.130
	C8	-.230	-.159	-.255	-.213	-.276	-.174
	C9	.004	-.123	-.076	-.100	-.107	-.067
	D1	.004	.126	.002	-.018	.007	.008
	D2	.005	.135	.115	.008	.096	.003
	D3	-.156	.132	-.038	-.084	-.070	-.072
	D4	.084	.083	-.007	-.049	-.051	-.045
	D5	-.112	-.012	-.102	-.044	-.084	.026
	D6	-.050	-.140	-.156	-.013	-.027	-.083
	D7	-.044	-.037	-.022	-.084	-.156	-.009
	D8	-.057	-.040	.046	-.192	-.154	-.170
	D9	-.157	-.059	-.195	-.160	-.155	-.116
	D10	-.144	-.113	-.052	-.187	-.187	-.129
	D11	-.175	-.077	-.091	-.039	-.112	-.025
	D12	-.099	-.002	.105	.029	.078	.111
	D13	.119	.128	.173	.247	.179	.167
	D14	-.046	.068	.018	-.003	-.079	.074

Correlation Matrix

		B14	B15	B16	C1	C2	C3
Correlation	A1	.061	-.045	-.051	.230	.197	.176
	A2	-.050	-.251	-.234	.193	.180	.258
	A3	-.061	-.141	-.023	.181	.132	.177
	A4	-.123	-.115	-.095	.238	.165	.141
	A5	.000	-.258	-.148	.273	.172	.292
	B1	-.061	-.101	.073	.242	.235	.172
	B2	-.064	-.131	.001	.278	.134	.206
	B3	-.025	-.126	-.111	.234	.108	.295
	B4	-.111	-.116	-.041	.304	.159	.307
	B5	-.080	-.087	-.059	.350	.240	.247
	B6	.188	.385	.322	-.143	-.218	-.309
	B7	.098	.427	.290	-.145	-.222	-.331
	B8	.139	.274	.190	-.325	-.229	-.284
	B9	.176	.369	.176	-.148	-.280	-.273
	B10	.124	.312	.335	-.130	-.202	-.308
	B11	.155	.319	.333	-.170	-.110	-.096
	B12	.223	.311	.352	-.191	-.180	-.299
	B13	.288	.311	.416	-.016	-.050	-.181
	B14	1.000	.079	.119	-.123	-.157	-.100
	B15	.079	1.000	.379	-.069	-.219	-.249
	B16	.119	.379	1.000	-.051	-.148	-.253
	C1	-.123	-.069	-.051	1.000	.425	.411
	C2	-.157	-.219	-.148	.425	1.000	.501
	C3	-.100	-.249	-.253	.411	.501	1.000
	C4	-.084	-.169	-.207	.354	.306	.495
	C5	-.006	-.236	-.110	.175	.125	.187
	C6	-.005	-.129	-.161	.318	.246	.156
	C7	.009	-.210	-.247	.344	.320	.395
	C8	-.111	-.164	-.247	.380	.494	.578
	C9	.010	-.100	-.178	.154	.125	.168
	D1	.159	-.015	.023	-.004	-.064	.062
	D2	.183	-.001	-.029	-.084	-.091	-.058
	D3	-.039	-.056	-.164	.124	.115	.131
	D4	.064	-.128	-.159	-.018	-.013	.082
	D5	.026	-.087	-.029	.243	.175	.160
	D6	-.075	-.045	.044	.209	.215	.171
	D7	-.160	-.042	-.020	.274	.194	.140
	D8	-.042	-.140	-.138	.328	.240	.288
	D9	-.145	-.160	-.192	.187	.264	.227
	D10	-.081	-.206	-.135	.309	.190	.187
	D11	.100	-.040	-.055	.356	.227	.267
	D12	-.003	.093	.102	.238	.194	.137
	D13	-.035	.234	.178	-.139	-.179	-.144
	D14	-.120	.122	-.007	.167	.140	.182

Correlation Matrix

		C4	C5	C6	C7	C8	C9
Correlation	A1	.104	.075	.086	.081	.189	.024
	A2	.229	.128	.177	.254	.144	.115
	A3	.145	.090	.105	.220	.094	-.010
	A4	.253	.172	.093	.057	.122	.084
	A5	.298	.352	.017	.284	.331	.092
	B1	.157	.095	.079	.214	.110	.125
	B2	.228	.132	.177	.196	.147	.046
	B3	.192	.207	.136	.146	.174	.009
	B4	.232	.137	.111	.202	.217	.068
	B5	.262	.123	.179	.183	.259	.111
	B6	-.201	-.247	-.098	-.100	-.247	-.087
	B7	-.177	-.171	.000	-.060	-.319	-.048
	B8	-.250	-.151	-.116	-.155	-.230	.004
	B9	-.162	-.078	-.133	-.088	-.159	-.123
	B10	-.216	-.142	-.016	-.102	-.255	-.076
	B11	-.258	-.229	-.117	-.200	-.213	-.100
	B12	-.151	-.155	-.222	-.258	-.276	-.107
	B13	-.046	-.171	-.076	-.130	-.174	-.067
	B14	-.084	-.006	-.005	.009	-.111	.010
	B15	-.169	-.236	-.129	-.210	-.164	-.100
	B16	-.207	-.110	-.161	-.247	-.247	-.178
	C1	.354	.175	.318	.344	.380	.154
	C2	.306	.125	.246	.320	.494	.125
	C3	.495	.187	.156	.395	.578	.168
	C4	1.000	.390	.198	.403	.349	.224
	C5	.390	1.000	.100	.293	.196	.182
	C6	.198	.100	1.000	.355	.213	.216
	C7	.403	.293	.355	1.000	.386	.304
	C8	.349	.196	.213	.386	1.000	.191
	C9	.224	.182	.216	.304	.191	1.000
	D1	.021	.004	-.037	-.006	-.038	-.205
	D2	-.054	.007	.000	.009	-.154	-.068
	D3	.228	.013	.019	.160	.145	.123
	D4	.030	.113	-.029	.111	-.040	-.050
	D5	.235	.117	.145	.297	.287	.251
	D6	.156	.039	.169	.208	.137	.273
	D7	.286	.231	.176	.124	.166	.069
	D8	.267	.230	.200	.288	.268	.152
	D9	.195	.017	.030	.144	.184	.123
	D10	.180	.217	.242	.225	.248	.268
	D11	.221	.221	.157	.369	.111	.202
	D12	.120	.032	.073	.113	.203	.139
	D13	-.260	-.136	-.120	-.179	-.163	.006
	D14	.050	-.089	-.043	.000	.199	.059

Correlation Matrix

		D1	D2	D3	D4	D5	D6
Correlation	A1	.141	.075	.236	.080	.162	.051
	A2	.116	-.007	.102	.122	.174	.146
	A3	.161	.114	.094	.197	.003	.045
	A4	.034	.005	.005	.088	-.057	.012
	A5	.085	-.016	.029	.169	.222	.126
	B1	.115	.086	.179	.132	.093	.149
	B2	.201	.132	.132	.187	.051	.014
	B3	.107	-.019	.024	.013	.079	.074
	B4	.138	.123	.131	.122	.106	.095
	B5	.121	.060	.137	.045	.081	.081
	B6	.072	.111	-.106	-.093	-.103	-.084
	B7	.136	.057	-.024	-.075	-.203	-.110
	B8	.004	.005	-.156	.084	-.112	-.050
	B9	.126	.135	.132	.083	-.012	-.140
	B10	.002	.115	-.038	-.007	-.102	-.156
	B11	-.018	.008	-.084	-.049	-.044	-.013
	B12	.007	.096	-.070	-.051	-.084	-.027
	B13	.008	.003	-.072	-.045	.026	-.083
	B14	.159	.183	-.039	.064	.026	-.075
	B15	-.015	-.001	-.056	-.128	-.087	-.045
	B16	.023	-.029	-.164	-.159	-.029	.044
	C1	-.004	-.084	.124	-.018	.243	.209
	C2	-.064	-.091	.115	-.013	.175	.215
	C3	.062	-.058	.131	.082	.160	.171
	C4	.021	-.054	.228	.030	.235	.156
	C5	.004	.007	.013	.113	.117	.039
	C6	-.037	.000	.019	-.029	.145	.169
	C7	-.006	.009	.160	.111	.297	.208
	C8	-.038	-.154	.145	-.040	.287	.137
	C9	-.205	-.068	.123	-.050	.251	.273
	D1	1.000	.491	.201	.296	-.147	-.281
	D2	.491	1.000	.283	.352	-.076	-.164
	D3	.201	.283	1.000	.281	.171	.024
	D4	.296	.352	.281	1.000	-.083	-.064
	D5	-.147	-.076	.171	-.083	1.000	.380
	D6	-.281	-.164	.024	-.064	.380	1.000
	D7	-.115	-.197	.047	.083	.148	.108
	D8	.112	.051	.090	.112	.181	.156
	D9	.067	-.017	.232	.157	.137	.117
	D10	-.051	-.017	.167	.023	.306	.206
	D11	.017	.093	.243	.119	.159	.168
	D12	-.024	-.035	.118	.012	.033	.075
	D13	.098	.036	-.017	-.036	-.139	-.140
	D14	.018	-.038	.194	.011	.027	-.025

Correlation Matrix

		D7	D8	D9	D10	D11	D12
Correlation	A1	.123	.258	.296	.222	.181	.122
	A2	.084	.367	.130	.243	.221	.057
	A3	.124	.304	.215	.096	.111	.149
	A4	.206	.106	.201	.225	.047	.043
	A5	.099	.185	.123	.216	.124	.060
	B1	.101	.297	.163	.205	.203	.140
	B2	.120	.173	.148	.199	.220	.033
	B3	.073	.207	.086	.205	.260	.107
	B4	.078	.231	.201	.182	.329	.149
	B5	.139	.269	.327	.230	.120	.127
	B6	-.046	-.085	-.111	-.159	-.088	-.005
	B7	-.059	-.101	-.121	-.127	-.158	-.060
	B8	-.044	-.057	-.157	-.144	-.175	-.099
	B9	-.037	-.040	-.059	-.113	-.077	-.002
	B10	-.022	.046	-.195	-.052	-.091	.105
	B11	-.084	-.192	-.160	-.187	-.039	.029
	B12	-.156	-.154	-.155	-.187	-.112	.078
	B13	-.009	-.170	-.116	-.129	-.025	.111
	B14	-.160	-.042	-.145	-.081	.100	-.003
	B15	-.042	-.140	-.160	-.206	-.040	.093
	B16	-.020	-.138	-.192	-.135	-.055	.102
	C1	.274	.328	.187	.309	.356	.238
	C2	.194	.240	.264	.190	.227	.194
	C3	.140	.288	.227	.187	.267	.137
	C4	.286	.267	.195	.180	.221	.120
	C5	.231	.230	.017	.217	.221	.032
	C6	.176	.200	.030	.242	.157	.073
	C7	.124	.288	.144	.225	.369	.113
	C8	.166	.268	.184	.248	.111	.203
	C9	.069	.152	.123	.268	.202	.139
	D1	-.115	.112	.067	-.051	.017	-.024
	D2	-.197	.051	-.017	-.017	.093	-.035
	D3	.047	.090	.232	.167	.243	.118
	D4	.083	.112	.157	.023	.119	.012
	D5	.148	.181	.137	.306	.159	.033
	D6	.108	.156	.117	.206	.168	.075
	D7	1.000	.193	.277	.439	.046	.197
	D8	.193	1.000	.208	.310	.209	.352
	D9	.277	.208	1.000	.365	.122	.147
	D10	.439	.310	.365	1.000	.202	.033
	D11	.046	.209	.122	.202	1.000	.271
	D12	.197	.352	.147	.033	.271	1.000
	D13	-.067	-.192	-.099	-.118	-.130	-.051
	D14	-.046	.002	-.071	-.017	-.047	.066

Correlation Matrix

		D13	D14
Correlation	A1	-.133	-.038
	A2	-.114	-.091
	A3	-.042	-.110
	A4	-.069	.023
	A5	-.174	.054
	B1	.087	.085
	B2	-.163	.180
	B3	-.281	.029
	B4	-.123	.086
	B5	-.143	.056
	B6	.126	-.068
	B7	.200	-.072
	B8	.119	-.046
	B9	.128	.068
	B10	.173	.018
	B11	.247	-.003
	B12	.179	-.079
	B13	.167	.074
	B14	-.035	-.120
	B15	.234	.122
	B16	.178	-.007
	C1	-.139	.167
	C2	-.179	.140
	C3	-.144	.182
	C4	-.260	.050
	C5	-.136	-.089
	C6	-.120	-.043
	C7	-.179	.000
	C8	-.163	.199
	C9	.006	.059
	D1	.098	.018
	D2	.036	-.038
	D3	-.017	.194
	D4	-.036	.011
	D5	-.139	.027
	D6	-.140	-.025
	D7	-.067	-.046
	D8	-.192	.002
	D9	-.099	-.071
	D10	-.118	-.017
	D11	-.130	-.047
	D12	-.051	.066
	D13	1.000	.181
	D14	.181	1.000

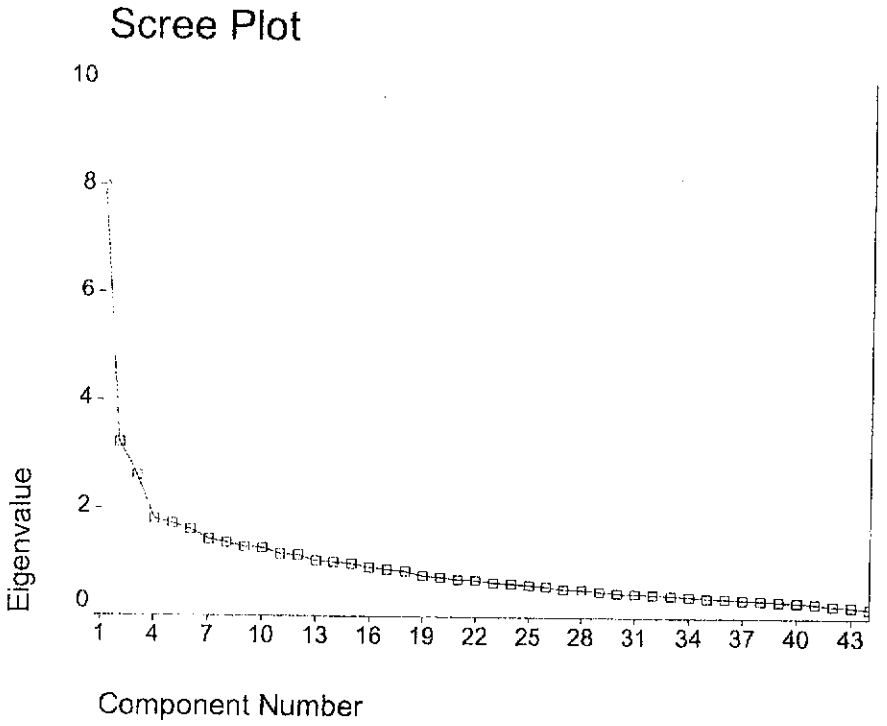
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.779
Bartlett's Test of Sphericity	Approx. Chi-Square	2759.186
	df	946
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.968	18.110	18.110	7.968	18.110	18.110
2	3.216	7.309	25.418	3.216	7.309	25.418
3	2.603	5.917	31.335	2.603	5.917	31.335
4	1.806	4.104	35.440	1.806	4.104	35.440
5	1.723	3.916	39.356	1.723	3.916	39.356
6	1.604	3.646	43.002	1.604	3.646	43.002
7	1.425	3.238	46.239	1.425	3.238	46.239
8	1.360	3.090	49.330	1.360	3.090	49.330
9	1.283	2.915	52.245	1.283	2.915	52.245
10	1.267	2.880	55.125	1.267	2.880	55.125
11	1.160	2.637	57.762	1.160	2.637	57.762
12	1.140	2.591	60.352	1.140	2.591	60.352
13	1.040	2.364	62.716	1.040	2.364	62.716
14	1.015	2.307	65.023	1.015	2.307	65.023
15	.985	2.239	67.263			
16	.919	2.088	69.351			
17	.883	2.007	71.358			
18	.855	1.942	73.301			
19	.770	1.751	75.051			
20	.740	1.681	76.732			
21	.696	1.583	78.315			
22	.689	1.565	79.880			
23	.641	1.456	81.337			
24	.621	1.412	82.749			
25	.596	1.354	84.103			
26	.573	1.301	85.404			
27	.517	1.175	86.579			
28	.511	1.161	87.740			
29	.479	1.089	88.829			
30	.451	1.024	89.853			
31	.435	.988	90.841			
32	.422	.958	91.800			
33	.408	.926	92.726			
34	.390	.886	93.612			
35	.357	.811	94.423			
36	.352	.799	95.222			
37	.328	.746	95.968			
38	.315	.715	96.684			
39	.300	.681	97.365			
40	.289	.657	98.021			
41	.261	.593	98.615			
42	.227	.515	99.130			
43	.211	.479	99.609			
44	.172	.391	100.000			

Extraction Method: Principal Component Analysis.


Scree Plot
Eigenvalue
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22
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37
40
43
Component Number

Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
C3	.648				.347			
C8	.590				.319			
C1	.584							
C4	.579							
C7	.543			.375				
C2	.542							
B4	.532							
A5	.531					.331		.388
B12	-.518	.337						
B8	-.504							
B7	-.493	.400						
A2	.489						-.321	
D10	.488				-.316			
D8	.488	.318						
B6	-.486	.435						
B11	-.475	.355						
B3	.474					.423		
B5	.469	.348						
B15	-.467	.380						
B10	-.464	.411						
B2	.445							
D9	.418					-.416		
C5	.413					.308	.315	
D11	.411							
B16	-.406	.386		-.355				
A4	.393			-.308	-.343			
A1	.380	.319					-.366	
A3	.378				-.322			
B9	-.387	.515						
B1	.336	.500						
B13	-.378	.478						
D1		.340	-.635					
D2		.324	-.572					
D4			-.488					
D6			.470					
D5	.341		.403					.336
C9	.300		.372	.327				
D14				-.343	.567			
D3					.311	-.436		
B14				.345		.416		
D7	.324				-.374		.388	
C6	.354							-.429
D12		.345						
D13	-.347					-.325		

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component					
	9	10	11	12	13	14
C3						
C8						
C1						
C4						
C7						
C2						
B4						
A5						
B12						
B8				.316		.343
B7						
A2		.372				
D10						
D8				.399		
B6						
B11						.333
B3						
B5						
B15					.354	
B10					-.301	
B2						
D9		-.337				
C5						
D11			.345			
B16						
A4						
A1						
A3						
B9				.311		
B1		.351				
B13						
D1						
D2						
D4						.357
D6						
D5						
C9						
D14						
D3						
B14						
D7		-.303				
C6						
D12		-.410	.372			
D13		.342	.360			

Extraction Method: Principal Component Analysis.

a. 14 components extracted.

Part 2: Factor Rotation

Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.968	18.110	18.110	5.140	11.681	11.681
2	3.216	7.309	25.418	4.642	10.551	22.232
3	2.603	5.917	31.335	4.005	9.103	31.335
4	1.806	4.104	35.440			
5	1.723	3.916	39.356			
6	1.604	3.646	43.002			
7	1.425	3.238	46.239			
8	1.360	3.090	49.330			
9	1.283	2.915	52.245			
10	1.267	2.880	55.125			
11	1.160	2.637	57.762			
12	1.140	2.591	60.352			
13	1.040	2.364	62.716			
14	1.015	2.307	65.023			
15	.985	2.239	67.263			
16	.919	2.088	69.351			
17	.883	2.007	71.358			
18	.855	1.942	73.301			
19	.770	1.751	75.051			
20	.740	1.681	76.732			
21	.696	1.583	78.315			
22	.689	1.565	79.880			
23	.641	1.456	81.337			
24	.621	1.412	82.749			
25	.596	1.354	84.103			
26	.573	1.301	85.404			
27	.517	1.175	86.579			
28	.511	1.161	87.740			
29	.479	1.089	88.829			
30	.451	1.024	89.853			
31	.435	.988	90.841			
32	.422	.958	91.800			
33	.408	.926	92.726			
34	.390	.886	93.612			
35	.357	.811	94.423			
36	.352	.799	95.222			
37	.328	.746	95.968			
38	.315	.715	96.684			
39	.300	.681	97.365			
40	.289	.657	98.021			
41	.261	.593	98.615			
42	.227	.515	99.130			
43	.211	.479	99.609			
44	.172	.391	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

a. 3 components extracted.

Rotated Component Matrix[a]

	Component		
	1	2	3
B6	.655		
B13	.644		
B10	.630		
B7	.627		
B15	.622		
B9	.617		
B11	.612		
B12	.611		
B16	.583		
B8	.534		
A5	-.370		.329
B3	-.366		.319
D13	.324		
B14			
C5			
C1		.622	
C2		.554	
C8	-.343	.541	
D5		.532	
D6		.524	
C7		.519	
C4		.491	
D10		.478	
C3	-.392	.475	
C9		.470	
D7		.446	
D8		.429	.390
C6		.406	
D12		.399	
D11		.384	.322
D14			
D1		-.340	.629
D2		-.342	.547
B2			.532
B4			.524
D4			.521
A3			.497
B5		.327	.488
B1		.327	.487
A1			.467
D3			.419
A2			.412
A4			.349
D9			.310

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Component Transformation Matrix

Component	1	2	3
1	-.641	.607	.469
2	.735	.311	.602
3	.220	.731	-.646

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 6.7

CORRELAION ANALYSIS & RELIABILITY TESTS FOR THE 3 NEW CONSRUCTS
Component 1 - Aggression
Component 2 - Harmony &
Component 3 - *Guanxi*

1. **Correlation Analysis**: (pages 531-532)

   i) for 61 teams between Aggression, Harmony, *Guanxi,* Internal Customers & External Customers (page 531)

   ii) for 192 individual employees between Aggression, Harmony & *Guanxi* (page 532)

Reliability Test:

i)	for 61 teams -	Component 1 -Aggression (pages 533-534) Component 2 - Harmony (pages 535-536) Component 3 - *Guanxi* (pages 536-538) Internal Customers (page 539) External Customers (page 540)
ii)	for 192 individuals -	Component 1 -Aggression (pages 541-542) Component 2 - Harmony (pages 543-544) Component 3 - *Guanxi* (pages 545-546)

Correlations of Aggression, Harmony, Guanxi and Internal & External Managers - For 61 Teams

Descriptive Statistics

	Mean	Std. Deviation	N
AGGRESSION	2.5092	.4919	61
HARMONY	3.8356	.2968	61
GUANXI	3.7587	.2325	61
INTERNAL M	3.2100	.5362	61
EXTERNAL M	4.0967	.4642	61

Correlations

		AGGRESSION	HARMONY	GUANXI	INTERNAL M	EXTERNAL M
AGGRESSION	Pearson Correlation	1.000	-.434**	-.357**	.232	-.203
	Sig. (2-tailed)	.	.000	.005	.072	.117
	N	61	61	61	61	61
HARMONY	Pearson Correlation	-.434**	1.000	.527**	-.068	-.085
	Sig. (2-tailed)	.000	.	.000	.602	.516
	N	61	61	61	61	61
GUANXI	Pearson Correlation	-.357**	.527**	1.000	-.086	-.039
	Sig. (2-tailed)	.005	.000	.	.509	.765
	N	61	61	61	61	61
INTERNAL MANAGER	Pearson Correlation	.232	-.068	-.086	1.000	-.135
	Sig. (2-tailed)	.072	.602	.509	.	.301
	N	61	61	61	61	61
EXTERNAL MANAGER	Pearson Correlation	-.203	-.085	-.039	-.135	1.000
	Sig. (2-tailed)	.117	.516	.765	.301	.
	N	61	61	61	61	61

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations of Aggression, Harmony & Guanxi - For 192 Individuals

Descriptive Statistics

	Mean	Std. Deviation	N
AGGRESION	2.5358	.6966	192
HARMONY	3.8311	.4486	192
GUANXI	4.0190	.3561	192

Correlations

		AGGRESSION	HARMONY	GUANXI
AGGRESSION	Pearson Correlation	1.000	-.374**	-.291**
	Sig. (2-tailed)	.	.000	.000
	N	192	192	192
HARMONY	Pearson Correlation	-.374**	1.000	.389**
	Sig. (2-tailed)	.000	.	.000
	N	192	192	192
GUANXI	Pearson Correlation	-.291**	.389**	1.000
	Sig. (2-tailed)	.000	.000	.
	N	192	192	192

**. Correlation is significant at the 0.01 level (2-tailed).

Reliability - For Component 1 (61 Teams)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B6	1.9753	.6466	61.0
2.	B7	2.5292	.8286	61.0
3.	B8	1.8546	.4487	61.0
4.	B9	2.1453	.5927	61.0
5.	B10	2.2933	.7473	61.0
6.	B11	2.0741	.6123	61.0
7.	B12	2.1913	.7170	61.0
8.	B13	2.2082	.7656	61.0
9.	B15	2.4004	.7440	61.0
10.	B16	2.6417	.8443	61.0
11.	D13	2.8596	.7338	61.0

Correlation Matrix

	B6	B7	B8	B9	B10
B6	1.0000				
B7	.5982	1.0000			
B8	.3967	.3297	1.0000		
B9	.4697	.3081	.5523	1.0000	
B10	.5120	.3767	.3045	.4559	1.0000
B11	.4824	.2831	.2773	.3045	.2693
B12	.3853	.1506	.1733	.2283	.3477
B13	.6436	.4733	.3138	.3905	.3659
B15	.3818	.4237	.3687	.5799	.4046
B16	.6711	.4156	.2005	.2959	.4690
D13	.1594	.2381	.1577	.2437	.2790

	B11	B12	B13	B15	B16
B11	1.0000				
B12	.3182	1.0000			
B13	.4894	.5610	1.0000		
B15	.1786	.1694	.2658	1.0000	
B16	.4666	.4952	.6112	.4405	1.0000
D13	.3353	.0966	.2775	.1852	.2804

	D13
D13	1.0000

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

N of Cases = 61.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	2.2885	1.8546	2.8596	1.0050	1.5419	.0890

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.4996	.2013	.7128	.5115	3.5407	.0229

Reliability Coefficients 11 items

Alpha = .8589 Standardized item alpha = .8614

Reliability - For Compcent 2 (61 Teams)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	C1	4.1351	.3552	61.0
2.	C2	3.8765	.6117	61.0
3.	C3	3.9737	.5612	61.0
4.	C4	3.9575	.4210	61.0
5.	C6	4.0146	.5112	61.0
6.	C7	4.0743	.4918	61.0
7.	C8	3.8739	.5423	61.0
8.	C9	3.5583	.7214	61.0
9.	D5	3.5449	.7489	61.0
10.	D6	3.5178	.6574	61.0
11.	D7	3.3423	.7145	61.0
12.	D8	4.1133	.4145	61.0
13.	D10	3.6414	.6604	61.0
14.	D11	4.0537	.3887	61.0
15.	D12	3.8573	.4934	61.0

Correlation Matrix

	C1	C2	C3	C4	C6
C1	1.0000				
C2	.4746	1.0000			
C3	.5959	.6211	1.0000		
C4	.5620	.3008	.5374	1.0000	
C6	.1020	.1703	.1645	.1581	1.0000
C7	.3903	.4260	.5437	.5196	.3243
C8	.5546	.5031	.7108	.4973	.0719
C9	.1461	.0681	.0689	.2403	.0935
D5	.2384	-.0053	.1958	.3032	.1260
D6	.1799	.2319	.1935	.0940	.2455
D7	.3184	.1607	.2521	.4224	.1728
D8	.3553	.2916	.1458	.3202	.1884
D10	.4179	.0834	.2558	.4065	.2087
D11	.5600	.2768	.3740	.2463	.1670
D12	.3539	.2738	.1402	.1181	.0184

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	C7	C8	C9	D5	D6
C7	1.0000				
C8	.4652	1.0000			
C9	.3720	.0548	1.0000		
D5	.4029	.2884	.2712	1.0000	
D6	.2095	.1157	.3554	.2987	1.0000
D7	.3088	.2555	-.0049	.1434	.0438
D8	.2317	.1910	.0807	.1831	.0973
D10	.2367	.1944	.1718	.2248	.2070
D11	.3578	.2751	.1182	.1388	.1085
D12	.1126	.2063	.0106	-.0195	-.0769

	D7	D8	D10	D11	D12
D7	1.0000				
D8	.3496	1.0000			
D10	.5078	.2864	1.0000		
D11	-.0908	.2252	.1336	1.0000	
D12	.1840	.4597	-.0210	.3886	1.0000

N of Cases = 61.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.8356	3.3423	4.1351	.7928	1.2372	.0632

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.3211	.1261	.5609	.4348	4.4468	.0206

Reliability Coefficients 15 items

Alpha = .8105 Standardized item alpha = .8332

Reliability - For Component 3 (61 Teams)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1313	.3439	61.0
2.	A2	4.2101	.3671	61.0
3.	A3	4.1981	.4311	61.0
4.	A4	4.2090	.3414	61.0
5.	A5	3.9707	.5465	61.0
6.	B1	4.2243	.2797	61.0
7.	B2	4.1611	.3880	61.0
8.	B3	4.0882	.3604	61.0
9.	B4	4.2480	.3793	61.0
10.	B5	4.3079	.3388	61.0
11.	D1	3.7708	.5793	61.0
12.	D2	4.0004	.5010	61.0
13.	D3	4.0775	.3956	61.0
14.	D4	3.1984	.8502	61.0
15.	D9	3.5617	.7199	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4549	1.0000			
A3	.2541	.4490	1.0000		
A4	.3996	.5034	.4702	1.0000	
A5	.1801	.0715	.0346	.3052	1.0000
B1	.4156	.5066	.3898	.2928	.1094
B2	.1228	.1159	.2095	.2491	.3330
B3	.1333	.1933	.1234	.3598	.4307
B4	.2944	.4078	.3651	.3212	.4858
B5	.2577	.3629	.2994	.2978	.2308
D1	-.0378	.1211	.1473	.1524	.0995
D2	.0977	.0971	.2376	.0347	.0025
D3	.2002	.1085	.1904	.0350	-.0474
D4	.1941	.2022	.3284	.2634	.2819
D9	.1849	-.0106	.2790	.1175	.0809

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	B1	B2	B3	B4	B5
B1	1.0000				
B2	.1870	1.0000			
B3	.0565	.4361	1.0000		
B4	.3090	.5411	.4360	1.0000	
B5	.5565	.4137	.1416	.3446	1.0000
D1	.1130	.1511	.2454	.1157	.0785
D2	.2899	-.0277	-.0525	.0093	.1594
D3	.2718	.0934	.0568	.0845	.1221
D4	.2682	.0528	.0615	.2062	.2166
D9	.2684	.2242	-.0756	.1077	.3651

	D1	D2	D3	D4	D9
D1	1.0000				
D2	.4993	1.0000			
D3	.3378	.3861	1.0000		
D4	.4633	.5761	.4144	1.0000	
D9	.2687	.3231	.4538	.4980	1.0000

N of Cases = 61.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	4.0238	3.1984	4.3079	1.1095	1.3469	.0907

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.2304	.0782	.7229	.6446	9.2398	.0317

Reliability Coefficients 15 items

Alpha = .8019 Standardized item alpha = .8229

Reliability - Teams Ratings by Internal Managers

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.0164	.6453	61.0
2.	A2	4.0492	.4253	61.0
3.	A3	4.0328	.7063	61.0
4.	A4	4.1311	.7182	61.0
5.	A5	4.2295	.7614	61.0
6.	A6	4.1148	.9504	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4829	1.0000			
A3	.5839	.3829	1.0000		
A4	.4628	.2513	.7470	1.0000	
A5	.1957	.2734	.3576	.4012	1.0000
A6	-.1118	-.0554	.2426	.2950	.3776

	A6
A6	1.0000

N of Cases = 61.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	4.0956	4.0164	4.2295	.2131	1.0531	.0064

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.5158	.1809	.9033	.7224	4.9940	.0553

Reliability Coefficients 6 items

Alpha = .7207 Standardized item alpha = .7435

Reliability - Teams ratings by External Managers

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.0328	.4069	61.0
2.	A2	4.2787	.5206	61.0
3.	A3	3.2459	.9248	61.0
4.	A4	3.8689	.7632	61.0
5.	A5	3.9016	.5974	61.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.1135	1.0000			
A3	.5097	.2361	1.0000		
A4	.1214	.3032	.2354	1.0000	
A5	.4249	.1432	.2557	.6293	1.0000

N of Cases = 61.0

	Mean	Minimum	Maximum	Range	Max/Min	Variance
Item Means	3.8656	3.2459	4.2787	1.0328	1.3182	.1460
Item Variances	.4462	.1656	.8552	.6896	5.1650	.0758

Reliability Coefficients 5 items

Alpha = .6554 Standardized item alpha = .6789

Reliability - For Component 1 (192 employees)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	B6	2.0104	.9653	192.0
2.	B7	2.5156	1.2150	192.0
3.	B8	1.8542	.8559	192.0
4.	B9	2.1927	1.0923	192.0
5.	B10	2.3490	1.1294	192.0
6.	B11	2.0833	.9397	192.0
7.	B12	2.1719	1.1425	192.0
8.	B13	2.2656	1.1243	192.0
9.	B15	2.4010	1.1443	192.0
10.	B16	2.6927	1.2383	192.0
11.	D13	2.8854	1.1700	192.0

Correlation Matrix

	B6	B7	B8	B9	B10
B6	1.0000				
B7	.5177	1.0000			
B8	.3187	.3748	1.0000		
B9	.3804	.3666	.4110	1.0000	
B10	.3472	.3528	.3725	.3569	1.0000
B11	.2876	.3336	.3537	.3158	.2931
B12	.3117	.1998	.2881	.3048	.3266
B13	.3641	.2250	.2799	.2906	.2895
B15	.3848	.4266	.2738	.3693	.3125
B16	.3224	.2903	.1897	.1756	.3354
D13	.1262	.2001	.1192	.1280	.1731

	B11	B12	B13	B15	B16
B11	1.0000				
B12	.3718	1.0000			
B13	.4150	.4656	1.0000		
B15	.3193	.3114	.3115	1.0000	
B16	.3326	.3521	.4162	.3793	1.0000
D13	.2468	.1793	.1665	.2339	.1779

	D13
D13	1.0000

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

N of Cases = 192.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	2.3111	1.8542	2.8854	1.0312	1.5562	.0913

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	1.2067	.7325	1.5333	.8008	2.0932	.0639

Reliability Coefficients 11 items

Alpha = .8246 Standardized item alpha = .8283

Reliability - For Component 2 (192 employees)

******* Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	C1	4.1510	.5045	192.0
2.	C2	3.8802	.9160	192.0
3.	C3	3.9427	.8754	192.0
4.	C4	3.9063	.7247	192.0
5.	C6	4.0104	.7725	192.0
6.	C7	4.0260	.7619	192.0
7.	C8	3.8333	.8703	192.0
8.	C9	3.5573	1.0010	192.0
9.	D5	3.5885	1.0647	192.0
10.	D6	3.5208	1.0383	192.0
11.	D7	3.3177	1.1294	192.0
12.	D8	4.1458	.5313	192.0
13.	D10	3.6615	1.0000	192.0
14.	D11	4.0521	.6845	192.0
15.	D12	3.8750	.7692	192.0

Correlation Matrix

	C1	C2	C3	C4	C6
C1	1.0000				
C2	.4246	1.0000			
C3	.4109	.5007	1.0000		
C4	.3540	.3064	.4949	1.0000	
C6	.3183	.2460	.1557	.1981	1.0000
C7	.3438	.3196	.3947	.4027	.3554
C8	.3796	.4937	.5784	.3486	.2129
C9	.1538	.1246	.1681	.2240	.2159
D5	.2430	.1747	.1600	.2347	.1453
D6	.2088	.2146	.1712	.1557	.1694
D7	.2737	.1939	.1403	.2861	.1762
D8	.3276	.2405	.2882	.2669	.2004
D10	.3094	.1899	.1871	.1799	.2418
D11	.3561	.2271	.2671	.2210	.1574
D12	.2378	.1941	.1370	.1198	.0727

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	C7	C8	C9	D5	D6
C7	1.0000				
C8	.3856	1.0000			
C9	.3035	.1913	1.0000		
D5	.2973	.2872	.2507	1.0000	
D6	.2078	.1371	.2734	.3796	1.0000
D7	.1242	.1660	.0695	.1485	.1082
D8	.2881	.2680	.1516	.1807	.1558
D10	.2247	.2477	.2679	.3062	.2060
D11	.3689	.1113	.2020	.1589	.1679
D12	.1128	.2034	.1386	.0328	.0754

	D7	D8	D10	D11	D12
D7	1.0000				
D8	.1929	1.0000			
D10	.4388	.3102	1.0000		
D11	.0462	.2094	.2018	1.0000	
D12	.1966	.3523	.0332	.2710	1.0000

N of Cases = 192.0

Item Means	Mean	Minimum	Maximum	Range	Max/Min	Variance
	3.8313	3.3177	4.1510	.8333	1.2512	.0618

Item Variances	Mean	Minimum	Maximum	Range	Max/Min	Variance
	.7434	.2546	1.2755	1.0209	5.0107	.0954

Reliability Coefficients 15 items

Alpha = .8077 Standardized item alpha = .8238

Reliability - For Compoent 3 (192 employees)

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

		Mean	Std Dev	Cases
1.	A1	4.1458	.5313	192.0
2.	A2	4.1667	.5996	192.0
3.	A3	4.2083	.6852	192.0
4.	A4	4.2083	.4781	192.0
5.	A5	4.0000	.7992	192.0
6.	B1	4.2396	.4744	192.0
7.	B2	4.1719	.6363	192.0
8.	B3	4.0938	.5892	192.0
9.	B4	4.2500	.6390	192.0
10.	B5	4.2865	.5845	192.0
11.	D1	3.7708	1.0076	192.0
12.	D2	3.9896	.8313	192.0
13.	D3	4.0677	.6715	192.0
14.	D4	3.1771	1.2406	192.0
15.	D9	3.5104	1.1209	192.0

Correlation Matrix

	A1	A2	A3	A4	A5
A1	1.0000				
A2	.4163	1.0000			
A3	.2757	.2719	1.0000		
A4	.1889	.2983	.3463	1.0000	
A5	.1233	.3278	.1147	.2603	1.0000
B1	.2761	.3559	.2806	.2404	.1519
B2	.1578	.1578	.1336	.2603	.3192
B3	.1066	.1927	.2367	.2648	.2779
B4	.2621	.2596	.2870	.2228	.3998
B5	.2863	.1619	.2555	.1975	.1905
D1	.1410	.1155	.1605	.0344	.0845
D2	.0746	-.0070	.1141	.0055	-.0158
D3	.2363	.1019	.0944	.0048	.0293
D4	.0798	.1220	.1966	.0875	.1690
D9	.2963	.1298	.2153	.2011	.1227

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	B1	B2	B3	B4	B5
B1	1.0000				
B2	.2965	1.0000			
B3	.0691	.3338	1.0000		
B4	.1986	.4088	.3963	1.0000	
B5	.3932	.4441	.1801	.4381	1.0000
D1	.1155	.2006	.1069	.1382	.1209
D2	.0860	.1321	-.0194	.1232	.0601
D3	.1789	.1319	.0236	.1312	.1371
D4	.1321	.1867	.0130	.1222	.0452
D9	.1627	.1480	.0857	.2010	.3271

	D1	D2	D3	D4	D9
D1	1.0000				
D2	.4910	1.0000			
D3	.2010	.2827	1.0000		
D4	.2965	.3521	.2809	1.0000	
D9	.0670	-.0167	.2321	.1568	1.0000

N of Cases = 192.0

	Mean	Minimum	Maximum	Range	Max/Min	Variance
Item Means	4.0191	3.1771	4.2865	1.1094	1.3492	.0961
Item Variances	.5772	.2250	1.5392	1.3141	6.8400	.1550

Reliability Coefficients 15 items

Alpha = .7467 Standardized item alpha = .7786

Appendix 6.8

FREQUECY STATISTICS

OF

THE MEAN SCORES OF GOAL INTERDEPENCES

1. **For 61 Teams :** (pages 548-549)

   COOP: Mean scores for questions B1-B5

   COMP: Mean scores for questions B6-B10

   INDEP: Mean scores for questions B11-B16

   All scores for COOP are bigger than those in COMP & INDEP.

2. **For 192 Individual Employees :** (pages 550-556)

   COOP: Mean scores for questions B1-B5

   COMP: Mean scores for questions B6-B10

   INDEP: Mean scores for questions B11-B16

   Only 6 individual scores for COOP (Nos. 22, 30, 31, 138, 158 & 186) are smaller than those in COMP& INDEP.

	coop	comp	indep
1	4.08	2.87	2.61
2	4.30	2.24	1.80
3	4.35	2.29	1.83
4	4.13	1.60	2.08
5	3.85	2.55	2.62
6	4.33	2.27	2.56
7	4.17	3.00	2.61
8	3.94	3.68	3.46
9	4.38	1.75	1.67
10	3.81	1.95	2.29
11	4.31	1.90	1.75
12	4.25	2.60	3.06
13	4.20	2.08	2.43
14	4.33	2.13	1.89
15	4.25	2.30	2.71
16	4.10	2.40	2.67
17	4.08	2.27	2.33
18	4.08	3.20	3.17
19	4.75	2.75	2.71
20	3.90	2.44	2.67
21	4.31	1.45	1.75
22	4.00	2.56	2.70
23	3.88	2.50	2.83
24	4.31	2.05	2.50
25	4.50	2.80	2.33
26	4.00	1.80	1.39
27	4.00	2.20	2.50
28	4.25	2.20	3.17
29	4.00	2.10	2.58
30	4.50	1.90	2.25
31	4.06	1.75	2.21

	coop	comp	indep
32	4.70	1.68	1.94
33	4.20	1.92	2.77
34	4.38	1.70	1.50
35	4.41	2.20	2.65
36	4.25	1.67	1.61
37	3.67	2.33	2.61
38	4.00	2.20	2.75
39	4.25	1.90	1.92
40	4.00	2.20	2.83
41	4.00	2.60	2.58
42	4.00	1.60	2.00
43	4.38	1.70	1.67
44	4.38	2.00	2.17
45	3.67	3.00	3.28
46	4.83	1.20	1.39
47	4.88	1.40	1.17
48	4.50	2.27	2.33
49	4.13	1.80	1.50
50	4.25	1.60	3.50
51	4.00	1.60	1.67
52	4.13	1.80	2.25
53	3.75	1.90	2.58
54	4.25	2.40	2.75
55	4.13	2.60	2.17
56	4.13	1.90	2.17
57	4.50	1.50	1.75
58	3.75	2.90	2.25
59	4.13	1.80	1.75
60	4.25	2.40	2.17
61	4.00	2.30	2.42

C:\My Documents\SPSS - Raw Data\Individual Score.sav

	coop	comp	indep
1	4.00	2.20	2.50
2	4.20	3.60	3.00
3	4.00	2.80	2.33
4	4.40	2.00	2.17
5	4.00	3.60	2.03
6	4.80	1.60	1.50
7	4.20	2.00	2.00
8	4.20	2.00	2.03
9	4.60	3.20	1.33
10	4.20	2.20	2.00
11	4.20	2.80	2.00
12	4.40	1.80	2.33
13	4.20	1.40	1.50
14	4.40	2.00	2.50
15	4.00	1.00	1.00
16	4.00	2.20	3.17
17	4.00	1.20	2.00
18	4.00	2.40	2.00
19	4.00	2.20	2.70
20	4.00	2.60	3.17
21	4.00	2.40	2.33
22	3.20	3.00	3.33
23	4.80	2.00	2.33
24	4.00	2.00	2.33
25	4.20	2.80	3.00
26	4.00	3.60	2.67
27	4.20	3.00	2.17
28	4.20	2.80	3.00
29	4.60	4.40	3.17
30	3.60	2.60	3.67
31	3.20	3.80	4.00

	coop	comp	indep
32	4.40	3.60	3.00
33	4.60	2.00	2.33
34	5.00	1.80	1.00
35	4.80	1.40	2.03
36	4.40	1.80	1.50
37	3.20	2.40	2.67
38	4.00	1.00	1.50
39	3.40	3.40	3.33
40	4.00	1.00	2.50
41	4.20	2.00	1.17
42	4.00	2.20	1.50
43	4.00	2.00	2.67
44	4.20	1.60	2.03
45	4.20	3.60	4.17
46	4.60	2.20	2.00
47	4.20	2.40	3.00
48	4.00	2.80	2.03
49	4.40	1.20	1.50
50	4.60	1.40	3.17
51	4.80	2.00	3.17
52	3.80	3.00	2.67
53	4.00	1.00	1.00
54	4.00	2.00	2.00
55	4.00	3.40	2.67
56	4.80	1.80	3.33
57	4.00	2.00	2.67
58	4.00	3.60	2.33
59	3.40	1.80	2.50
60	4.00	3.00	3.33
61	4.00	2.80	3.00
62	4.00	2.40	2.67

	coop	comp	indep
63	4.60	2.40	2.33
64	4.00	1.40	2.00
65	4.40	2.00	2.33
66	4.00	2.80	2.67
67	4.00	2.00	2.00
68	4.00	3.60	3.67
69	4.00	2.40	3.33
70	4.60	3.60	2.50
71	4.60	2.60	2.00
72	4.60	2.20	2.00
73	5.00	2.60	2.83
74	5.00	3.60	4.00
75	4.60	2.20	3.33
76	4.00	2.40	2.67
77	4.00	2.40	2.67
78	3.20	2.40	2.67
79	4.00	2.80	2.00
80	4.60	1.20	1.33
81	5.00	1.00	1.00
82	4.00	1.40	1.83
83	3.20	2.20	2.83
84	3.60	3.20	2.67
85	4.20	3.80	3.67
86	4.00	2.80	3.33
87	4.00	1.00	1.50
88	4.20	2.00	2.33
89	4.20	4.00	4.17
90	4.00	1.00	1.50
91	4.00	1.60	3.17
92	3.60	3.40	2.67
93	4.60	2.60	2.33

	coop	comp	indep
94	4.20	2.00	2.50
95	4.60	2.00	3.17
96	4.00	1.60	2.17
97	4.40	2.80	2.50
98	4.40	2.40	2.17
99	4.40	1.00	1.00
100	3.40	3.00	2.00
101	4.00	1.40	1.17
102	4.00	2.00	3.00
103	4.20	2.40	2.00
104	4.40	2.60	3.33
105	4.00	1.80	3.00
106	4.20	2.20	2.83
107	4.00	2.00	2.33
108	4.20	1.80	2.00
109	4.80	2.00	2.50
110	4.00	2.40	2.67
111	4.40	1.80	2.50
112	4.00	1.20	1.83
113	4.00	1.60	1.83
114	5.00	1.00	1.00
115	5.00	1.00	2.03
116	4.40	1.40	2.50
117	5.00	1.40	2.00
118	4.00	3.60	2.50
119	4.00	1.20	2.33
120	4.00	2.00	2.00
121	4.00	2.00	2.33
122	4.00	1.60	4.00
123	5.00	1.60	3.17
124	4.00	1.40	2.00

	coop	comp	indep
125	5.00	1.60	1.00
126	4.40	3.20	2.67
127	4.60	2.80	3.67
128	5.00	1.00	2.50
129	4.00	3.20	3.00
130	4.80	1.60	2.50
131	4.60	1.60	2.33
132	4.00	1.80	2.33
133	3.20	2.40	2.33
134	4.20	1.00	2.03
135	4.20	2.20	2.17
136	4.60	1.80	1.00
137	4.00	1.80	2.00
138	3.20	3.20	3.50
139	4.00	2.20	2.33
140	4.00	2.00	3.00
141	4.00	2.80	2.00
142	4.00	2.00	3.33
143	4.00	2.00	2.67
144	4.40	1.80	1.50
145	4.00	2.00	2.33
146	4.00	2.00	3.33
147	4.00	2.40	2.33
148	4.00	2.00	2.17
149	4.00	3.20	3.00
150	4.00	2.00	2.00
151	4.00	1.20	2.00
152	4.20	1.60	2.03
153	4.40	1.80	2.03
154	4.20	2.60	4.00
155	4.80	1.40	4.00

	coop	comp	indep
156	3.60	1.60	2.00
157	4.40	3.00	4.11
158	3.40	4.40	3.67
159	4.60	1.00	1.00
160	5.00	1.40	2.17
161	5.00	1.00	1.00
162	4.80	1.80	1.33
163	5.00	1.00	1.00
164	4.40	2.80	2.83
165	4.40	2.40	2.67
166	4.80	1.60	1.50
167	4.20	2.20	2.00
168	4.00	1.40	1.00
169	4.60	2.00	3.67
170	4.00	1.20	3.33
171	4.00	2.00	2.33
172	4.00	1.20	1.00
173	4.20	2.00	2.00
174	4.40	1.60	2.50
175	3.60	1.80	2.83
176	4.00	2.00	2.33
177	4.40	2.60	2.50
178	4.20	2.00	3.00
179	4.40	2.60	1.83
180	4.00	2.60	2.50
181	4.00	2.60	2.33
182	4.40	1.60	2.00
183	4.80	1.60	2.03
184	4.40	1.40	1.83
185	4.40	2.20	3.00
186	3.40	3.60	1.83

	coop	comp	indep
187	4.00	1.80	2.00
188	4.20	1.80	1.50
189	4.40	2.40	2.33
190	4.00	2.40	2.00
191	4.20	1.80	1.83
192	4.00	2.80	3.00